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Sustainability Marketing in the German Food Processing Industry

Characteristics, Drivers, and Outcome on an Empirical Basis

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ABSTRACT

Food processing companies are confronted with numerous sustainability challenges which can involve both positive and negative implications. Clear product declarations, pesticide-free fruit and vegetables, sustainable fishing, and safe working conditions are only a few of the demands which stakeholders claim. A possible way to deal with these issues can be found in the concept of *su*stainability *m*arketing (*SuM*).

The quantitative research study presents the results of an email survey conducted in January 2007 on the extent and focus of sustainability marketing in the German food processing industry. The conceptual framework which underlies the empirical survey is based on the concept of sustainability marketing, the stakeholder concept, and selected aspects of the theory of information economics.

By means of a cluster analysis, the food processing companies which responded are differentiated into four distinct sustainability marketing strategy types: the *SuM Strategy Performers*, the *SuM Strategy Followers*, the *SuM Strategy Indecisives*, and the *SuM Strategy Passives*. On the basis of these results and bearing Porter's concept of competitive strategies in mind, the four SuM strategy types are classified within the German food market which is characterized by market polarisation.

In terms of the perceived stakeholder influence, the results show that the food processing companies identify the most pressure emanating from the *top management*, the *consumers*, the *company's owner*, and the *retailers* to undertake sustainability marketing. However, those SuM strategy types which are particularly committed to sustainability marketing perceive comparatively more influence from all stakeholders than those which seem to be less committed. To further explain the reasons why a food processing company pursues a specific approach to sustainability marketing, a binary logistic regression is applied.

The results further suggest that food processing companies are particularly satisfied with their sustainability marketing outcome if they pursue a *distinct competitive strategy*, i.e. either differentiation in the high quality segment or price competition in the low-price segment.

ZUSAMMENFASSUNG

Lebensmittelhersteller werden mit einer Vielzahl von Nachhaltigkeits-Herausforderungen konfrontiert, die sowohl Chancen als auch Risiken bergen. Klare Produktdeklarationen, pestizidfreies Obst und Gemüse, nachhaltiger Fischfang und sichere Arbeitsbedingungen sind nur einige der Forderungen, die Anspruchsgruppen mit Nachdruck stellen. Eine Möglichkeit mit diesen Anforderungen umzugehen, stellt das Konzept des Nachhaltigkeits-Marketing dar.

Die vorliegende quantitative Studie präsentiert die Ergebnisse einer Emailbefragung aus dem Januar 2007 über den Stand und die Schwerpunkte des Nachhaltigkeits-Marketing bei deutschen Lebensmittelherstellern. Der konzeptionelle Bezugsrahmen, welcher der empirischen Untersuchung zugrunde liegt, basiert auf dem Konzept des Nachhaltigkeits-Marketing, dem Anspruchsgruppenkonzept und ausgewählten Aspekten der Informationsökonomik.

Mit Hilfe einer Clusteranalyse werden die befragten Lebensmittelhersteller in vier verschiedene *Nachhaltigkeits-Marketing Strategietypen* unterteilt: die *Performers*, die *Followers*, die *Indecisives* und die *Passives*. Anhand dieser Ergebnisse und auf der Basis von Porters Konzept zu Wettbewerbsstrategien werden die vier Strategietypen in den deutschen, durch Marktpolarisierung geprägten Lebensmittelmarkt eingeordnet.

Die Ergebnisse zeigen, dass die Lebensmittelhersteller den stärksten Druck Nachhaltigkeits-Marketing zu betreiben vom *Management*, den *Konsumenten*, den *Unternehmenseigentümern* und dem *Handel* wahrnehmen. Die Strategietypen aber, die ein besonders ausgeprägtes Nachhaltigkeits-Marketing ausüben, empfinden von allen Anspruchsgruppen mehr Druck bezüglich ihrer sozial-ökologischen Marketingausrichtung als die Strategietypen, die vergleichsweise weniger diesem Marketingansatz nachgehen. Um die Gründe für ein ausgeprägtes Nachhaltigkeits-Marketing weiterführend zu erklären, wird eine binär logistische Regressionsanalyse durchgeführt.

Weiter deuten die Ergebnisse darauf hin, dass Lebensmittelhersteller insbesondere dann mit dem Resultat ihres Nachhaltigkeits-Marketing zufrieden sind, wenn sie eine eindeutige Wettbewerbsstrategie verfolgen; dass heißt, wenn sie entweder einer Differenzierungsstrategie im Qualitätssegment oder einem Preiswettbewerb im Niedrigpreissegment folgen.

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LIST OF ABBREVIATIONS

bev.	beverages
BLE	Bundesanstalt für Landwirtschaft und Ernährung
BMELV	Bundesministerium für Ernährung, Landwirtschaft und Verbraucherschutz
BMI	body mass index
BSE	bovine spongiform encephalopathy
B-to-B	business-to-business
BVE	Bundesvereinigung der Deutschen Ernährungsindustrie e.V.
CEO	chief executive officer
cf.	compare
CIAA	Confédération des Industries Agro-Alimentaires de l'UE (Confederation of the food and drink industries of the EU)
CSR	corporate social responsibility
DNA	deoxyribonucleic acid
ecol.	ecological
ed.	editor
eds.	editors
e.g.	exempli gratia (for example)
EMAS	environmental management and audit schemes
et al.	et alia (and others)
EU-25	25 member states of the European Union
€	Euro
FLO	Fairtrade Labelling Organizations International
GfK	Gesellschaft für Konsumforschung
GMOs	genetically modified organisms
H	hypothesis
i.e.	id est (that is)
IMS	integrated management system
IP	integrated production
ISO	International Organization for Standardization
LCA	life cycle assessment/analysis
m	million
mand. disclosure	mandatory disclosure

MSC	Marine Stewardship Council
multi-d.	multi-dimensional
NGO	non-governmental organisation
No.	number
NoSuM food companies	food processing companies which do not process sustainable food products
OECD	Organisation for Economic Co-operation and Development
OSuM	operational sustainability marketing
p.	page
p.a.	per annum
pp.	pages
PR	public relations
prod.	product
SA	social accountability
SD	sustainable development
SMEs	small- and medium-sized companies
socio-ecol.	socio-ecological
SPSS	statistical package for the social sciences
SRI	Stanford Research Institute
SSuM	strategic sustainability marketing
SSuMOrientation	strategic sustainability marketing orientation
SuM	sustainability marketing
SuM food companies	food processing companies which produce sustainable food products
SuMO	sustainability marketing outcome
UN	United Nations
uni-d.	uni-dimensional
USA	United States of America
USP	unique selling proposition
USSP	unique sustainability selling proposition
Vol.	volume
WBCSD	World Business Council for Sustainable Development
WCED	World Commission on Environment and Development
ZMP	Zentrale Markt- und Preisberichtsstelle für Erzeugnisse der Land-, Forst- und Ernährungswirtschaft GmbH

A INTRODUCTION

1. SUSTAINABILITY ISSUES AS KEY CHALLENGES FOR THE GERMAN FOOD PROCESSING INDUSTRY

1.1 Point of departure and research problem

At the beginning of the 21st century *sustainability issues* like global climate change, loss of biodiversity, unfair trading, and the over-fishing of oceans are no longer just scientific or political issues. Moreover, these issues and their alleged consequences have progressively entered the general public and the corporate agenda (European Commission 2001, p. 5; Hahn/Scheermesser 2006, p. 150). As producers and marketers of products, companies are increasingly being held accountable for the environmental and social impact of their activities (on the discussion of the corporate role in sustainable development, see for example Shrivastava 1995, pp. 936-960; Gladwin et al. 1995, pp. 874-907; Bansal 2002, pp. 122-131; Dyllick/Hockerts 2002, pp. 130-141; Porter/Kramer 2006, pp. 78-92). A number of corporations have already reacted to this demand for 'corporate responsibility' by implementing social and environmental management systems like ISO 14000 and SA 8000 or by considering social and environmental aspects of their products and their production (e.g. Zadek 2004, pp. 125-132; Porter/Kramer 2006, p. 78). In doing so, companies send positive signals to their stakeholders by addressing mitigation of the social and environmental impact caused by their operations (Waddock et al. 2002, pp. 132-148). If applied as a coherent and credible strategy, they can at the same time expect clear business benefits such as increasing profitability or sales (WBCSD 2002, p. 2).

One example of an industry which is especially affected by sustainability issues is the food processing industry in general and the *German food processing industry* in particular (e.g. Busch 2003, pp. 459-477; Maloni/Brown 2006, pp. 35-62). It not only plays an important role in the national economy as the third largest manufacturing industry in Germany (CIAA 2006b, p. 9), but is also dependent on agriculture and fishery and is therefore closely connected to the state of the social and natural environment. No other product influences the human body more strongly over a long period of time than food products (Whitney et al. 2001, pp. 2-9; Maloni/Brown 2006, p. 36). Hence, the conditions under which food products are grown, produced, and sold

are of particular interest for consumers and also other stakeholders. Sustainability issues arising along the entire value creation chain from agriculture to processing, transportation, consumption, and recycling thus create *key challenges* for food processing companies. These challenges can involve both positive and negative implications. On the one hand these sustainability concerns provide opportunities for food companies, e.g. processing and marketing organic, fair trade or regional food products and thereby achieving growth in sales in the rather saturated food market (Baranek 2007, pp. 53-58; BVE 2007e, p. 3). On the other hand these challenges also incorporate risks. If sustainability issues are considered inconsistently and not credibly, it might negatively influence brand image and market share (e.g. Kastner 2007, p. 2). Consequently, food processing companies need to balance a number of social and ecological demands from different stakeholders while staying financially stable and competitive (Hahn/Scheermesser 2006, p. 151).

A possible way of dealing credibly and sustainably with these issues can be found in the concept of *sustainability marketing* (abbreviated in the following as 'SuM'). If marketing is understood as a guiding principle of corporate management besides being a corporate function (Becker 2006, pp. 1-3; Burrow 2006, pp. 13-15, 24; Moore/Pareek 2006, p. 24), sustainability marketing constitutes a management concept which addresses the socio-ecological demands and subsequently turns them into competitive advantages by delivering customer value and satisfaction (Belz 2003a, pp. 352-355; Belz 2005a, pp. 1-30).

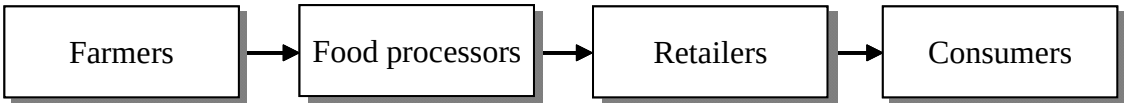
Up to now selected aspects of sustainability marketing have primarily been empirically analysed in the form of qualitative research and in-depth case studies (e.g. Belz/Ditze 2005, pp. 75-98; Leitner 2005, pp. 161-180; Skoppek/Karstens 2005, pp. 181-196). However, a quantitative survey which examines the extent and focus of sustainability marketing activities within a whole industry in a particular country is still lacking.

1.2 Research scope

The food industry is a highly visible industry, meaning that it is highly exposed to public awareness: the landscape is largely characterised by farmland; livestock and food transportation can be observed frequently on the streets and highways; and grocery stores are visited on a regular basis (Walley 2000, p. 356). The simplified value creation chain of the food industry reaches 'from farm to fork', i.e. from farmers to food

processors, retailers, and consumers (Maloni/Brown 2006, p. 38). Figure 1.1 shows the value creation chain of the food industry in this simplified manner.

Figure 1.1: Value creation chain of the food industry

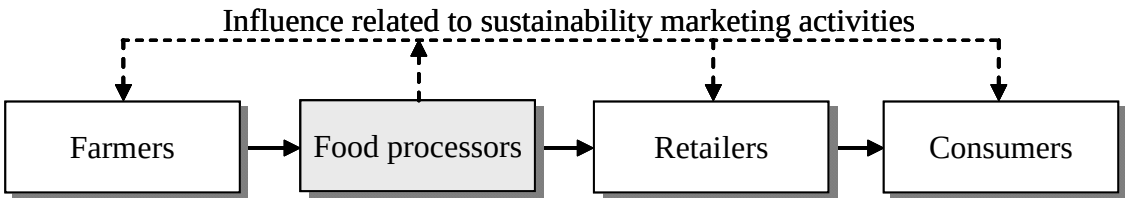


(Source: Walley et al. 2000, p. 356)

In this chain the food processing companies as well as the food retailers play a particularly decisive role because they can influence upstream activities as well as downstream activities within the chain (Belz/Karstens 2005, p. 2). Whereas upstream activities relate to activities on the supply side (i.e. agriculture and in the case of retailers also food processors), downstream activities refer to activities on the demand side (i.e. food consumption and in the case of the food processors also food retailers). The dominance of the one or the other actor depends on factors such as size, financial resources, and competition.

Measured against these factors, large retailers are often more influential than small- and medium-sized processing companies which dominate the German food industry. However, with respect to sustainable food products – which constitute the focus of this study – small- and medium-sized food processing companies that often operate in niche markets or selected market segments are comparatively more pioneering and innovative than large retailers (cf. Juckel 2008, p. 2). Therefore, German food processing companies seem to have a significant influence with regard to the socio-ecological challenges which the food industry faces. This is why they have been chosen to form the *unit of analysis* of this research study. Figure 1.2 shows the key influence of food processors in the food industry. *Their sustainability-related activities in terms of producing and marketing sustainable food products constitute the core of the analysis.*

Figure 1.2: Influence of food processors within the value creation chain



(Adapted and extended from: Walley et al. 2000, p. 356)

1.3 Research objectives and questions

It is the general objective of this research study to collect quantitative data of German food processing companies on the basis of a conceptual framework which then allows for an in-depth analysis of their sustainability marketing *characteristics*, its perceived *key drivers*, and its perceived *outcome*. In the heart of this research study are the questions of whether and how German food processing companies (re-)act to the challenge of sustainability and what factors influence them in the direction of sustainability marketing? The starting point of the research study is the theory-led development of the conceptual framework: the systematisation and operationalisation of the strategic and operational sustainability marketing characteristics, of the relevant influential factors, and of the key sustainability marketing objectives, on the basis of which the final evaluation of the sustainability marketing outcome will be conducted. The subsequent analysis of the empirical data then draws a differentiated picture of the German food industry with respect to the different approaches to sustainability marketing.

In detail, the SuM research study follows theoretical as well as practical objectives. The *theoretical objectives* are comprised of the following:

- Identifying, describing, and classifying sustainability marketing strategy types within the German food processing industry to validate previous conceptual assumptions concerning the strategic and operational characteristics of sustainability marketing (e.g. Belz 2004b, pp. 15-20; Belz 2005b, pp. 24-27; Belz/Karstens 2005, pp. 1-22; Belz 2006a, p. 141);
- Evaluating different signalling instruments in their ability to transform credence qualities into quasi-search qualities contributing to the field of information economics (cf. Karstens/Belz 2006, pp. 189-211);
- Identifying and analysing key drivers which (positively and negatively) influence the food processing company's commitment towards sustainability marketing. By opposing the empirical results to previous comparable studies, the SuM research study aims at detecting changes in the stakeholders' behaviour and at the same time in the control systems 'market', 'politics', and 'public', of which the stakeholders are institutional representatives.

As a *practical objective*, the research study aims to develop recommendations for German food processing companies with regard to their strategic and operational sustainability marketing.

From these research objectives following detailed *research questions* can be deduced:

- Concerning sustainability marketing characteristics:
  What sustainability marketing strategies do German food processing companies pursue? What sustainability marketing strategy types (SuM strategy types) can be identified? How do these SuM strategy types implement their strategies within their sustainability marketing mix?
- Concerning sustainability marketing drivers:
  Why do German food processing companies take up sustainability marketing? What are the relevant drivers for each SuM strategy type? What role do stakeholders play in the context of sustainability marketing? Does the perceived pressure by certain stakeholders lead to a particular primary orientation in strategic sustainability marketing?
- Concerning sustainability marketing outcome:
  Which sustainability marketing objectives are perceived as being achieved and which ones are not? What is the perceived sustainability marketing outcome of the different SuM strategy types? Are there any differences between the SuM strategy types and their perception of sustainability marketing outcome?

1.4 Research procedure

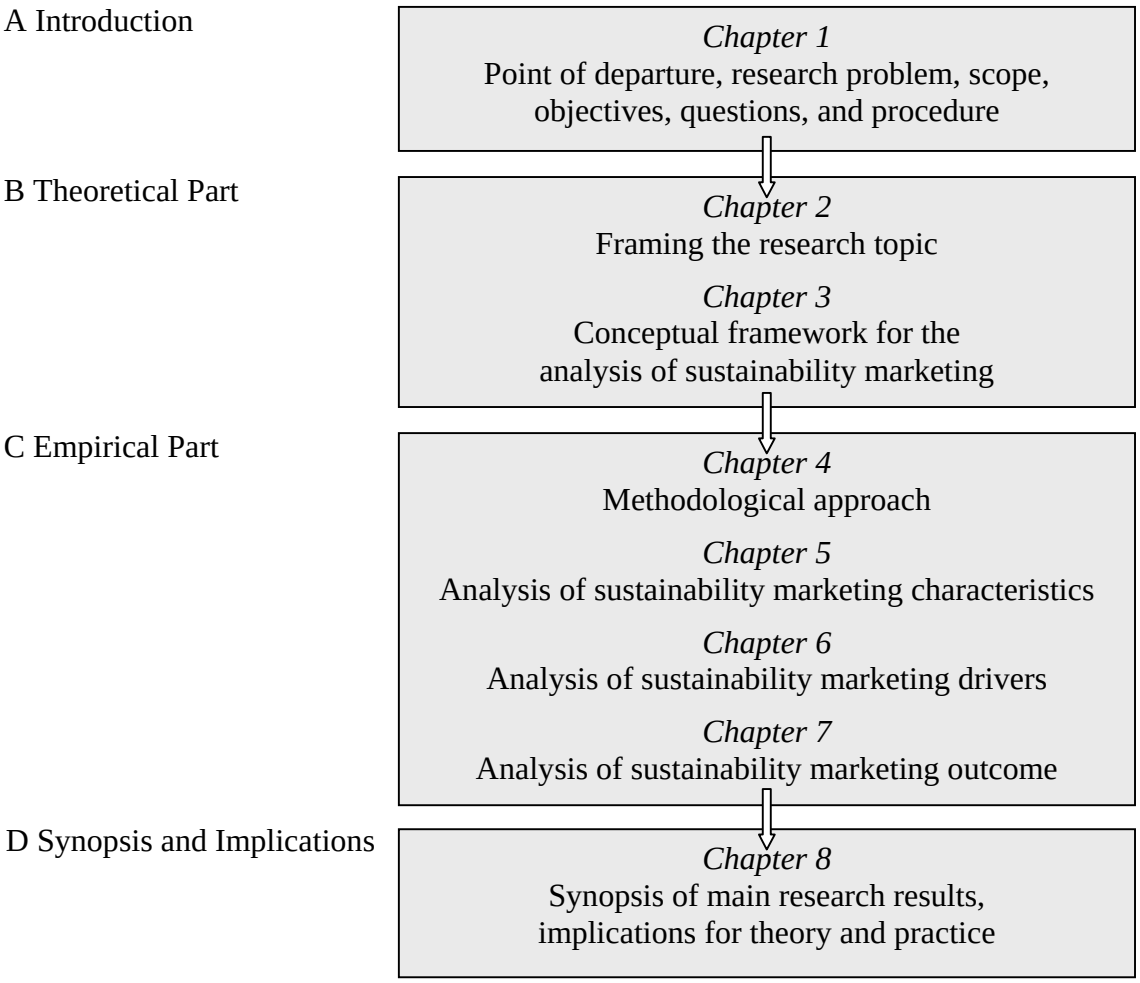
The SuM research study is divided into eight chapters which can in turn be arranged into a theoretical part (chapters 2 and 3), an empirical part (chapters 4, 5, 6 and 7), and a closing chapter (chapter 8). Within the *theoretical part* the research topic is contextualised in *chapter 2*. Firstly, the key terms of the study – i.e. sustainability, marketing, and sustainability marketing – are defined, which is followed by an overview of the evolution of sustainability marketing, its specific scope, and previous research in that particular field. The chapter outlines the relevant concepts and theories for the SuM research study: the concept of sustainability marketing, the theory of information economics, and the stakeholder concept. Based on these conceptual and theoretical concerns, the relevant hypotheses are derived and the conceptual framework

for the analysis of the characteristics, drivers, and outcome of sustainability marketing is developed and presented in *chapter 3*.

The *empirical part* of the SuM research study begins with *chapter 4* which explains the methodological approach of the quantitative study in more detail. It outlines the planning of the data collection and describes the sample to be drawn. Additionally, it discusses the key multivariate methods used in the analysis of the data; that is cluster analysis and binary logistic regression. *Chapter 5* deals with the analysis of the characteristics of sustainability marketing. However, before the actual analysis takes place, it needs to be differentiated between SuM food companies (i.e. food companies which produce sustainable food products) and NoSuM food companies (i.e. food companies which do not process sustainable food products). After that, the chapter describes the strategic characteristics of sustainability marketing, identifies four distinctive SuM strategy types for the German food processing industry by means of a cluster analysis, and outlines their related sustainability marketing mix. These findings are then discussed against the background of the increasing market polarisation which can generally be observed in a number of different markets and particularly in the German food market. Chapter 5 closes with a synopsis of the sustainability marketing characteristics of the four SuM strategy types. In c*hapter 6* the drivers for sustainability marketing within the German food processing industry are analysed. Following a description of the parameter values of the different internal and external drivers, the chapter compares the drivers by SuM strategy type as well as examining their relative importance with the aid of binary logistic regression. The last chapter of the empirical part, *chapter 7,* shows to what extent the sustainability marketing objectives are met and if there are any differences concerning the perceived sustainability marketing outcome and the particular SuM strategy types.

The SuM research study closes with *chapter 8,* which provides a synopsis and discusses implications. It summarises the main results of the SuM research study in the form of five key statements and specifies implications for theory and practice. Figure 1.3 reflects the approach of the SuM research study.

Figure 1.3: Procedure of the SuM research study



B THEORETICAL PART

2. FRAMING THE RESEARCH TOPIC

The aim of this chapter is to determine and frame the research topic with respect to a number of different aspects. Firstly, the relevant terms will be defined and further elaborated (section 2.1); secondly, the question as to whether sustainability marketing constitutes a new, tenable marketing approach will be discussed (section 2.2); and thirdly, the concepts and theories which are relevant for this study will be outlined (section 2.3).

2.1 Definition of relevant terms

In the following, three key terms which are highly relevant for this research project are defined and further explained. These terms are sustainability (section 2.1.1), marketing (section 2.1.2), and sustainability marketing (section 2.1.3).

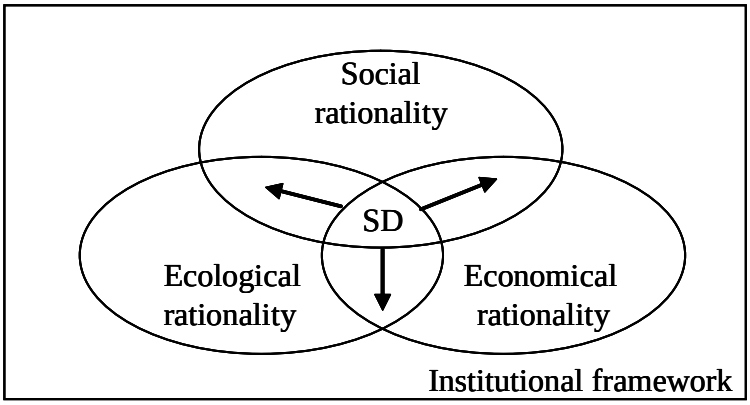
2.1.1 Sustainability

Sustainability is the final outcome of a continuous process which can be described as sustainable development (Belz/Bilharz 2005a, p. 261; Porritt 2007, p. 33). This kind of development is defined as ‘meet[ing] the needs of the present without compromising the ability of future generations to meet their own needs’ (WCED 1987, p. 43). The concept of sustainable development implies intra-generational fairness (i.e. equality between North and South) and inter-generational fairness (i.e. equality between one generation and another). It is made up of three dimensions which should be strived at and aimed for in equal measure. These dimensions or rationalities are social, ecological, and economic justice which can be illustrated by means of an intersection scheme (figure 2.1).

Sustainable development (SD) means the implementation of certain activities which seem logical regarding the achievement of all three dimensions. The goal is to realise the intersection and to enlarge it by means of changing the institutional framework (Belz/Bilharz 2007, p. 24). However, whereas sustainability constitutes a harmonic model, sustainable development can be seen as a conflict model (WCED 1987, p. 9). These conflicts take place in three different arenas: (1) between the three rationalities i.e. social, ecological, and economic (inter-systemic), (2) between the rich North and the

poor South (intra-generational), and (3) between the present and future generations (inter-generational) (Belz/Bilharz 2007, pp. 24-25).

Figure 2.1: Intersection scheme of sustainable development



(Source: Belz/Bilharz 2007, p. 25)

It is characteristic of the principle of sustainability that it (1) integrates social and ecological and economic aspects, (2) takes a global perspective, (3) is agreed upon by governments, non-governmental organisations (NGOs), companies, and other stakeholders, and (4) is adopted as strategic aim by the majority of the world's governments and major corporations (Peattie 2001, pp. 131-132). These aspects make the idea of sustainable development unique. Only by means of this global understanding and support can comprehensive changes be induced.

2.1.2 Marketing

The main goal of the traditional marketing approach is to achieve sales and acquire new customers. As a result, traditional marketing is about what products should be made and how to offer them to potential customers. The direction of this marketing approach is one-sided: from the producer to the consumer (Burrow 2006, p. 8). This kind of marketing has been termed *transaction marketing* (Grönroos 2007, p. 193). Modern marketing, which has been developed during the last two decades, has focused in contrast on the importance of retaining as well as on integrating customers. This more recent approach is called *relationship marketing*. It can be briefly defined as 'managing profitable customer relationships', which implies three levels: (1) attracting new customers by promising higher value, (2) keeping current customers by delivering satisfaction, and (3) growing customers into a customer relationship (Grönroos 2007,

p. 193; Kotler/Armstrong 2004, p. 5). In order to develop a true customer relationship, the company has to particularly aim at the third level. This level is achieved if the customer feels emotionally committed to the company, a feeling which goes beyond the mere satisfaction of the customers' needs and wants – the first and the second level (Grönroos 2007, p. 194). Relationship marketing is applied successfully if the company manages to capture 'a share of the heart and the mind' of the customer (Storbacka/Lehtinen 2001, p. 23). The idea of relationship marketing has established itself and nowadays constitutes the mainstream of modern marketing thinking.

However, commercial marketing is not exempt from criticism (Kotler/Armstrong 2004, p. 629). During the late 1960s and early 1970s marketing was increasingly discussed critically in the Anglo-American literature – particularly 'its economic function and its social role' (Arnold/Fisher 1996, p. 120). A range of ambivalent factors such as advancing incomes and mass media coverage on the one side and social and ecological discontent and legislative indifference on the other side led to the critical debate on marketing (Kotler 1972, pp. 51; on the discussion of marketing's economic, social, and ecological role, see for example Backman 1968, pp. 2-8; Gelb/Brien 1971, pp. 3-9; Zikmund/Stanton 1971, pp. 34-39; Andreasen 1975; as well as section 2.2.1).

In the Germany-speaking literature Hans Raffée (1979) mentioned the ambivalence of commercial marketing in the 1970s. On the one hand it has *positive effects* which can be summarised as supply and prosperity effects (Raffée 1979, p. 13). By means of marketing, goods are produced, distributed, and sold in the ordered quantity and quality at the right place at the right time. As a consequence goods are plentifully available in Western industrialised countries.

On the other hand profit-oriented marketing also unfolds *negative effects* which have to be judged critically from a societal and ecological point of view (Raffée 1979, pp. 16-27). From a societal perspective, for example, the nature and quantity of advertising with which the consumer is confronted daily can be evaluated as alarming (Andreasen 1975, pp. 179-209). Overvaluation of consumption and substitution of norms might be the results. Additionally, marketing practice is also accused of deceptive practice, planned obsolescence, and poor services (Kotler/Armstrong 2004, pp. 629-636). From an ecological point of view the increase in production and demand leads to a multiplication of material and energy flows per capita and finally to an over-load of the local, regional, and global ecosystem (Meadows et al. 2004, pp. 51-127). As

a result of this criticism a number of marketing approaches have been developed over the last four decades. One of the most recent ones – sustainability marketing – combines the idea of sustainability and modern marketing thinking.

2.1.3 Sustainability marketing

Compared to the modern marketing approach described above, *sustainability marketing* considers additional relationships besides the customer orientation. This kind of marketing may be defined as 'building and maintaining sustainable and profitable relationships with customers, the *social environment*, and the *natural environment*' (Belz 2005a, p. 2; Belz 2006a, p. 139). Hence, sustainability marketing integrates social and ecological criteria into the whole process of marketing and can be seen as a consumer-oriented, innovative, value-based, and sense-of-mission marketing approach (Kotler/Armstrong 2004, pp. 647-648; Belz 2005a, p. 2). It is the key task of sustainability marketing to combine environmental and social advantages with competitive advantages by means of innovative products and strategies (Kirchgeorg 2002, p. 7).

Sustainability marketing is understood as '*dual management concept in a double sense'* (Belz 2003a, p. 352). This means that sustainability marketing is seen on the one hand as a *corporate function* such as procurement, production, and financing and on the other hand as a *guiding principle of corporate management*. Moreover, sustainability marketing is not only market-oriented (customers/competitors) but also focuses on its environment (social/ecological). This means that it considers and integrates non-market relations into its concept alongside its general market relations.

2.2 Sustainability marketing: a tenable new approach to marketing?

Regarding sustainability marketing, the questions may arise as to whether the specific demands of sustainability are already implied in alternative marketing concepts such as eco-marketing[1] and societal marketing. Or whether sustainability marketing further deepens marketing approaches that already exist, and thereby achieves its legitimation and is further investigated as a result?

[1] The term 'eco-marketing' embraces all marketing approaches which explicitly incorporate ecological aspects i.e. ecological marketing, environmental marketing, and green marketing.

These questions are answered in the following sections by taking two different perspectives. Section 2.2.1 considers a *time perspective* by outlining the development directions of related marketing approaches which all consider the criticism of conventional marketing thinking, concluding with the emergence of sustainability marketing. A *content-based perspective* is taken by the subsequent section 2.2.2. It delineates the concept of sustainability marketing from other related marketing and management concepts to show its actual scope, i.e. what sustainability marketing is not and what sustainability marketing is.[2] The section 2.2 closes with a review of the previous research in the field of sustainability marketing (section 2.2.3).

2.2.1 Evolution of sustainability marketing[3]

At first glance, particularly the *eco-marketing* approaches of the last four decades seem to be forerunners of the sustainability marketing approach. The evolution from eco-marketing to sustainability marketing can be divided into four sequential stages: three development stages for eco-marketing and an additional one for the recent progress in the research field of sustainability marketing (Kirchgeorg 1995, pp. 1953-1954; for a similar categorisation see Kilbourne/Beckmann 1998, pp. 513-519).

During the 1970s (*first stage*) the first pioneer works for an eco-marketing approach appeared. Initiated by the growing criticism regarding conventional marketing thinking during the 1960s and at the beginning of the 1970s (Kotler 1972b, pp. 48-55; Arnold/Fisher 1996, pp. 118-123) and by the publication of Rachel Carson's '*Silent Spring*' (1962) and the Club of Rome's '*The Limits to Growth*' (Meadows et al. 1972), the consideration of ecological aspects within the field of marketing was triggered (Kirchgeorg 1995, p. 1944; Peattie 2001, p. 130). During this period consumer environmental awareness which was hardly present up to that point began to increase (Kotler 1972b, p. 51). Initial publications in the field of eco-marketing are primarily concerned with operational issues and 'end-of-pipe' solutions which were typical for this decade (Kirchgeorg 1995, p. 1944; Peattie 2001, p. 130; Meffert 2005, p. 4). Examples of such publications for Anglo-American-speaking countries are: Fisk (1974) and Henion (1976); and for German-speaking countries Schreiber (1976) and Raffée (1979).

[2] Both the time and the content-based perspective are relevant to fully classify and understand the sustainability marketing approach and scope. Thus, aspects which are important for both perspectives might appear in both sections.

[3] The literature mentioned in this section exemplifies the evolutionary stages from alternative marketing approaches to sustainability marketing. This list does not claim to be exhausting.

In the 1980s and early 1990s (*second stage*) a multitude of publications in the field of eco-marketing emerged as a consequence of progressing environmental legislature, occurring environmental disasters[4], growing environmental awareness, and increasing competitiveness (Kirchgeorg 1995, p. 1944; Belz 2001, p. 18). During this period the relationship between business activities and the environment changed (i.e. clean technologies were promoted instead of 'end-of-pipe' solutions), the concept of the green consumer was developed, and the idea that environmental performance led to competitive advantages emerged (Porter/Van der Linde 1995, pp. 120-133; Peattie 2001, pp. 131-133). The following publications can be assigned to this period in which the papers and books dealt increasingly with strategic aspects of eco-marketing (Meffert 2005, p. 5): Meffert/Kirchgeorg (1987) and Brandt et al. (1988) as well as Peattie (1992 and 1995), Charter (1992), Coddington (1993), Ottman (1993), and Wasik (1996).

In the mid- to late 1990s (*third stage*) the so-called 'backlash of green marketing' occurred (Crane 2000, pp. 277-296; Peattie 2001, pp. 136-137). With regard to this period it can be generally stated that the green marketing movement was left with a credibility problem. The previously proclaimed logic of win-win strategies did not prove to be true, amongst other reasons due to increasing costs of green programs and internal oppositions to change (Walley/Whitehead 1994, pp. 46-52). Green products were controversially discussed in terms of their environmental performance (Peattie 2001, pp. 136-137) and green claims were disputed in terms of their credibility (Crane 2000, p. 291). As a consequence of the resulting confusion and uncertainty, consumers reacted with decreasing environmental awareness (Wong et al. 1996, p. 279; Crane 2000, p. 278). In view of its research focus this period can be characterised as stakeholder-orientated (e.g. Crane 1998, pp. 559-579; Polonsky/Ottman 1998, pp. 533-557). Additionally, a number of practical examples were presented (Belz 2001, p. 22). During this period which lasted until the beginning of the 21st century publications by Polonsky/Mintu-Wimsatt (1995), Ottman (1998), and Charter/Polonsky (1999) as well as Hüser (1996), Dyllick et al. (1997), and Belz (2001) contributed to the development of the eco-marketing approach.

Through the formulation of the UN Millennium Development Goals at the beginning of the 21st century (*fourth stage*), the continuing globalisation, and the general growing awareness of the concept of sustainable development, the eco-marketing approach

[4] For example, the Three Mile Island accident in 1979, the Bhopal tragedy in 1984, the discovery of the Antarctic hole in the ozone layer in 1985, Chernobyl in 1986, and the Exxon-Valdez oil spill in 1989.

seemed more and more truncated and deficient. The sustainability marketing approach increasingly entered scientific discussion and later the corporate agenda. To a certain extent it emanates from the eco-marketing concept but at the same time stands out and differentiates from it. For example, in comparison to eco-marketing approaches sustainability marketing thinking explicitly includes a social dimension besides the environmental and economic one. Contributions to the field of sustainability marketing have been made, amongst others, by Charter et al. (2002), Murphy (2005), Belz (2005a), Kirchgeorg/Winn (2006) as well as Balderjahn (2004) and Belz/Bilharz (2005b).

In the previous section, the focus was placed exclusively on eco-marketing approaches as apparent precursors for sustainability marketing. However, *at a second glance*, a literature study reveals that the general integration of a *social dimension* into marketing thinking is not new. Forerunners to sustainability marketing can also be found in this body of literature. Released by 'consumerism', a social movement that seeks to enlarge the rights and power of buyers compared to the sellers, the incorporation of social and moral aspects into marketing thinking took place in the 1960s (Kotler 1972b, pp. 49-52). In general, it can be concluded that two different streams emerged and developed as a reaction to this fundamental criticism: (1) *social marketing*, i.e. the application of the marketing concept and technology by profit or non-profit organisations in order to promote current social issues and ideas, and (2) *societal marketing*, i.e. the incorporation of social and moral aspects into marketing thinking of profit-oriented companies (for a detailed delineation of the two terms, see section 2.2.2). Particularly Philip Kotler contributed to these approaches. He developed the social marketing concept together with Sidney Levy (1969) and Gerald Zaltman (1971), and in 1972 wrote his landmark paper on societal marketing '*What Consumerism Means for Marketers'*. Other authors who addressed a societal perspective of marketing were, for example, Dawson (1969), Bell/Emory (1971), and Feldman (1971).

In spite of its prominent initiator, however, the societal marketing concept has not penetrated conventional marketing thinking. In fact, it only had little – if not to say a very marginal – impact on the traditional principles of marketing theory (Arnold/Fisher 1996, p. 132; Crane/Desmond 2002, p. 551). Furthermore, there have not been many contributions and enhancements to the societal marketing concept since the early 1970s. Only a few articles have been published. Among the most cited articles are Abratt/Sacks (1988 and 1989) and Prothero (1990) (Crane/Desmond 2002, p. 551). However these

works did not improve or remodel the concept of societal marketing. They rather reapplied the approach to different industries and issues.

Additionally, the problem with societal marketing is that there have been a number of controversies regarding its moral legitimation. The ethical question is: who should decide what is in the interest of the society and what is not (Gaski 1985, pp. 42-47; Crane/Desmond 2002, pp. 548-569)? Is the marketer who is not elected like politicians, in the position to decide which products contribute to the welfare of society? As a result, from a moral perspective, societal marketing constitutes 'an extension of the marketing concept, rather than a fundamental reconstruction of marketing theory' (Crane/Desmond 2002, p. 548).

In the relevant German-language literature, the societal marketing concept was discussed in the end of the 1980s by, for example, Fässler (1989) and Raffée/Wiedmann (1989). Yet also in the German-speaking research community the societal marketing concept remained sketchy and imprecise; it also did not manage to enter conventional marketing theory. In relation to the concept of sustainability marketing, it can be stated that Kotler's societal marketing concept (1972) already incorporated key ideas of sustainability marketing: it aimed at customer satisfaction and long-term consumer and society welfare (Kotler 1972b, p. 54). However, it missed transformative aspects and thus does not assume a macromarketing perspective which is a distinctive characteristic of the sustainability marketing concept.

In terms of the *evolution* of *sustainability marketing* it can be stated as a synopsis that there have been alternative concepts and approaches to conventional marketing thinking which have explicitly included social or environmental aspects to a greater or lesser extent. Some of these concepts found their way into common business language (i.e. the eco-marketing approach) and others failed to do so (i.e. the societal marketing approach). However, the explicit and equal integration of all three sustainability dimensions – social, ecological, and economic – into marketing thinking and at the same time the consideration of the marketing concept from a micro as well as from a macro perspective did not take place until the emergence of sustainability marketing (Van Dam/Apeldoorn 1996, p. 52). The evolution towards sustainability marketing is the contemporary and consistent continuation, combination, and deepening of the various existing eco- and societal marketing approaches combined with the global principle of sustainable development.

2.2.2 Scope of sustainability marketing

What sustainability marketing is not!

Due to a relatively large number of alternative marketing approaches regarding environmental and social aspects, it is necessary to delineate sustainability marketing in terms of content and differentiate it from other more or less related marketing approaches and management systems. In detail, sustainability marketing will be differentiated from the following approaches: ecological marketing, environmental marketing, green marketing, macromarketing, societal marketing, human concept of marketing, social marketing, generic marketing, megamarketing as well as corporate social responsibility and sustainability management.

In general, the alternative marketing approaches which have emerged over the last four decades can be subsumed under two different philosophies which are called and characterised as *deepening* and *broadening* the concept of marketing. *Deepening* the concept of marketing means that alongside the company's market relations non-market relations are also taken into account; e.g. an increasing consideration of social and ecological aspects during the planning and implementation of relationship marketing. *Broadening* the concept of marketing entails transfering the concept of marketing to un-commercial organisations, public institutions or NGOs (Bruhn/Tilmes 1989, pp. 14-15).

Marketing approaches closely related to the sustainability marketing approach are ecological marketing, environmental marketing, and green marketing. These concepts emerged during the 1970s, 1980s, and 1990s and have continuously integrated *ecological aspects* into conventional marketing thinking. Hence, these eco-marketing approaches further develop and deepen the concept of conventional marketing. Even though the three terms represent a similar idea – integrating an environmental dimension into marketing thinking – there are some differences between these approaches which can be interpreted and explained as follows (in accordance with Van Dam/Apeldoorn 1996, pp. 45-56; Peattie 2001, pp. 129-146; Charter et al. 2002, p. 12). In general, the terms reflect the evolution of eco-marketing as outlined above. *Ecological marketing* was a term of the 1970s and early 1980s (e.g. Fisk 1974 and Henion 1976). It oriented its marketing activities towards the insight that the world is finite in its resources and sinks. It focused on certain environmental problems such as air pollution and oil spills and identified particularly 'good' or 'bad' industries, companies, and products. During this period, marketers viewed the environment as a

constraint which led to an increase in costs such as catalytic converters in the automobile industry. Only few companies incorporated ecological aspects in their marketing practice – most of them as a result of intrinsic motivation because the 'green consumer' as a competitive advantage did not yet exist (Peattie 2001, pp. 130-131). At the end of the 1980s the term ecological marketing was largely replaced by the term *environmental marketing* (e.g. Coddington 1993, Peattie 1995, and Polonsky/Mintu-Wimsatt 1995). This approach differed from the former in the respect that it pushed innovative clean technologies, discovered competitive advantages through eco-performance, and identified green consumers as a promising target group. Environmental marketing can be interpreted more as a strategic approach with new market developments, product innovations, and new communication opportunities (Peattie 2001, pp. 131-136). The term *green marketing* can be interpreted in a similar way (Lozada/Mintu-Wimsatt 1995, p. 182). The green marketing approach, which also appeared during the latter part of the 1980s (e.g. Charter 1992, Peattie 1992, and Ottman 1993), can be as well understood as a strategic marketing technique in reaction to market pull and public push. It aimed at 'environmentally friendly corporate performance' (Van Dam/Apeldoorn 1996, p. 46).

However, what these approaches of green and environmental marketing are missing is a specific macro perspective. They only focus on the market and its participants; in this way they assume a conventional micromarketing approach (Van Dam/Apeldoorn 1996, p. 46). *Macromarketing*, an idea mentioned for the first time by Fisk in 1962 (Fisk 1962, p. 209; Kirchgeorg 2002, p. 6), in contrast 'refers to the understanding, explanation, and management of the relationship between marketing and society' (Sheth 1992, p. 155). It is understood as 'a bridge where marketing and society meet, exchange, and interact with each other' (Sheth 1992, p. 155; cf. Shapiro, S. 2006, pp. 307-321 for macro-/micromarketing taxonomy). Creating and maintaining a 'harmonious relationship' between society and marketing is therefore the key intention of macromarketing (Bartels/Jenkins 1977, p. 19). It analyses the processes and techniques which lead to this proclaimed harmonious relation (Bruhn 1982, pp. 463-464). In doing so, macromarketing expands the conventional marketing approach by adding societal, ecological, and humanistic decision criteria to the economic decision criteria (Kirchgeorg 2002, p. 6; Balderjahn 2004, p. 38). Generally, it can be said that companies which adopt a macromarketing approach contribute to improving society

with regard to social and environmental aspects. Those companies transform existing political and institutional frameworks because they recognise that the micromarketing approach is depleting its own resources within its given frame (Fisk 1962, p. 209).

Marketing approaches which explicitly integrate *humanistic and social issues* into traditional marketing thinking are: the human concept of marketing, societal marketing, social marketing, and the generic concept of marketing. These also require further differentiation. The *human concept of marketing* and the *societal marketing* approach integrate social aspects into conventional marketing theory but sell in general ordinary products. They integrate the criticism of the conventional marketing concept and postulate a marketing system which is more human (Dawson 1969, pp. 29-39; Arnold/Fisher 1996, pp. 118-133). With the aid of this concept, superior value is delivered to the customer which sustains consumer and social welfare (Kotler 1972b, pp. 48-57; Kotler/Armstrong 2004, pp. 14-15). These two approaches further develop and deepen the concept of marketing. In contrast, *social marketing* aims explicitly at the social good by means of conventional marketing theory and tools. In general, it means marketing for current social ideas and objectives and can be defined as 'the design, implementation, and control of programs calculated to influence the acceptability of social ideas' (Kotler/Zaltman 1971, p. 5). However, social marketing can be interpreted in a twofold way: on the one hand it means the marketing of non-profit, governmental, and non-governmental organisations as well as of *public institutions* (Burmann 1997, pp. 177-183). On the other hand social marketing can also stand for a socially responsible marketing of profit organisations which is similar to the societal marketing approach (Wiedmann/Raffée 1995, pp. 2298-2308). In its former meaning the social marketing approach broadens the concept of marketing because it augments the marketing scope in terms of non-profit organisations (Kotler/Levy 1969, pp. 10-15). Compared to this understanding, the *generic concept of marketing* broadens the marketing approach even more by including 'the transactions between an organisation and all of its publics' (Kotler 1972a, p. 46). Defined by four axioms, it takes a functional rather than a structural view and constitutes the broadest concept of marketing (Kotler 1972a, pp. 46-54; Arnold/Fisher 1996, pp. 128-129). Thus, the main distinction between these marketing approaches which consider social aspects is that social marketing and the generic concept of marketing primarily pursue the social good whereas the human concept of marketing and the societal marketing approach focus

primarily on financial outcome and secondarily on the social good (or similar) (Abratt/Sacks 1988, p. 498).

The *megamarketing* concept comprises another broadening approach to conventional marketing. It can be defined as 'the strategically coordinated application of economic, psychological, political, and public relations skills to gain the cooperation of a number of parties in order to enter and/or operate in a given market' (Kotler 1986, pp. 117-118). It focuses on the identification of relevant stakeholders which are not potential customers but which have enough political, societal, and legal power to restrict market entry. Marketers should apply their political and public relations skills to these stakeholders in order to convert a high potential market into an accessible and profitable market (Kotler 1987, p. 6). A transformational approach to marketing activities is thereby distinctive of the megamarketing approach.

Besides these alternative marketing approaches, sustainability marketing needs to be related to the concept of corporate social responsibility and sustainability management. The concept of *corporate social responsibility* (CSR) is gaining momentum. It constitutes a topic that is currently emerging in practice and is a field of research that is being increasingly explored (Hansen et al. 2004, p. 251). However, the idea of CSR is not new. It has its seeds in the USA in the 1950s (Carroll 1999, pp. 268-295) but derives its recent growth in significance from the ongoing discussion of the company's action scope (Hansen et al. 2004, p. 251). The European Commission defines CSR 'as a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis' (European Commission 2001, p. 8). This definition emphasises key aspects which also apply to the concept of sustainability marketing: (1) CSR integrates social, environmental, and economic aspects, (2) it focuses on interaction with internal and external stakeholders, (3) it is closely connected to corporate strategies and operations, and (4) it is a voluntary approach to business. If a company is able to tie a social and/or environmental issue closely to its business, both the society and the company's own competitiveness benefit from it (Porter/Kramer 2006, pp. 78-92). This kind of *strategic CSR* becomes hard to distinguish from the company's daily business of doing things differently from its competitors, lowering costs, and at the same time better serving the customers' needs. *Responsive CSR* in contrast only moderates potential risks from business activities and tries to meet social concerns of different stakeholders. Besides

these facets of CSR, there is also a *normative perspective of CSR*. This aspect goes beyond the simple business case and proclaims ethical behaviour even if it is not profitable (Hansen et al. 2004, p. 251). When understood strategically, corporate social responsibility forms a business case and is closely related to the concept of sustainability marketing. CSR is an important corporate concept to promote competitiveness and the idea of sustainability (Hansen et al. 2004, p. 251). However, sustainability marketing applies specifically to products and has the customer particularly in mind. It is far more market- and sales-oriented than the general CSR approach which tends to take place on a corporate level.

Finally, sustainability marketing needs to be put into relation to the term *sustainability management*. Both can be understood as management principles with a market (customers/competitors) and a non-market orientation (social/ecological) (Balderjahn 2004, pp. 47-50). However, sustainability management forms the basis of credible sustainability marketing because it explicitly includes all corporate functions whereas sustainability marketing focuses primarily on sales (Belz/Bilharz 2005c, p. 7). To coordinate these functions, the sustainability management uses a number of sustainability management systems such as IMS (Integrated Management System) which bundles quality, environmental, and safty standards, EMAS II (Environmental Management and Audit Schemes) on a European level, ISO 14000 on a global level, and SA 8000 for social accountability standard on a global level.

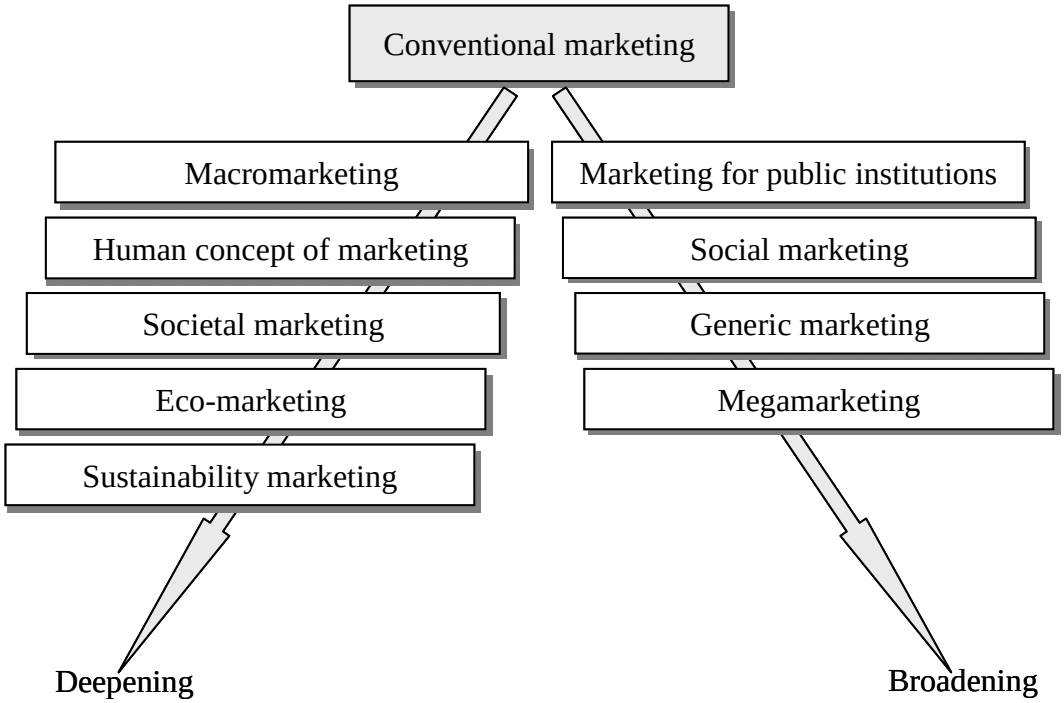
What sustainability marketing is!

Derived from the initial definition of sustainable development, the concept of sustainability pursues three guiding principles: (1) *life-cycle principle* i.e. sustainable usage of the natural resources, (2) *principle of responsibility* i.e. inter- and intra-generational equity, and (3) *cooperation principle* i.e. participation of stakeholders and the notion of shared responsibility (Kirchgeorg 2002, pp. 4-6; Balderjahn 2004, pp. 4-7). In order to meet these principles and thereby the idea of sustainable development, they all have to be integrated into the sustainability marketing approach. No other marketing approach claims to fulfill all of these principles: the eco-marketing approach, for example, considers explicitly environmental aspects; the societal marketing approach concentrates on the achievement of social goals; and the macro- and mega-marketing approaches focus on stakeholders (Kirchgeorg 2002, pp. 6-7). In contrast, the

sustainability marketing approach integrates the perceptions and findings of all these alternative marketing approaches (Kirchgeorg 2002, p. 11; Balderjahn 2004, p. 40). However, it also contains further specifics which makes the sustainability marketing approach unique (Kirchgeorg 2002, pp. 7-8; Peattie 2001, pp. 140-141): (1) the concept of sustainability constitutes a world-wide stakeholder comprehensive guideline which forms the *normative basis* of sustainability marketing; (2) due to the integration of social, ecological, and economic goals the sustainability marketing approach pursues *expanded marketing objectives* and intensified stakeholder orientation; (3) sustainability marketing needs to explicitly consider the poor in order to meet the requirement of intra-generational equity *('base of the pyramid'*) (e.g. Prahalad 2004; Kirchgeorg/Winn 2006, pp. 171-184); and (4) sustainability marketing needs to explicitly consider the outcome of today's transactions in order to meet the requirement of *inter-generational fairness*. Additionally, some authors explicitly incorporate a macro perspective to the concept of sustainability marketing because they doubt that a micro perspective approach ultimately leads to sustainability. They postulate 'active government intervention' (Sheth/Parvatiyar 1995, p. 3, see also Van Dam/Apeldoorn 1996, p. 53).
This analysis shows that taking up the concept of sustainability marketing and promoting it by means of further research is tenable in the context of alternative marketing approaches. Considering sustainability marketing just as another eco-marketing approach would overlook the underlying principles. The step from eco-marketing to sustainability marketing is 'a monumental one, both in terms of its difficulty and its importance. It means evolving from evolutionary changes which reduce environmental damage, towards radical changes in the way we live, produce, market and consume' (Peattie 2001, p. 144). The consideration of the trilogy of social, ecological, and economic requirements leads inevitably to a more complex decision-making process (Kirchgeorg 2001, p. 4).

Figure 2.2 provides a synopsis of the different introduced deepening and broadening approaches of marketing in order of emergence. *Sustainability marketing* can be further differentiated from the other marketing approaches because it comprehends a number of aspects which no other alternative marketing approach incorporates, as outlined above. Due to its profit orientation and its consideration of non-market relations in addition to its market relations, sustainability marketing can be classified as a further deepening approach.

Figure 2.2: Deepening and broadening the concept of marketing



(Adapted and extended from: Wehrli 1981, pp. 50-51; Bruhn/Tilmes 1989, p. 15)

2.2.3 Previous research in the field of sustainability marketing

The fourth evolutionary stage outlined in section 2.2.1 shows that the concept of sustainability marketing[5] is an emerging research field which has been discussed and studied in quite a few books, anthologies, and articles during the past decade (Murphy 2005, p. 176). However, a general and consistent understanding or concept of sustainability marketing still has to be developed. In addition, a definite term does not yet prevail (Kirchgeorg 2002, p. 6).

The terms '*sustainability marketing*' and '*sustainable marketing*' are often used in an ambiguous way.[6] Sometimes they are used synonymously although they differ in meaning. Particularly the term 'sustainable' can be comprehended in three different ways: (1) meaning lasting, enduring or durable, (2) considering ecological and economic aspects, and (3) taking social, ecological, and economic aspects into account. *Sustainable marketing* can therefore be interpreted on the one hand as a kind of

[5] The concept of sustainability marketing and its specifics are outlined in detail in section 2.3.1.

[6] A similarly ambiguous usage is also the case with the German terms 'Nachhaltigkeits-Marketing' and 'Nachhaltiges Marketing'. The latter refers to long-lasting and durable marketing activities whereas the former integrates the concept of sustainability.

marketing which focuses on long-lasting customer relationships but which does not particularly integrate the concept of sustainable development. On the other hand it can be understood as a kind of marketing which explicitly considers ecological and economic rationalities as well as social, ecological, and economic rationalities respectively (Belz 2005a, p. 2). The box below names exemplary definitions of 'sustainable marketing' and 'sustainability marketing' to illustrate the differences.

BELZ, CHRISTIAN 2001, p. 3
„Nachhaltiges Marketing […] ist gleichzeitig konstruktives Marketing und bewirkt den langfristig überdurchschnittlichen Erfolg von Unternehmen […] ist wirksam und tragfähig […] stützt sich auf eine zeitlich Abfolge von Maßnahmen und ihren Wirkungen, so dass neue Maßnahmen auf früheren Aktivitäten aufbauen, sie verstärken und erweitern […] fördert klare Positionen von Unternehmen, entwickelt die Beziehungen zum Kunden und zu weiteren Partnern im Markt. Neue Lösungen wachsen aus dem Bestehenden hinaus. Wichtig sind Verlässlichkeit, Kontinuität, Sorgfalt und Vertrauen."
['*Sustainable marketing* […] is at the same time constructive marketing and produces long-term, above average success of the company […] is effective and sustainable […] based on a temporal sequence of actions and its effects so that new actions build on previous actions, intensifying and enlarging them […] promotes definite positions of companies, develops relationships to the customers and additional partners in the market. New solutions grow out of existing solutions. Reliability, continuity, elaborateness and trust are important.']

PEATTIE 2001, p. 129
'*Sustainable marketing* [is] a more radical approach to markets and marketing with seeks to meet the full *environmental* costs of production and consumption to create a sustainable economy.'

CHARTER ET AL. 2002, p. 12
'*Sustainable marketing* is the next natural step forward, with an emphasis on progress towards greater sustainability. It is a broader management concept which focuses on achieving the '*triple bottom line*' through creating, producing and delivering sustainable solutions with higher net sustainable value whilst continuously satisfying customers and other stakeholders.'

BELZ 2005a, p. 2
'*Sustainability marketing* may be defined as building and maintaining sustainable relationships with customers, the *social* and the *natural* environment.'

As a consequence of this ambiguous understanding of the terms and contents, data bank research[7] using the keyword 'sustainable marketing' leads to papers dealing with a kind of long-lasting marketing (e.g. Belz, Christian 2001), papers considering particularly ecological and economic aspects (e.g. Sheth/Parvatiyar 1995; Van Dam/Apeldoorn 1996; Fuller 1999; Peattie 2001; Murphy 2005), and papers focussing explicitly on the

[7] E.g. EBSCO host, Wiley InterScience, and WISO.

triple bottom line, i.e. social, ecological, and economic aspects (e.g. Charter et al. 2002; Balderjahn 2004). The term sustainability marketing is also used synonymously with the latter understanding of sustainable marketing (e.g. Belz 2005a; Belz/Bilharz 2005b; Kirchgeorg/Winn 2006).

Besides the ambiguous comprehension of the term, a consistent *concept* of sustainability marketing is also to be developed. Current concepts based on a decision-oriented approach include sequential steps from situation analysis to objectives, strategies, instruments, and controlling (e.g. Balderjahn 2004, pp. 42-50; Belz 2005a, pp. 3-21; Kirchgeorg 2006, p. 13). The managerial concept as understood in the SuM research study will be described in more detail in the following section.

Concerning the *methodological approach* previous research studies have either been predominately conceptual (cf. Van Dam/Apeldoorn 1996; Balderjahn 2004; Belz 2005a; Schrader 2005; Kirchgeorg/Winn 2006) or – if empirical – then mainly in the light of qualitative research methods which is useful to obtain explorative insights into the emerging research topic (cf. on the specific issue of sustainability communication Belz/ Ditze 2005; Leitner 2005; Skoppek/Karstens 2005; Borga et al. 2006; Karstens/Belz 2006; Mathis 2007; Spence, C. 2007). There is a lot of anecdotal evidence, illustrative cases, and in-depth case studies of how companies deal with the challenges of marketing in terms of sustainability. However, it can be stated that a German quantitative study which focuses on sustainability marketing of food processing companies is still lacking.

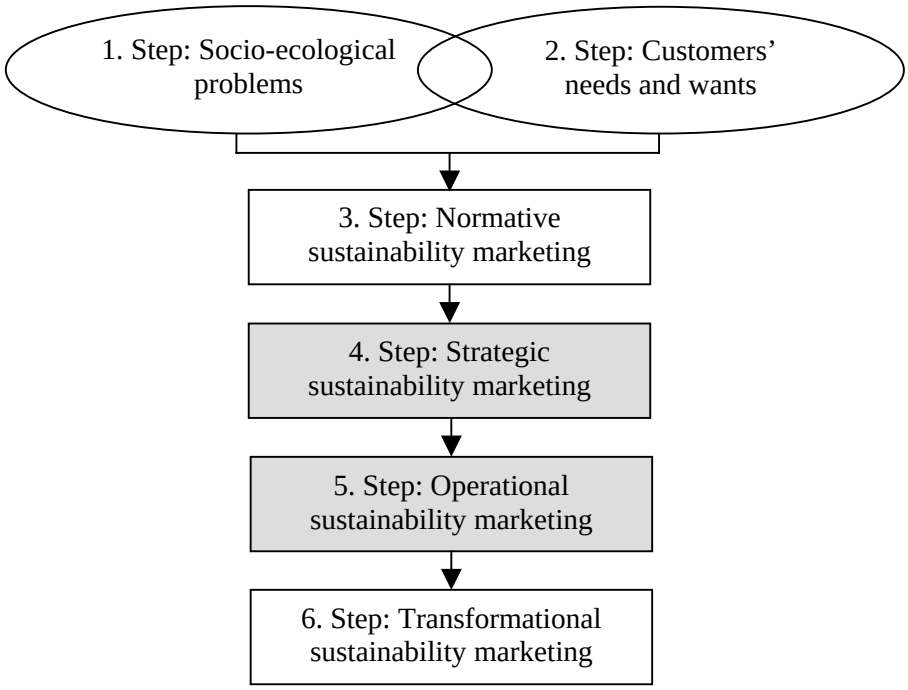
2.3 Outline of relevant concepts and theories

In total there are three concepts or theories which are relevant for and therefore applied by the SuM research study. Firstly, the concept of sustainability marketing is presented as it is understood in this study (section 2.3.1). From this starting point, the strategic and operational characteristics of sustainability marketing are derived later on. Secondly, the theory of information economics is outlined (section 2.3.2). This theory is especially used to explain the specifics of sustainable products i.e. their credence qualities. Thirdly, the stakeholder concept is illuminated (section 2.3.3). This concept provides the essential basis for analysing the sustainability marketing drivers.

2.3.1 Concept of sustainability marketing

Further developed from the concept of integrated eco-marketing (Belz 2001), the concept of sustainability marketing – as understood in this study – was initially introduced by Belz in 2003 (Belz 2003a; Belz 2004b; Belz 2005a; Belz 2005b; Belz 2006a; see also Karstens 2004). Similar concepts can also be found by Balderjahn (2004, pp. 42-50) and Kirchgeorg (2006, p. 13). This management-oriented and decision-based concept, which needs to be seen from a contingency approach[8], is structured in six different steps or field of actions. These are briefly described in the following (figure 2.3).

Figure 2.3: Concept of sustainability marketing



(Source: Belz 2005a, p. 3)[9]

[8] The contingency approach to management suggests that the management of a company is dependent on – or is contingent upon – a given set of factors, i.e. a particular situation. Consequently, in order to be effective, all company activities must be tailored to the circumstances faced by the company. Factors impacting on the performance of a company are e.g. environmental changes and uncertainties, technologies, and the size of the company (e.g. Woodward 1965, Lawrence/Lorsch 1969, and Staehle 1976, pp. 33-50, who provides an overview of the contingency approach in business studies).

[9] The focus of the SuM research study is put on the grey shaded boxes: strategic and operational sustainability marketing. Therefore in the following, these two steps are outlined in more detail. However, in section 3.1, the strategic and operational aspects of sustainability marketing will be further operationalised. This section here primarily wants to provide an overview of the concept of sustainability marketing.

The first and second step can be interpreted as *information* or *analysis level*. Here, the external environment of the company is analysed. The third, fourth and fifth step can be characterised as *implementation level*. They take place on the corporate level. The sixth step comprises the *transformational level*. This step leaves the actual scope of the company and reflects the macro perspective of sustainability marketing. However, what appears to be linear in theory is in practice highly complex and does not actually proceed in such a way (for the following explanations on the concept of sustainability marketing, see Belz 2005a, pp. 3-21; Belz 2006a, pp. 139-144).

1. Step: Analysis of socio-ecological problems

Social and ecological problems which result from the entire product life cycle from 'cradle-to-cradle' make up the initial point of sustainability marketing. From the extraction of raw materials, via transportation to production, packaging, distribution, usage, and recycling, all steps of the product life cycle need to be analysed regarding their social and ecological impact. Only a broad analysis of the entire life cycle of a product sheds light on its main ecological and social problems. One instrument for example which provides such results is the Life Cycle Analysis (LCA). It allows for a quantification of the product's impact on the natural environment.

2. Step: Analysis of customers' needs and wants

The needs and wants of the consumers are analysed particularly with respect to their social and ecological concerns. By means of individual cost-benefit-perceptions (Belz 2001, p. 79), three different groups of customers can be differentiated in terms of their social-ecological buying behavior: (1) the socio-ecological actives, (2) those that can be socio-ecologically activated, and (3) the socio-ecological passives.

It is the objective of the first two steps (i.e. the information level), to *identify the intersection* between the analysed existing socio-ecological problems and the customers' needs and wants. This *dynamic intersection* forms the starting point for further sustainability marketing activities and constitutes the basis for the implementation of the following steps.

3. Step: Normative aspects of sustainability marketing

The normative principles of sustainable development need to be anchored within the entire corporation. The company's commitment to sustainable development needs to be specified in the mission statement. The companies need to develop sustainability

visions, formulate sustainable principles and guidelines, and set socio-ecological marketing objectives and goals.

4. Step: Strategic aspects of sustainability marketing

Within the scope of the strategic sustainability marketing, the companies have to decide on the extent of their social and ecological product quality. Additionally, they need to make choices on aspects such as sustainability positioning, targeting, and market segmentation. Generally, these strategic aspects are closely linked to each other. Sustainable products can be characterised as products that 'reduce the environmental burden, consider social aspects and satisfy customer needs better than competing offers do' (Belz 2005a, p. 17). With respect to these socio-ecological criteria they have a (competitive) advantage over conventional products (Belz 2006a, p. 141).

In general, a 'unique sustainability selling proposition (USSP)' (Belz 2006a, p. 141) can be applied in three possible ways – depending on the importance of the socio-ecological product quality in comparison to price and performance. In this regard, a dominant positioning, an equal positioning, and a flanking positioning of the socio-ecological product quality are distinguished in comparison to price and performance (Meffert/Kirchgeorg 1998, pp. 277-279; Belz 2005a, pp. 13-14). These positioning strategies directly influence aspects relating to targeting and market segmentation. In the first case, the socio-ecological product quality is communicated as the primary benefit prior to price and performance. This positioning strategy primarily attracts consumers which belong to the target group of the socio-ecological actives. Consequently, such a dominant positioning is only appropriate for companies which follow a niche strategy as their chosen market segment. In the second case, the socio-ecological product quality is positioned equally to price and performance, aiming at consumers that can be socio-ecologically activated. A possible way to activate these consumers and to open them to sustainability innovations is by using 'motive alliances': the combination of socio-ecological criteria with classical buying criteria such as performance, durability, design, taste, convenience, or health aspects. For many companies these growing prospective segments are the relevant market segments. In the third and last case, the socio-ecological product quality is an integral part of quality and performance and is not particularly communicated. This positioning strategy targets the consumers which can be associated with the socio-ecological passives. As a result, such

a flanking positioning is only suitable for companies which pursue a mass market strategy (e.g. Belz 2004b, pp. 15-16; Belz 2005b, pp. 24-25; Belz 2006a, p. 141).

5. Step: Operational aspects of sustainability marketing (sustainability marketing mix)[10]

In general, the comprehensive integration and consideration of social and ecological criteria into the marketing mix is intended by the operational aspects of sustainability marketing. Based on the different sustainability marketing strategies outlined above, the companies need to implement different kinds of pricing, distribution, and communication activities. In the centre of the sustainability marketing (mix) are sustainable products (Belz 2005a, p. 17) which 'are not absolute, but relative measures in dependence on the status of knowledge, latest technologies and societal aspiration, which change over time' (Belz 2006a, pp. 141-142).

The sustainability marketing mix particularly depends on the selected target group(s): whereas consumers belonging to the target groups of the socio-ecological actives and those that can be socio-ecologically activated are inclined to pay a (marginally) higher price for sustainable products, consumers which can be associated to the target group of the socio-ecological passives are not willing to pay a premium (Belz 2005a, p. 18). A similar behaviour can be observed in terms of distribution: consumers which belong to the target groups of those that can be socio-ecologically activated and the socio-ecological passives do not accept additional costs and time spent purchasing sustainable products – consequently, they need a higher degree of distribution (Belz 2005a, p. 19). In contrast, consumers which can be related to the target group of the socio-ecological actives are willing to accept additional costs by buying sustainable products through smaller and less central distribution channels such as health food stores and small wholefood shops.

With regard to communicating sustainable products, particular importance is granted to credibility and trust (Belz 2006a, p. 142). The theory of information economic differentiates between search, experience, and credence qualities (Darby/Karni 1973). Whereas search qualities can be inspected by the customer prior to the purchase of the product (e.g. colour) and experience qualities can be experienced by the customer after the purchase of the product (e.g. taste), credence qualities cannot be inspected or experienced by the customer – either before or after the purchase of the product (e.g. adherence to organic farming or fair trade regulations) (Darby/Karni 1973, pp. 68-69;

[10] In the following, the terms 'operational sustainability marketing' and 'sustainability marketing mix' are used synonymously.

Karstens/Belz 2006, pp. 190-191). Therefore the producers have an information advantage – or expressed negatively – the customers have an information disadvantage and, consequently, have to believe the information given by the producers in terms of the socio-ecological product quality. 'These kinds of information asymmetry open the door for opportunistic behaviour on the supply side, which may lead to scepticism on the demand side and, finally, to non-purchase and market failure' (Belz 2006a, p. 142). Hence, credible communication and the accomplishment of trust and a good reputation play an important role in the sustainability marketing mix.

Up to this point the companies act within the existing political and public framework. They do not try to change these limitations in order to enlarge the opportunities to market their sustainable products more successfully. However, at this point transformational sustainability marketing comes into focus, adding a macro perspective to the conventional micro perspective that has existed hitherto.

6. Step: Transformational aspects of sustainability marketing

Within the last step of the sustainability marketing concept, the companies participate in public and political change processes which transform existing institutions towards sustainability. In doing so, the companies enter a discourse with different stakeholders to create a sustainable and fair system of competition.

Sustainability marketing control

Sustainability marketing control forms an additional important aspect of the concept of sustainability marketing alongside the above-mentioned six steps. Within the concept of sustainability marketing, the step of marketing control can be entered between the fifth and sixth step in figure 2.3 (cf. Kirchgeorg 2006, p. 13; Brassington/Pettitt 2006, pp. 1030-1031). Besides its general importance in the context of the concept of sustainability marketing, sustainability marketing control also forms a key pillar of the SuM research study (see chapter 7).

In general, marketing control is a subarea of corporate controlling. Its key task is to support the planning, management, and control of the marketing function within the corporation by delivering all relevant information. Alongside the supply of information, marketing control also has further planning, control, and coordination functions, e.g. the assessment of the marketing outcome, the exact measurement of the marketing results or the adherence to a deadline (Zerres/Zerres 2006, p. 4). Marketing control is particularly important against the background of the fast-changing market environment.

There are a number of environmental factors which change over a comparatively short period of time such as the economy, technology, competition, and laws and regulations (Burrow 2006, p. 599). Therefore, marketing control and its information systems are even more important to 'determine if the objectives, plans, and standards are being met' (Burrow 2006, p. 607) and in which direction the company and its marketing should develop in the future.

If marketing control is now being discussed within the concept of *sustainability marketing*, it will gain complexity due to the additional dimensions: besides the general economic target figures, further social and environmental target figures are added. As a result, the sustainability marketing control receives an extended planning, management, and control function (Kirchgeorg 2002, p. 9).[11]

In order to clarify the *innovative ideas* of the concept of sustainability marketing compared to the conventional marketing concept, the way in which sustainable development changes the nature of marketing needs to be stated. What is distinctive about this specific sustainability marketing thinking? There are at least six distinguishing features of the applied sustainability marketing concept (Belz 2005a, pp. 21-22; Belz/Karstens 2005, pp. 5-6; Belz 2006a, p. 143):

(1) *Social and ecological problems*

In conventional marketing literature, the social and ecological problems of products along the whole life cycle are hardly considered. Therefore, the analysis remains on a rather superficial level. Usually, the situation of the natural environment is briefly analysed as part of the macro environment of the company. The shortages of raw materials and increased pollution are mentioned without any further consequences for the concept of marketing (Peattie 1999, p. 63; Kotler/Armstrong 2004, pp. 123-124). In contrast, the identification and analysis of social and ecological problems are points of departure in sustainability marketing.

(2) Intersection between socio-ecological problems and customers' needs and wants

The identification of the intersection between socio-ecological problems and consumers' needs and wants is crucial for sustainability marketing. Social activists put a strong emphasis on the solution of socio-ecological problems, but widely neglect

[11] How the sustainability marketing outcome is evaluated in the case of the SuM research study is outlined in detail in section 3.3.

consumer wants and demands. They pursue a kind of anti-marketing. Mainstream marketing mainly focuses on consumer demand, thereby overlooking the social and ecological environments. Sustainability marketing tries to find solutions to the socio-ecological problems and at the same time meet customers demand.

(3) *Normative aspects of sustainability marketing*

In conventional marketing, the long-term aim is to build profitable customer relationships. Conventional marketing goals are increases in sales, profits, and market shares. In contrast, sustainability marketing aims at long-term, profitable relationships with customers and at the same time it respects and maintains the socio-ecological environment, thus meeting the triple bottom line. Besides common marketing goals like sales, market shares, and profits, ecological and social objectives are also important. Furthermore, sustainability marketing critically questions underlying assumptions and reflects upon key concepts of marketing e.g. needs, wants, and consumer sovereignty.

(4) *Information asymmetries*

Social and ecological qualities of products are often credence qualities, e.g. organic farming or fair trade. The customer has to believe the information provided by producers or third parties with respect to the social and ecological qualities of products. These kinds of information asymmetries open the door for opportunistic behaviour on the supply side, which may lead to scepticism on the demand side and, finally, to non-purchases and market failure. That is why signalling credibility and trust are crucial in sustainability marketing.

(5) *Time aspects of sustainability marketing*

Traditional marketing is focused on sales and transactions. It is rather short-term oriented and is biased towards the present. Modern marketing represents a paradigm shift from transactions towards relations. That is why it is called ‘relationship marketing’ (Christopher/Payne/Ballantyne 1991). It aims at building lasting customer relationships in order to produce high customer equity. Sustainability marketing goes much further. It aims at building lasting relationships with customers, the social environment and the natural environment. Thus, long-term thinking is a fundamental component of sustainability marketing (Peattie 1999, p. 58).

(6) *Transformational aspects of sustainability marketing*

In conventional marketing, the macro environment is often taken for granted. Many companies regard external forces as uncontrollable elements to which they have to

adapt (Kotler/Armstrong 2004, p. 132). In sustainability marketing, the macro environment is perceived as a constraint to overcome. Within the existing framework, there are few economic incentives to behave in a sustainable way, both for producers and consumers. To change the existing frameworks in favour of sustainability, common efforts of governments, non-governmental organisations, and companies are necessary on local, national, and international levels.

The SuM research study puts its *conceptual focus* on *strategic, operational, and controlling aspects of sustainability marketing*. Issues concerning the other steps – i.e. the analysis of socio-ecological problems and of customers' needs and wants as well as the normative and transformational sustainability marketing – go beyond the focus of this research project. These aspects will not be taken into account for specific reasons such as certain conceptual considerations, the selection of the unit of analysis, restrictions due to limited space on the questionnaire and personal preferences.

2.3.2 Theory of information economics

One aspect of sustainability marketing outlined above has a particular influence on the strategic and operational sustainability marketing. This aspect is the information asymmetry between the company and its customers due to the credence quality of the sustainable products. Therefore, this section firstly places a focus on the *theory of information economics* as a theoretical basis related to the problem of information asymmetries. Secondly, it outlines several communication instruments which are useful – to a greater or lesser extent – for indicating credibility and transferring credence qualities into 'quasi-search qualities' (Hüser 1993, p. 277). This type of information forwarding from the company to the customer is referred to as 'signaling' (Spence 1976, p. 592).[12]

The theory of information economics is part of the new institutional economics which provides a more realistic illustration of market exchange relationships in contrast to the assumption of the 'homo oeconomicus'. It examines information asymmetries and uncertainties between transaction partners, their opportunistic behaviour and the arrangements of contracts (Furubotn/Richter 2005). The theory of information

[12] The following explanations concerning the theory of information economics are published in a similar form in the 'International Journal of Advertising' (Karstens/Belz 2006, pp. 190-193).

economics is attributed to Philip Nelson (1970; 1974) and his research on the different means for acquiring quality information and its impact on market behaviour of consumer goods. The starting point of his work is the assumption that the consumer has only limited information about the price and the quality of products. To face this lack of information and obtain more product specifications, one alternative for the consumer is to search for quality or price information. Here, search means that the product price or quality can be inspected by the consumer prior to purchase. Those products are defined as *search goods* (e.g. clothes and furniture). If the quality cannot be inspected prior to purchase or if the search procedure is comparatively expensive, the consumer has to buy the product to experience its quality via usage. Thus, the other alternative for the consumer to obtain more product information is by experience. Products which can only be inspected after the purchase are therefore called *experience goods* (e.g. food and medicinal substances) (Nelson 1970, pp. 311-312). Nelson assumes that the 'cost of experimenting sets an upper limit to the cost of search that a person is willing to undergo' (Nelson 1970, p. 317). By means of the distinction of search and experience goods, Nelson explores the implications for market behaviour. In the following years, Nelson's basic ideas are refined and further developed.

Darby and Karni (1973) take up Nelson's study and broaden it in two perspectives. Firstly, they turn from a product differentiation to a distinction between product qualities because a product can incorporate different qualities in the sense of *different product characteristics*. Secondly, Darby and Karni introduce *credence qualities* in addition to search and experience qualities. Credence qualities are product qualities that cannot be evaluated by search prior to purchase or experience after purchase and which are very costly to evaluate if at all (Darby/Karni 1973, pp. 68-69). In the case of credence qualities, the customer has to rely on the information provided by the company itself or by a third party organisation. Take, for example, a green organic apple, which has a number of different qualities: the colour can be searched prior to the purchase; the taste of the apple can be experienced after the purchase; whereas the kind of farming can hardly be verified by the consumer – neither before nor after the purchase of the product. That is why the consumer has to trust the supplier regarding the quality of the organic farming.

Another perspective to the theory of information economics is introduced by Weiber and Adler (1995a; 1995b) who show that a certain product quality cannot be objectively assigned to one of the three types of qualities. They argue that it depends on the

subjective perception of the customer as well as his judgement behaviour (Weiber/Adler 1995a, p. 59). They take up previous empirical findings by Ford et al. (1988) and Arnthorsson et al. (1991) who have already implicitly argued in such a way. Weiber and Adler explicitly focus on the subjective perception of the different product qualities. In every act of purchase all three types of qualities are considered – differentiating only in their extents (Weiber/Adler 1995a, p. 62; Weiber/Adler 1995b, p. 100).

In the case of the food industry, social and ecological qualities as well as health-related aspects are very often credence qualities (Kaas 1992, p. 474; Hüser/Mühlenkamp 1992, p. 150; Rubik 2005, p. 30). The scepticism of the consumer in the case of credence purchases constitutes a potential buying barrier. Using only advertising to provide trustful information to consumers so that they can make their purchase decision usually fails in the case of sustainable products (Kaas 1990, p. 544), which raises the question: How can food companies overcome scepticism and (potential) buying barriers? A possible answer might be the transformation of credence qualities into quasi-search qualities (Ford et al. 1990, p. 435; Hüser 1993, p. 277; Kaas/Busch 1996, p. 245). In order to demonstrate its credibility, the company has to concentrate and transfer complex information into specific signals which the customer can search for (see below). This type of information forwarding – which is called '*signaling'* (Spence 1976, p. 592) – helps to reduce the information gap between the company and its customer. The customers are now able to *screen* for information more easily because the credence qualities are now transferred into quasi-search qualities.

The company may choose from different information instruments in order to signal its product quality. Credence qualities can be transferred into quasi-search qualities through various communication instruments such as *third-party labels*, *self-declared claims*, *product brand*, *corporate brand*, *personality*, and *internet presence* (Kaas/Busch 1996, p. 245). At the same time *public relations*, *information leaflets*, *product packages*, and *advertising* also communicate information which might shift credence qualities into quasi-search qualities. All instruments signal key information regarding product qualities and therefore reduce search costs.

In terms of product labelling, it is useful to distinguish between *labels* assigned by *independent third parties* and *self-declared claims* which belong to the category of voluntary, public commitments (Karl et al. 1999, pp. 212-220). This differentiation follows the classification of the International Organization for Standardization (ISO).

They regulate environmental labels and declarations by the ISO 14020:2000 series and differentiate between environmental labels developed by a third party (ISO Type I), self-declared environmental claims developed by the producer (ISO Type II), and environmental declarations whose awarding is based on a full life cycle assessment (ISO Type III; predominantly used in B-to-B communications) (www.iso.org) (Rubik 2005, pp. 32-34). From the perspective of the theory of information economics, labels tend to signal more credibility than self-declared claims due to their being awarded by independent institutions.

In addition to labels or claims, *product* and *corporate brands* can be effective signals (Rao/Rueckert 1994, p. 89). They dispel consumer uncertainty and simplify the decision process in the way that the brand names become a quasi-search quality (Dawar/Parker 1994, pp. 83-84; Srinivasan/Till 2002, p. 418). The search for information about a product with credence quality becomes less complex and time consuming if the credence quality can be positively connected to a certain brand name. In this case the brand forms a signal which indicates the consumer credible information about credence qualities (Rao/Rueckert 1994, pp. 88-89). It is the strength of a credible brand to reduce perceived risks which come along with credence qualities (Smith/Park 1992, pp. 297-298). In the case of product and corporate brands, the main aspect is the perceived brand image. It refers to the reputation of the product or the corporation and is important in order to signal product qualities. A good reputation or image provides imperfectly-informed consumers with a certainty about credence product qualities (Rogerson 1983, p. 508; Shapiro, C. 1983, p. 659; Kaas 1991, p. 361). In small- and medium-sized family-owned companies, the *owner's personality* often supports the brand name and image. It may influence the consumer's perception of credence qualities in a positive way.

A more recent signalling instrument used by companies is the *internet presence*. Its relevance seems to increase in terms of providing more detailed corporate and product information which tend to reduce consumer uncertainty (Kotler/Armstrong 2004, pp. 24-25). Moreover, online communities and web blogs are more and more used to integrate the consumers in product innovation processes (e.g. Bartl et al. 2004, pp. 141-166; Füller et al. 2006, pp. 435-453). It can be assumed that these internet tools are perceived as means of reducing information asymmetries.

Besides the above-mentioned signalling instruments, there are four additional communication tools which might contribute to signal credibility with respect to

credence qualities: *advertising*, *public relations*, *information leaflets*, and *product packages* (Peattie 1995, pp. 225-227, 236-241, 244). By means of these instruments, the consumer can obtain information about a certain product (Kotler/Armstrong 2004, pp. 199-200). The question is, however, whether these rather general tools succeed in provoking specific trust in the consumer with regard to socio-ecological product qualities. Particularly public relations seem to be believable because the information often comes from a third party and is perceived more as 'news' and less as a persuasive campaign (Kotler/Armstrong 2004, p. 482). It is one objective of the SuM research study to evaluate which of the presented communication tools are mostly used to transform credence qualities of food products into quasi-search qualities.

2.3.3 Stakeholder concept

Besides the theory of information economics, the stakeholder concept contributes to the conceptualisation of this research study. Companies are not 'independent self-standing entities' (Freeman/McVea 2001, p. 191). They are 'open-systems' and part of a large social network (Freeman/McVea 2001, p. 191). Moreover, large enterprises are nowadays no longer privately owned but are rather 'quasi-public institutions' (Ulrich 1977, p. 225) on which the society makes demands. The company and its social environment (i.e. its stakeholders) are in a state of permanent interaction. Especially in times of increasing complexity of doing business and more radical political and environmental changes, there is a growing need for an ethical and strategic discussion of the link between society and business (Hansen et al. 2004, p. 242). In the context of the present research study, the questions therefore arise as to which stakeholders are relevant for the German food processing industry, and to what extent certain stakeholders influence German food processing companies so that they – as a consequence – take up sustainability marketing. First of all, before determining the relevant stakeholders within the framework of sustainability marketing (see section 3.2), the idea of 'stakeholder management' is introduced and outlined in the following.

The stakeholder approach is attributed to R. Edward Freeman. His landmark book *'Strategic Management: A Stakeholder Approach'* was published in 1984. However, the ideas which Freeman published in the 1980s were not new. The term 'stakeholder' originated from the Stanford Research Institute (now SRI International) in the 1960s (Freeman 1984, p. 31). Their approach was that in order to achieve long-term success,

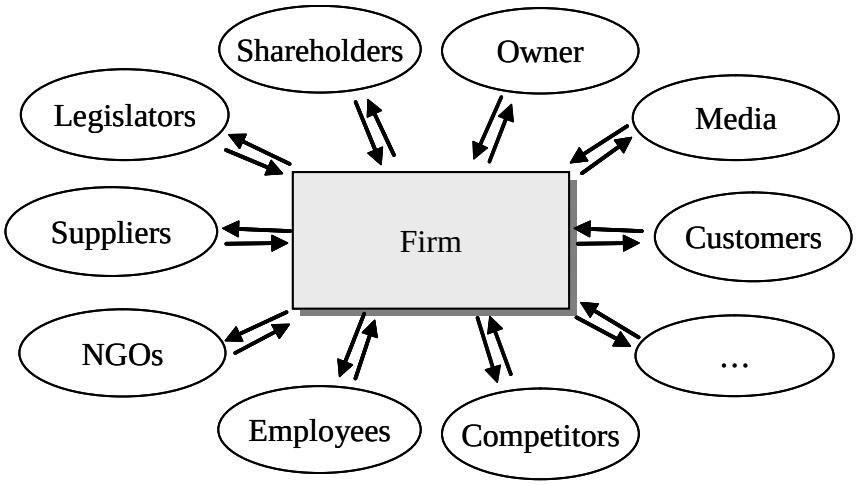
companies need the support of all their relevant stakeholders i.e. shareholders, customers, competitors, employees, NGOs, suppliers, the media, the owner and/or the government. Only if companies understand the concerns of their stakeholders would they be in the position to generate objectives that would be fostered by the stakeholders (Freeman 1984, pp. 31-33; Freeman 2004, p. 229). This mutual impact is also expressed in the initial definition of stakeholders. They are 'any group or individual who *is affected by* or *can affect* the achievement of an organization's objective' (Freeman 1984, p. 25).

However, the approach of stakeholder management did not develop as such from the 1960s to the 1980s. Yet some of its main thoughts were included and further expanded in four separate management research fields during that time: (1) corporate planning, (2) systems theory, (3) organisational theory, and (4) corporate social responsibility (Freeman/McVea 2001, p. 190). These research streams all accepted the notion of existing stakeholders, though they all dealt with this understanding differently. *Corporate planning* recognises key stakeholders but only as constraints. Within the frame of these critical stakeholders, it is the company's goal to maximise the shareholders' benefits. The stakeholder analysis is simply accomplished at a generic level and only in quantitative measures which is not always appropriate in terms of stakeholder relationships. *Systems theory* and *organisation theory* which have the same roots underline the general importance of stakeholder integration into strategic decisions. Nevertheless, both theories have limitations regarding their applicability within the individual business strategy. Either they take a collective approach (systems theory) or they largely neglect managers' choices and decisions within the strategy analysis process (organisational theory). *Corporate social responsibility* approaches view – similarly to corporate planning – stakeholders as constraints. Due to a separation of some (social/environmental) stakeholders from other (business-related) stakeholders, corporate social responsibility has long been seen as either 'damage limitation insurance' or as 'add-on luxury' of particularly successful companies (Freeman/McVea 2001, pp. 190-192).

Selected ideas of these related approaches were pulled together and formed the stakeholder concept in the 1980s as a framework for strategic management (Freeman/McVea 2001, p. 190). In general, the idea of the stakeholder approach according to Freeman can be described as follows: In a relatively stable environment

ignoring some stakeholders and only deciding in favour of others (e.g. the shareholders) might be successful. However, in an environment of permanent and increasing changes, it is essential to integrate the interests of key stakeholders into the company's objectives and manage these relationships actively and strategically (Freeman/McVea 2001, p. 193). The urgent importance of adopting a stakeholder approach is particularly essential in these times of globalisation, increasing information technology, and affairs related to cumulative ethics (Freeman 2004, p. 233). Freeman sees his approach to stakeholder theory from a managerial perspective and rooted in the practical concerns of managers. For him the business of companies are the stakeholders (Freeman 2004, p. 231). Figure 2.4 shows the stakeholder model using exemplary stakeholders.

Figure 2.4: The stakeholder model



(Adapted from: Freeman 1984, p. 25)

The conceptual breadth of the stakeholder approach is boon and bane at the same time. It is the concept's strength that it can be interpreted in many different ways and that it 'means different things to different people' (Phillips et al. 2003, p. 479). Yet another consequence of the stakeholder approach is that it presents lots of contact surfaces for distorted criticisms and unintentional misinterpretations, such as by Donaldson/Preston (1995), Barnett (1997), Rustin (1997), Gioia (1999), Hendry (2001), Jensen (2002), and Orts/Strudler (2002). Freeman and his colleagues have identified numerous distortions and misunderstandings, amongst others the misreading that '(1) stakeholders are critics and other non-business entities, (2) that there is a conflict between shareholders and other stakeholders, and (3) that the stakeholder concept can and should be used to

formulate a new, non-shareholder theory of the firm' (Freeman 2004, p. 231). Aware of the weaknesses of his approach (Freeman 2004, pp. 232-233), Freeman et al. face the critics by clarifying what stakeholder theory is and what it is not (e.g. Phillips et al. 2003, pp. 479-502; Freeman et al. 2004, pp. 364-369.). Seven criteria make the stakeholder approach distinctive: (1) it presents *a single strategic framework*; (2) it is a *strategic management* process, not a strategic planning process; (3) its central concern is the *survival of the firm* which is achieved by means of balancing and integrating multiple stakeholder relationships; (4) it incorporates *values as key elements* of the strategic management process; (5) it is *prescriptive* and *descriptive*; (6) it is about the real, *concrete stakeholders* and not about stakeholders at a generic level; and (7) it simultaneously satisfies *multiple stakeholders* (Freeman/McVea 2001, pp. 193-195).

Four sub-fields have emerged in which most of the works dealing with the stakeholder approach have been discussed over the last two decades: (1) normative theories of business, (2) corporate governance and organisational theory, (3) corporate social responsibility and performance, and (4) strategic management. A stakeholder approach to *normative theories of business* describes why companies should consider stakeholders in the first place. Is there a fundamental moral necessity to implement this kind of management? This field of stakeholder research no longer deals with strategic issues but rather with moral issues. Relevant contributions to this field of research have been made amongst others by Wicks et al. (1994), Phillips (1997), Bowie (1999), and Donaldson/Dunfee (1999). In the German-speaking literature, Ulrich (1977 and 1996) was the first to introduce the idea of differentiating between an ethical point of view and a strategic perspective of stakeholder management. According to the ethical understanding of the stakeholder concept, socio-ecological demands claimed by public or political stakeholders are not to be regarded because of future competitive relevance but rather for their own sake (Ulrich 1996, pp. 40-42).

A stakeholder approach to *corporate governance* and *organisational theory* is based on the opposition of the stakeholder concept on the one hand and the traditional view that the management has to operate to benefit the shareholders on the other hand. Publications within this sub-stream of stakeholder approach have come, for example, from Freeman/Evan (1990), Goodpaster (1991), Boatright (1994), Goodpaster/Holloran (1994), Donaldson/Preston (1995), and Marens/Wicks (1999). Moreover, there have been some efforts by Jones (1995), Clarkson (1995), and Jones/Wicks (1999) to develop

a comprehensive theory which links together concepts such as agency theory, transaction costs, and contracts theory as opposed to traditional shareholder-based theory.
A stakeholder approach to *social responsibility* and *performance* refers both to the realm that tries to identify and evaluate relevant stakeholders in contrast to 'illegitimate' stakeholders. Mitchell et al. (1997), Agle et al. (1999), and Friedman/Miles (2002) made contributions for example to this field of research. It also refers to the stream of research that discusses the relationship between stakeholder management and financial performance. Authors such as Berman et al. (1999) and Odgen/Watson (1999) have contributed to this research stream.
A stakeholder approach to *strategic management* deals with the question of how stakeholder relationships are managed. It introduces a framework that helps to guide managers with respect to partnering tactics and developing critical strategies. Contributions to this field of research are made, for example, by Harrison/St. John (1994, 1996).

It is one of the study's objectives to identify those key stakeholders which demand sustainability marketing from German food processing companies. The fundamental idea that stakeholders with enough power, urgency, and legitimacy (Mitchell et al. 1997, pp. 872-879) can affect food processing companies by means of, for example, boycotts or by launching critical media campaigns, and turn them in a certain desired direction, forms the initial point of departure of this research study. In this case the desired direction is the production and marketing of sustainable food products. The stakeholders within this study are therefore often referred to as *drivers* because they 'drive' German food processing companies towards sustainability as a reaction to their pressures. A company which identifies stakeholders concerns, manages them, and ultimately meets these concerns and demands, invests – according to the stakeholder approach – in its successful economic future (Berman et al. 1999, p. 491; Ogden/ Watson 1999, p. 527).

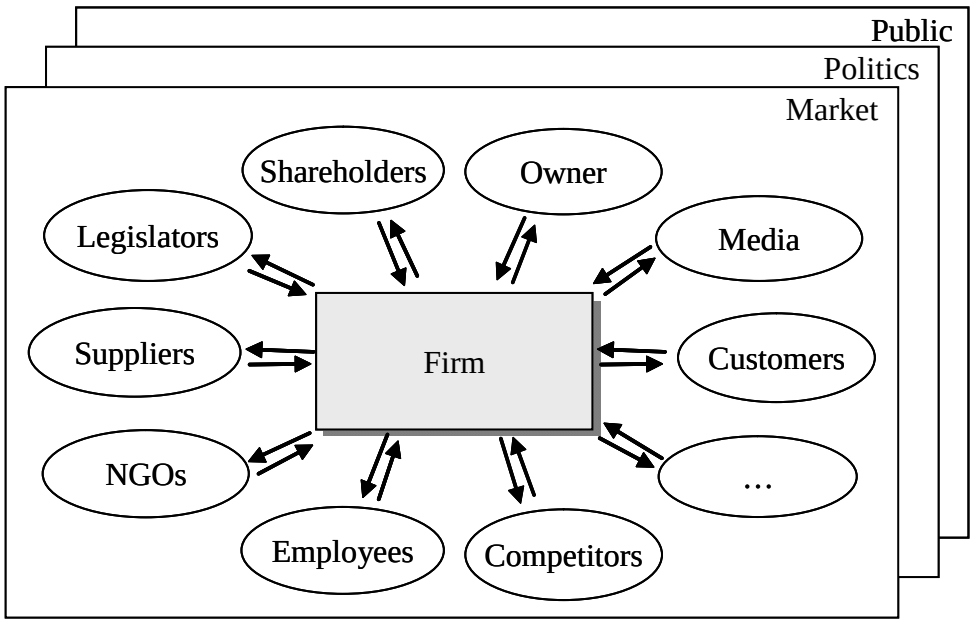
The stakeholders illustrated in figure 2.4 all make different demands on the company. Examples of the different socio-ecological demands which the various stakeholders make on food processing companies are:

- Clear and comparable declarations of nutritional value information (NGOs/legislator)
- Consideration of socio-ecological criteria when purchasing a share of a food processing company (shareholders)

- Safe and humane working conditions without mistrust (e.g. 'spying') (employees/ unions/public)
- Increasing demand for food products made without genetic engineering (consumers/ retailers)
- Pesticide-free fruit and vegetables (NGOs)
- Use of toxic-free packaging (consumers/NGOs)
- Increasing demand for sustainable food products (consumers/retailers)
- Credible and transparent labelling of sustainable food products (legislator/retailers)
- Shorter transportation distances (NGOs/public)

The different stakeholders can be interpreted as institutional representatives of the three external control systems – 'market', 'politics', and 'public' – which influence the company (figure 2.5) (Dyllick 1990, pp. 80-85; Dyllick et al. 1997, pp. 26-27).

Figure 2.5: The stakeholder model and its external control systems



(Source: Dyllick 1990, p. 84; Dyllick et al. 1997, p. 26)

In general, the concept of external control systems responds to the question of how the stakeholders' demands are being conveyed. This concept is based on a functional approach, whereas the stakeholder concept rests on an institutional view of the corporate environment (Dyllick/Belz 1995a, p. 58). In the following, the mechanism underlying each of the three external control systems will be explained. In addition, the

stakeholders will be categorised and assigned to the one or the other external control system[13] (for the following explanations on the three external control systems, see Dyllick 1990, pp. 84-85, 127-131, 158, 196; Dyllick/Belz 1995a, p. 58; Dyllick et al. 1997, pp. 27-28).

- '*Market' control system*: The market regulates the equilibrium between the supply and the demand of goods. Its control mechanism is the price. Influences from the market side are expressed by changing demand behaviours. In a sustainability context, companies need to respond to these changes by, for example, building up potentials for sustainability innovations. Stakeholders that make use of the external 'market' control system are, for instance, customers, competitors, retailers, and suppliers.
- '*Politics' control system*: Politics defines binding regulations for the general behaviour. Its control mechanism is based on authority; its decision-making is regulated democratically. From a political perspective, the company has to fulfil the regulations and to comply with the restrictions. The stakeholder that needs to be named related to the external 'politics' control system is the legislator.
- '*Public' control system*: The 'public' control system rests on social ostracism. It is based on certain moral ideas and codes of behaviour which are defining for a cultural community. This indicates that the external 'public' control system is effective implicitly to a great extent. With regard to the public, the company has to secure its acceptance and legitimacy. Relevant stakeholders in this case are, for example, local residents, NGOs, and the media which influence the company by exerting public pressure.

Alongside these external stakeholders as institutional representatives of the three control systems, there are also stakeholders within the company. Internal stakeholders are, for instance, employees, shareholders, the top management, and the company' s owner (e.g. Hendriques/Sadorsky 1996, p. 384; González-Benito/González-Benito 2006, p. 97). These stakeholders also make demands on the company such as fair compensation,

[13] In general, the stakeholders can be assigned to the one or the other external control system. However, such a categorisation becomes difficult if a stakeholder conveys his/her demands over more than one control system. Greenpeace, for example, – a typical stakeholder using the 'public' control system – also uses the 'market' control system (e.g. by offering green energy 'Greenpeace energy' and the CFC-free refrigerator 'Greenfreeze') and the 'politics' control system (e.g. by the lobby work of their permanent political delegation in Berlin).

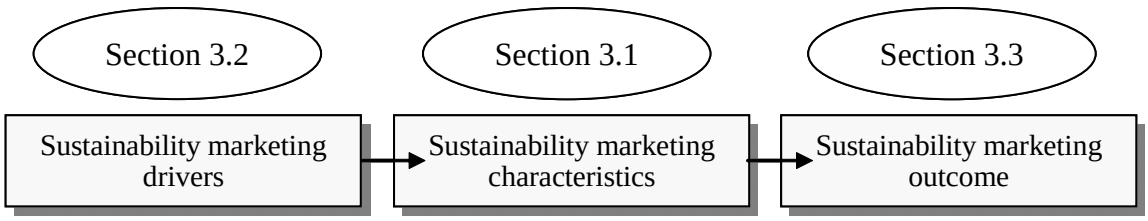
dividend payment, and safe working conditions (on the discussion of the internal stakeholders' influence on the company, see section 3.2.1).

In general, it can therefore be stated that the stakeholders can be divided into two main groups: *external* and *internal* stakeholders. In addition, the external stakeholders can further be differentiated into *market* and *public* stakeholders – public in the sense of societal stakeholders which include both political and well as public stakeholders (Dyllick/Belz 1995b, pp. 586-587). This stakeholder classification will be assumed in section 3.2 where the hypotheses concerning the stakeholders are deduced. Moreover, the control mechanisms of the external control systems 'market', 'politics', and 'public' are of further importance with respect to the analysis of the empirical data concerning the stakeholders.

3. CONCEPTUAL FRAMEWORK FOR THE ANALYSIS OF SUSTAINABILITY MARKETING

The previous chapter established the theoretical basis for the conceptual framework of the SuM research study presented in this chapter. The sustainability marketing concept, the ideas of the stakeholder concept and aspects of the theory of information economics are now used to develop the framework and deduce the hypotheses by means of which the current situation of the German food processing industry is researched. First of all, it is necessary to define what kind of food products are subsumed under the term 'sustainable food products' for the purposes of this study and to present the relevant strategic and operational sustainability marketing characteristics (section 3.1). Secondly, the key internal and external sustainability marketing drivers are deduced (section 3.2), followed by, thirdly, the operationalisation of the sustainability marketing outcome (section 3.3). Finally, the conceptual framework is presented and the hypotheses are summarised (section 3.4). Figure 3.1 shows the general framework in a simplified manner in order to provide an overview of the structure in this chapter. A complete framework with all contents and hypotheses can be found at the end of this chapter (p. 93).

Figure 3.1: General framework and chapter structure



3.1 Sustainability marketing characteristics

3.1.1 Sustainable food products

In general, sustainable products 'are defined as products that have a higher socio-ecological efficiency than other products in the same category' (Belz 2005a, p. 17). However, the general question – which needs to be reasoned first – is whether socio-ecological products and/or socio-ecological performances should be offered (Belz 2001, p. 84). It is assumed that with the sale of socio-ecological performances instead of the products themselves, the social and ecological environment can be disburdened: eco-leasing and eco-sharing are two important examples with regard to performance sales

(e.g. Belz 1998a, pp. 1-51). The property rights theory is used as the rationale.[14] However, the appropriateness of a performance sale depends on the product to be substituted. In selected areas such as mobility (i.e. car sharing), housing/living (i.e. washing machine, lawn mower), and leisure time (i.e. gym equipment) performance sales are generally possible because these durable consumer goods can be substituted into intangible services. In contrast, food products make up typical tangible goods which cannot be substituted into intangible services. This is why in the case of the SuM research study *sustainable food products* form a requirement for sustainability marketing. Therefore, the two central points of this section are: (1) to clarify in detail what sustainable products are, and (2) to develop a useful definition of sustainable food products for this research study.

The concept of sustainability with its three rationalities (social, ecological, and economic) is characterised by very high complexity. This intricacy affects the sustainability discussions and research to a high extent. There are a multitude of works which try to shed light on this concept and its implementation (e.g. Dresner 2002) but most of them put emphasis on and discuss the controversial points rather than the harmonic aspects (e.g. Hansen/Schrader 2001, pp. 24-25; Herde 2005, p. 4). One point of discussion is, for example, the *domination of the ecological dimension*. The hegemony of this rationality makes it difficult to consider the other two dimensions with the same intensity and focus (Brand et al. 2003, p. 16). Particularly food products are often predominantly related to ecological aspects, even though this aspect is just one of the three rationalities. This might be due to the fact that the ecological dimension is probably the most investigated and therefore also the simplest to define. However, in another point of discussion it is also argued that the three fundamental dimensions of

[14] In the case of a product sale, the property rights are completely transferred from the producer to the customer; in contrast, in the case of a performance sale the customer only buys the right to use the product (‘usus’). All the other rights such as the right to appropriate returns from the product (‘usus fructus’), to change the product’s form and/or substance (‘abusus’), and to resell the product (‘ius abutendi’) remain with the producer (Furubotn/Pejovich 1974, p. 4). Consequently, not only the majority of the rights but also the product as such stays in the property of the producer. This forms a key economic incentive to produce durable goods so they can be leased and reused over a long period of time which increases the producer’s income (Belz 2001, pp. 84-85). The argumentation in terms of performance versus product sales sounds conclusive; however, it ignores an important factor – the consumer and his/her behaviour (e.g. Schrader 1999, pp. 105-121). Having no other property rights except the right to use the product, the consumers might vandalise the shared or leased products which might lead to an earlier product substitution – which again diminishes ecological advantages. Furthermore, sharing a car, for example, does not mean that the consumer uses the car less often compared to possessing his/her own car. If the sharing alternative is comparatively cheaper, the consumer might even use the car more often (‘rebound effect’) (Belz 2001, p. 85). As a result, it can be stated that the advantage of performance sales in comparison to product sales cannot be generally assumed. The benefit of the one or the other has to be evaluated specifically in each individual case (cf. Behrendt/Pfitzner 1999, p. 69; Belz 2001, p. 85).

sustainability are not sufficient especially in relation to food products. The establishment of a *fourth dimension* is needed, namely *concerning health aspects*. A subordination of health aspects under the social dimension would mean that they are insufficiently taken into account; after all, they play a decisive role within the food industry (Erdmann et al. 2003, p. 38; Schönberger/Brunner 2005, p. 11). Such health issues are, for example, obesity, alcohol abuse, and undernutrition.

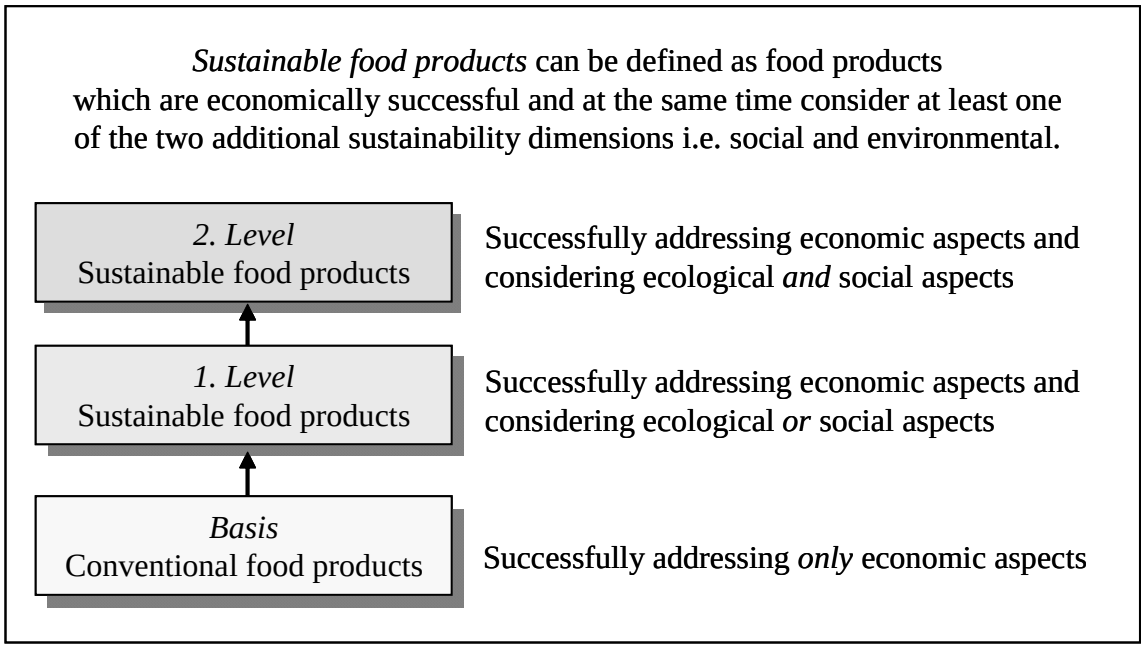
This short discussion – touching on only two controversial points of the sustainability context – already shows how important but also how difficult it is to clearly define and operationalise the construct of a 'sustainable food product'. The question needs to be answered as to whether it is sufficient to incorporate merely ecological aspects and how health aspects should be considered. Therefore, in the following an explicit understanding and definition of sustainable food products, which are significant for this study, is developed.

In terms of food products, processing companies need to offer (at least one) sustainable product(s) as a requirement in order to realise sustainability marketing. Performance sales are not options for food processing companies as discussed above. *Sustainable products in general* can be defined as products that 'reduce the environmental burden, consider social aspects, and satisfy consumer needs better than competing offers do' (Belz 2005a, p. 17). They try to realise all three rationalities of the sustainability concept: considering and integrating social and environmental aspects along the entire value creation chain as well as being competitively and economically successful over a period of time. The understanding of a *sustainable food product in particular* which underlies this research project is yet to be specified and defined. The definition adapts ideas of the understanding of 'sustainable consumption' by Belz/Bilharz (2005a, pp. 261-272 or 2007, pp. 27-33) and ideas of the Wuppertal Institute for Climate, Environment and Energy (2005, pp. 61, 140-141).

Generally speaking, conventional food products exclusively address economic aspects. They only satisfy individual needs and neglect any collective aspects. In contrast, sustainable food products incorporate the idea – besides the satisfaction of individual needs – of addressing socio-ecological problems and contributing to their solution on a macro-level (Belz/Bilharz 2007, p. 28). Nevertheless, it is also essential that sustainable food products are economically successful as well, meaning that they need to be sold. Food products which consider social and ecological aspects to a high extent but are

economically not successful can be referred to as ‘socio-ecological food products’. They are not sustainable. The idea behind this is that only if socio-ecological food products are bought and used, are they really ecologically and socially effective and therefore sustainable. But to what extent do sustainable food products need to consider social and environmental aspects in order to be sustainable? It this case it is useful and appropriate to distinguish *first level* and *second level* sustainable food products from conventional food products which form the basis of food products which take only economic considerations into account. Figure 3.2 provides an overview of the definition of sustainable food products as is understood in this study.

Figure 3.2: Sustainable food products



First level sustainable food products

Food products which belong to the first level of sustainable food products consider *explicitly one* additional sustainability aspect, i.e. the environmental or social aspect besides the economic dimension. They can already be named and defined as sustainable food products even though they take just one of the two additional sustainability dimensions into account because they are *relatively ‘more sustainable’* than competing conventional food products (Belz/Bilharz 2007, p. 28). Moreover, it is argued that food products that consider, for instance, only environmental aspects inherently incorporate social aspects due to the fact that less environmental impact means comparably less social injustice. This correlation between natural resource scarcity and social

consequences can already be observed today in the German food industry where prices for staple foods are increasing, resulting in unfair and insufficient food allocation (Kersting/Clausen 2007, pp. 508-513). Therefore, sustainable development can only be achieved with the aid of production and consumption patterns which use fewer resources (Wuppertal Institute for Climate, Environment and Energy 2005, pp. 140-141). The notion behind it is that the more resources are saved by the first world the more social justice can be experienced (particularly) by the third world. To sum up, *first level* sustainable food products are *economically successful* and take *either environmental or social aspects* into account and are therefore relatively more sustainable than competing conventional food products.

Second level sustainable food products

Food products which belong to the *second level* consider *environmental and social aspects* at the same time in addition to the economic dimension. These food products are clearly superior to conventional food products in terms of reducing the social as well as the environmental impact. Sheth/Parvatiyar define this kind of product as one that 'becomes a consumer's first choice, since it meets his/her consumption needs along with his/her need for a healthy, sustainable physical environment' (Sheth/Parvatiyar 1995, p. 7).

However, the consideration of all three sustainability dimensions at the same time bring with it potential areas of conflict: the aspiration of a goal within one dimension does not necessarily support the goal attainment of the other two dimensions. Between the dimensions there are constant trade-offs to be made. In their article Dyllick/Hockerts (2002), for example, develop six criteria that managers have to satisfy if they are aiming for corporate sustainability: eco-efficiency, socio-efficiency, eco-effectiveness, sufficiency, socio-effectiveness, and ecological equity (Dyllick/Hockerts 2002, pp. 135-138). Whereas the first two criteria – i.e. eco-efficiency and socio-efficiency – validate the economic sustainability ('business case for corporate sustainability'), eco-effectiveness and sufficiency evaluate the ecological sustainability ('natural case for corporate sustainability'), and socio-effectiveness and ecological equity are used to assess the social sustainability ('societal case for corporate sustainability'). The three cases for corporate sustainability are generally opposed to each other – they form a triangle. Consequently, the particular criteria are also opposed to each other. For example, selling more efficient cars ('eco-efficiency') reduces the costs of driving a car.

But less costly cars might lead to an increase in the total number of cars on the streets. So, from an ecological point of view, the company should shift from more efficient cars to another, more effective technology (‘eco-effectiveness’) (Dyllick/Hockerts 2002, p. 137). Similarly, socio-efficiency and socio-effectiveness are opposed to each other as well as sufficiency and ecological equity. This discussion shows that the integration of all three dimensions within one company and as a result within one product is a difficult and challenging task.

Another important aspect in terms of sustainable food products that has already been mentioned is whether health issues – which are without a doubt closely connected to the individual food intake – fall in the social rationality of sustainability or whether they are so essential that they form a self-contained dimension (Erdmann et al. 2003, p. 38; Schönberger/Brunner 2005, p. 11). The latter could be legitimised through the severe impact food products have on the state of human health.

On the one hand food products have a positive influence on human health because they contain essential nutrients which ‘the body cannot make for itself in sufficient quantity to meet physiological needs’ (Whitney et al. 2001, p. 8). In general, these essential nutrients are carbohydrates, fats (lipids), proteins, vitamins, minerals, and water. By means of the concept of nutrient density, food products can be evaluated in more or less healthy food products: the more nutrients and the fewer kilocalories, the higher the nutrient density and, consequently, the healthier the food product (Whitney et al. 2001, p. 15). A responsible way of food consumption leads to an ‘optimal physical health’ and at the same time to a superior ‘mental, emotional, spiritual, and social health’ as health means a lower risk of physical diseases but also a lower risk of mental disturbance, emotional distress, spiritual discontent, and social maladjustment (Whitney et al. 2001, pp. 2-3). As a consequence, people are more efficient and productive.

On the other hand the consumption of the wrong quantity and/or unhealthy food products has negative influences on human health (e.g. Jackson/Calder 2004, pp. 71-92; Müller/Trautheim 2005, pp. 27-30). Whereas an adequate diet gives ‘enough energy and enough of every nutrient to meet the needs of healthy people’ (Whitney et al. 2001, p. 14), an inadequate diet leads to an unbalanced energy and nutrient budget which ultimately leads to overweight or underweight and even vitamin and mineral

deficiencies (Moore 2005, pp. 50-52). The explicit health risks of obesity[15] are for example diabetes, hypertensions, osteoarthritis, liver malfunctions, and cardiovascular disease (Whitney et al. 2001, p. 145). Besides undernutrition, obesity particularly is becoming a more and more widespread disease, which can be directly connected to incorrect food intake (OECD 2006, pp. 206-207; Busch 2003, p. 465). In Germany, about 20% of adults were obese at the beginning of the new millennium. That was twice as much as 20 years ago (Müller/Trautwein 2005, p. 27). However, beyond the individual stress of the physical weight and psychological burden, obesity is also now a social disease which causes, for instance, increasing health care costs for the state (Whitney et al. 2001, p. 145; OECD 2007, pp. 220-221).

As a consequence of these eating disorders but also of the increasing public awareness, food companies have reacted and launched more and more food products with either a reduced amount of sugar, saturated fat, and calories (i.e. dietary products) or with additives such as vitamins, minerals, and pharmaceuticals (i.e. functional food, nutraceutical, and pharmafoods). So, vitamin D has been added to milk, iodine to salt, and probiotics to yoghurt. However, new projects go much further and use, for example, bananas to deliver vaccines. This convergence of the formerly separated industries of food, nutritional supplements, and pharmacy might even lead to the creation of diets specifically developed for people with particular genetic characteristics, i.e. with a certain disease or with particular physical goals (Busch 2003, pp. 462-463). The subsequent question for the SuM research study is now one that is ethically controversially discussed: Do these novel food products form so-called ‘health’ food products and, if so, do they therefore constitute sustainable food products as defined above and should be included in the empirical study?

In response, it can be stated that health aspects are surely important when it comes to food products. However, a healthy and balanced diet does not necessarily mean consuming functional or dietary food products. Moreover, it means amongst other things eating predominately fresh fruit and vegetables and consuming less meat products, less sugar, less alcohol, and less fat (Reicherzer 1997, pp. 1-3; Whitney et al. 2001, pp. 10-21; Moore 2005, pp. 3-27). Such nutrition can be achieved through eating

[15] Whether a person is obese is generally defined by the body mass index (BMI = weight divided by height squared). A BMI of 30kg/m^2 or higher indicates obesity. However, the BMI does not reveal two important aspects: (1) how much of the weight is fat and (2) where the fat is located (Whitney et al. 2001, pp. 139-140). These aspects also influence the fact of whether a person is obese and whether his/her health is at risk.

'standard' food products (non-dietary or non-functional food products). Therefore, it would be incorrect to include 'health' food products in the empirical study since they neither automatically reduce the problem of obesity or malnutrition nor do they inevitably reduce the social and ecological impact. They are not – per se – sustainable food products. Only if they additionally took socio-ecological issues into account they would be considered sustainable food products. An example of such a product would be an organic chocolate with a reduced sugar content for diabetics.

3.1.2 Strategic sustainability marketing characteristics

Subsequent to the definition of the term 'sustainable food product', the characteristics of the strategic sustainability marketing are described and outlined in this section. The main research questions concerning the strategic sustainability marketing characteristics are: What sustainability marketing strategies do German food processing companies pursue? And what sustainability marketing strategy types (SuM strategy types) can be identified?

The sustainability marketing strategy which food processing companies embark on is a combination of five strategic decisions. In detail, these decisions refer to (1) the social product quality, (2) the ecological product quality, (3) the market segmentation, (4) the selected target group, and (5) the positioning of the socio-ecological product quality (Kotler/Armstrong 2004, pp. 236-273; Belz 2005a, pp. 13-17; Belz/Karstens 2005, pp. 6-10).[16]

Social and ecological product quality[17]

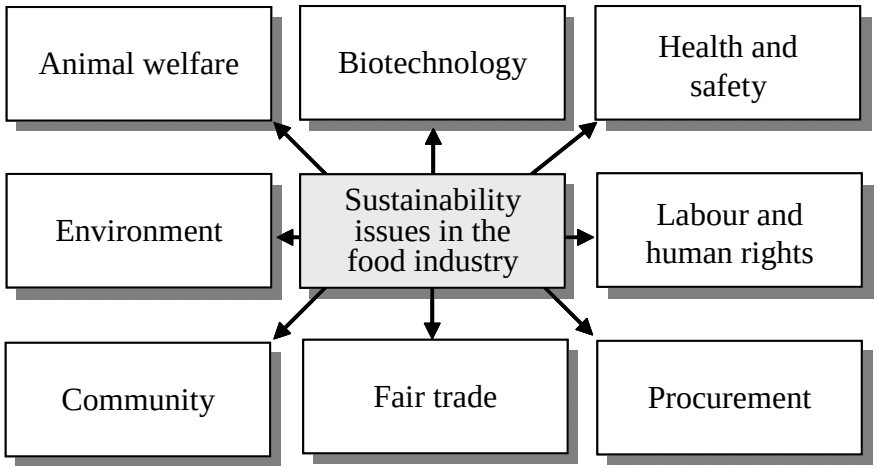
The social and environmental product quality is a bundle of specific product aspects which emerge along the entire value creation chain. These aspects involve both physical product characteristics and the circumstances under which the product is produced and marketed. As a consequence, there are a vast number of issues which impinge on the socio-ecological product quality. Maloni/Brown (2006) compile these CSR issues in the

[16] Further strategic aspects which are discussed in the context of sustainability marketing are aspects of internationalisation and aspects concerning the timing of market entry (Belz/Karstens 2005, p. 11). However, in the context of the study's research objectives, these two strategic aspects are less important compared to the other five strategic aspects. In addition, not all strategic aspects can be integrated into the cluster analysis due to increasing complexitity. Therefore, they have been excluded from the further analysis.

[17] Due to a number of similarities, the first two strategic aspects i.e. the social product quality and the ecological product quality are pooled and operationalised together.

US food supply chain and present a categorisation of the different aspects. Overall they reveal eight categories of CSR issues which can be understood as sustainability issues in the food industry as well (figure 3.3):

Figure 3.3: Sustainability issues in the food industry



(Adapted from: Maloni/Brown 2006, p. 38)

(1) *animal welfare* (e.g. animal cruelty, handling, housing, slaughter, and transport), (2) *biotechnology* (e.g. antibiotics, growth hormones, genetic testing, recombinant DNA, and cloning), (3) *health and safety* (e.g. food safety, security, traceability, transportation, healthy lifestyles, and local food sources), (4) *environment* (e.g. global warming, water, soil, energy, resources, species, emissions, waste, packaging, recycling, farming methods, manure, herbicides, and pesticides), (5) *labour and human rights* (e.g. compensation, forced labour, child labour, training, education, regular employment, discrimination, legal rights, civil rights, collective bargaining, rights disclosure, hygiene, sanitation, transportation safety, and working hours), (6) *community* (e.g. economic development, philanthropy, arts, educational support, job training, volunteering, literacy, health care, and child care), (7) *fair trade* (e.g. fair trade and profit sharing), and (8) *procurement* (e.g. conduct, professional competence, confidentiality, deception, conflict of interest, power abuse, special treatment, applicable law, disadvantaged suppliers, and minority suppliers) (Maloni/Brown 2006, pp. 46-47). The listing of CSR issues shows that some categories apply to all industries such as community and procurement, whereas the other categories reflect specific problems of the food industry to a greater or lesser extent.

The classification by Maloni/Brown (2006) explores eight different categories which are all described separately. This approach to CSR issues can be characterised as content-related; providing a first overview. However, for the SuM research study a different approach needs to be applied. In order to evaluate the socio-ecological product quality in detail, all steps of the value chain *from agriculture to recycling* as well as the social and the ecological product quality need to be separately analysed. This approach orientates itself according to the value creation chain and therefore is rather process-oriented.

Quantitative and qualitative measurement tools – such as life cycle assessment (LCA) and the ecological impact matrix (Belz 1995, pp. 24-26) – have emerged over the last decades dealing with the total *ecological* impact of the product along the entire value creation chain. Over the years the focus has shifted from the analysis of the mere ecological production impact to the analysis of the entire ecological product life cycle. This new emphasis reflects the perception that the greater part of the ecological impact occurs before and after and not during the food production (Belz/Hugenschmidt 1995, pp. 231-232; Peattie 1999, pp. 62-63). Within the food industry agriculture and consumption are particularly responsible for a decisive part of the ecological problems (Belz 1995, p. 37; Dyllick/Belz 1995a, pp. 59-60). Similar to the ecological dimension, the *social* dimension expands along the entire life cycle. It can be assumed that social issues occur as well on every stage of the value creation chain. Take for example child labour on plantations, unsafe working conditions during production and transportation, to the point of inequitable allocation of food, and jeopardised food safety due to improper and insufficient packaging. Against this background, the *entire value creation chain* – presented in an ideal, simplified manner – from (1) agriculture to (2) processing, (3) transportation, (4) consumption, and (5) packaging/recycling is taken into account in terms of evaluating the social and ecological quality of food products (Belz 2004a, p. 99). Thus, the social and ecological quality of food products is a complex, multi-dimensional phenomena. In the following, these five steps of the value creation chain are stated and further illustrated with examples.

In terms of *agriculture*, generally three different practices can be distinguished which influence the ecological product quality as well as the natural environment: (1) industrialised agriculture, (2) integrated production (IP), and (3) organic farming (Villiger 2000, pp. 82-90; Belz 2004a, pp. 97-99). While industrialised agriculture

focuses on immediate effects with little regard to soil and water protection and the preservation of biodiversity, organic farming avoids the use of synthetic chemicals as well as genetically modified organisms (GMOs). IP lies in-between industrialised agriculture and organic farming, using farming methods which have as little impact as possible on the natural environment without adopting all restrictions and compromises of organic farming. Fair trade puts its focus on certain social issues during the agricultural process particularly in developing countries, e.g. guaranteed minimum wages, child education, and reliable contracts.

During *processing*, aspects like food safety, hygiene, and working conditions come into effect with regard to the socio-ecological product quality. Additionally, different kinds of processing techniques directly influence the food product quality (e.g. loss of vitamins, reduction of amino acids, and changes in taste and flavour) as well as the socio-ecological environment (e.g. water and energy consumption, safety precautions for the workers).

The *transportation* also has an effect on the socio-ecological product quality. Hereby the distance and the means of transportation (e.g. by truck, railway or ship) are of importance (Skoppek/Karstens 2005, p. 185). Furthermore, the time period and kind of food storage (e.g. the cooling of food products) during transportation also influence the socio-ecological quality of the products (Belz/Hugenschmidt 1995, p. 231).

In terms of *consumption*, the storage and the preparation of the food products influence the environmental impact, i.e. the energy which is used by the refrigerator and the cooking-stove as well as the water which is used for cooking and washing the dishes. However, the nutritional value of the food product also plays a decisive role when consumption and its social and health consequences such as obesity are considered (Busch 2003, p. 465; Seiders/Petty 2004, pp. 153-154).

Regarding *packaging* three different kinds of resource recovery strategies can be distinguished: (1) packaging reuse, (2) materials recycling, and (3) materials transformation (Fuller 1999, pp. 154-164). If the socio-ecological product quality is broadly defined, the kind of packaging strategy has a relevant impact on it, depending on the material used for packaging, e.g. paper, cardboard, plastics, glass, and metals. The *disposal* and *recycling* of waste need to be considered as well. With regard to the retro-distribution, it is especially important to set incentives for consumers to make recycling as convenient as possible.

Table 3.1 shows exemplarily parameter values regarding the social and ecological quality of food products for each of the five steps of the value creation chain. Basically, all of the sustainability issues listed exemplarily above can be integrated at the one or the other position in the table.

Table 3.1: Exemplary parameter values influencing the social and ecological food product quality

Value creation chain	Exemplary social parameter values		
Agriculture	poor compensation irregular employment	⟷	fair compensation regular employment
Processing	unhygienic conditions	⟷	hygienic conditions
Transportation	inequitable allocation of food unsafe working conditions	⟷	equitable allocation of food safe working conditions
Consumption	low nutrient content	⟷	high nutrient content
Packaging/recycling	unsafe packaging	⟷	safe packaging
Value creation chain	Exemplary ecological parameter values		
Agriculture	industrialised agriculture	⟷	organic farming
Processing	less gentle methods high energy use	⟷	gentle methods low energy use
Transportation	high energy use (road) long distance	⟷	low energy use (rail) short distance
Consumption	high energy use	⟷	low energy use
Packaging/recycling	packaging based on crude oil high energy recycling	⟷	bioplastics packaging reuse, composting

(Adapted and extended from: Belz/Karstens 2005, p. 8)

It is the aim of these two strategic dimensions (the social and the ecological product qualities) to specify on the one hand where food processing companies place their focus along the entire value creation chain in terms of socio-ecological product quality. On the other hand these strategic dimensions indicate whether a food product considers socio-ecological aspects to a very low or to a very high extent overall. This is particularly important because food processing companies which *do not consider* socio-ecological product aspects *do not produce and offer* ex definitione *sustainable* food products and consequently *do not accomplish sustainability marketing*.

Market segmentation

In general, through market segmentation, companies divide large, heterogeneous markets into smaller market segments. Consumers with similar demands and buying behaviour are grouped together into market segments which the companies can target effectively and efficiently with precise marketing activities (Dibb/Simkin 1996, p. 10; Kotler/Armstrong 2004, p. 239). In order to find the best way to view the market structure, the marketer can consider various classification possibilities. In general, the market can be segmented by geographic (i.e. region, country, state), socio-demographic (i.e. gender, age, income), psychographic (i.e. attitude, lifestyle), and behavioural (i.e. user rates, benefits) aspects or by a combination of the previously identified aspects (Kotler/Armstrong 2004, pp. 239-248). The identification of the relevant market segment also implies the decision as to how many consumers can be addressed and satisfied at the same time. This strategic decision varies from targeting a certain market niche to targeting selected market segments or the mass market. The choice for one or the other of these strategic options depends particularly on the size of the company, its financial resources, and its market position (Dibb/Simkin 1996, p. 16; Belz/Karstens 2005, p. 9). Which market segments are therefore relevant in terms of the sustainability market segmentation and the sustainability marketing strategy?

On the one hand there is an observable market development from the niche to the mass market in terms of ecological products in general and sustainable food products in particular (Villiger et al. 2000, pp. 16-19; Villiger 2000, pp. 81-94; Herrmann 2006, p. 20). On the other hand there is a recognisable trend towards individualisation and fragmentation of the (food) markets (e.g. Anderson 2006, pp. 15-26, 52-57, 227-229). Regional food brands such as ‘Unser Land’ (stands for food quality from the area around Munich) and ‘Biosiegel Rhön’ (distinguishes organic food products from the Rhön region) are two examples of these kinds of small but successful niches in which transparency and authenticity play a decisive role. Therefore, it seems to be a strategic key decision whether food companies operate in the socio-ecological *niche*, in *selected market segments* or the *mass market*. These three possibilities for market segmentation are analysed in terms of strategic sustainability marketing.

Targeting

The aspect of market segmentation is followed by the question of the relevant target group (Kotler/Armstrong 2004, pp. 251-259). In this study the market segmentation acts

in accordance with the available (financial) resources of the food processing company (e.g. production capacity, distribution system, and advertising budget), whereas the targeting focuses on the consumers' attitude towards sustainable food products. For the relevant target group within the concept of sustainability marketing, a broad classification can be made. It is possible to distinguish three different groups of socio-ecologically aware consumers: consumers that are socio-ecologically active ('*sustainable actives*'), consumers that can be socio-ecologically activated ('*sustainable approachables*'), and consumers that are socio-ecologically passive ('*sustainable passives*') (Meffert/Kirchgeorg 1998, pp. 121-122; Belz 2001, p. 79).

Whether a consumer belongs to the one or the other target group depends on his/her individual perception and evaluation of the benefits and costs which are based on a number of personal and situational factors.[18] Generally, there are four different kinds of benefits: use benefits and benefits from self-esteem, recognition, and edification; and four different kinds of costs: product price, costs of purchase, costs of use, and costs of post-use. They all influence the individually perceived benefit-cost-balance (Belz 2005a, p. 9). If the net-benefit of the sustainable product is perceived as higher compared to the net-benefit of the conventional product, the consumer will decide in favour of the sustainable product; however, if the net-benefit of the sustainable product is perceived as lower, the consumer will choose the conventional product (Belz 2001, p. 69). Consequently, the following statements can be made with regard to the three relevant target groups (Belz 2001, p. 79).[19]

The first target group ('sustainable actives') is highly sensitised in terms of socio-ecological issues and is well informed. For them sustainable product features have high self-esteem, recognition, and edification benefits. Therefore, they are willing to cut back on use benefits and if necessary accept higher prices as well as higher costs (e.g. information costs) and still decide in favour of the sustainable products. These consumers can often be assigned to the socio-ecological niche. The second group ('sustainable approachables') appreciates socio-ecological aspects as well and detects therein certain self-esteem, recognition, and edification benefits, but these consumers are not prepared offhand to accept loss in use benefits and increase of costs. In order to influence their buying behaviour in favour of sustainable products, their perceived net-

[18] On the discussion of the consumer behaviour from an economic perspective, see for example Belz 2001, pp. 65-78 and the literature cited there.

[19] The following explanations concerning the targeting are published in similar form in: Belz/Karstens 2005, pp. 9-10.

benefit needs to be optimised by either increasing their individually perceived benefits or by decreasing their individually perceived costs. The third group (‘sustainable passives’) relates no particular value added to socio-ecological product features and normally does not accept either a loss in benefits or increase of costs. It can be assumed that in a number of cases consumers of this target group belong to the mass market. In general, it can be said that the question of the relevant target group is closely connected to the previous decision concerning the market segment.

Positioning

In general, positioning means situating the product in the market so that it occupies ‘a clear, distinctive, and desirable place relative to competing products in the mind of the target consumers’ (Kotler/Armstrong 2004, p. 239). Positioning relates to the attributes which the target group associates with the product, e.g. its price, its quality, its image, its performance (Dibb/Simkin 1996, p. 17). So, in order to choose the right positioning strategy it is essential to evaluate the wants and needs of the targeted market segment. Concerning sustainable food products, marketers need to decide how the socio-ecological product quality should be positioned compared to aspects such as price and performance. The extent to which the socio-ecological product quality is emphasised is crucial for the market position and image of the sustainable food product itself but also for the food company.

Similar to the previous two strategic decisions, market segmentation and targeting, three basic positioning strategies can be distinguished: socio-ecological product qualities can be positioned as *dominant*, *equal* or *flanking* dimensions in relation to price and performance (Meffert/Kirchgeorg 1998, pp. 277-279). If the socio-ecological product dimension is communicated as the primary benefit prior to performance and price, a dominant positioning strategy is strived at. These food products offer a unique sustainability selling proposition. In doing so, it is likely that the target group of the ‘sustainable actives’ is approached. In the case of an equal positioning strategy, the socio-ecological dimension is addressed with the same intensity as performance and price. This option seems to be adequate when targeting the ‘sustainable approachables’. In the third positioning strategy the socio-ecological dimension only constitutes a flanking dimension which supports the primary product benefits price and performance. This positioning strategy seems to be promising if the ‘sustainable passives’ are focused upon.

Table 3.2 summarises the characteristics of strategic sustainability marketing which were described earlier in this section. In addition, it presents their basic parameter values and the operationalisation in their most extreme form respectively.

Table 3.2: Synopsis: strategic sustainability marketing characteristics

Strategic SuM characteristics	Parameter values		
Social product quality	low social quality	⟷	high social quality
Ecological product quality	low ecol. quality	⟷	high ecol. quality
Market segmentation	mass market	⟷	niche
Targeting	passives	⟷	actives
Positioning of socio-ecol. product quality	flanking	⟷	dominant

(Adapted from: Belz/Karstens 2005, p. 11)

Following the outline of the five strategic dimensions and their parameter values, the corresponding hypothesis H_1 can be deduced. Regarding the strategic sustainability marketing, it is the objective of the SuM research study to find regularities within the analysed food processing companies and to cluster them into 'Sustainability Marketing Strategy Types'. This relation is stated in the first hypothesis[20]:

H_1: The different strategic sustainability marketing directions of food processing companies can be characterised by means of certain 'Sustainability Marketing Strategy Types' (SuM strategy type). Each SuM strategy type is composed of a distinctive combination of the five strategic sustainability marketing dimensions.

[20] Within the SuM research study, the hypotheses are not formulated as null hypotheses (H_0) which are rejected in cases of a relation between the dependent variable y and the independent variable x and in which cases the alternative hypotheses (H_1) can be tentatively verified. In fact, most hypotheses assume a relation between dependent and independent variables in the first place in this study. If these relations are found within the empirical study, the hypotheses can be tentatively accepted as well. However since the analysed empirical data does not come from a controlled experiment, this verification is a very weak statement.

3.1.3 Operational sustainability marketing characteristics

To realize sustainability marketing strategies, a certain operational sustainability marketing has to be developed. The corresponding research question is as follows: How do the SuM strategy types implement their strategies within their sustainability marketing mix? The general assumption is stated in hypothesis H_2:

H_2: The sustainability marketing mix of food processing companies is influenced by the particular SuM strategy type to a great extent. It is assumed that there is a general fit between the strategic and operational sustainability marketing.

In this research study operational sustainability marketing is understood as *sustainability marketing mix* which is composed of the four 'Ps' (McCarthy 1964, pp. 35-40) but with a certain sustainability focus. Particularly the specifics of the sustainability marketing mix lie at the centre of the following analysis and discussion since they are likely to deliver a contribution to a better understanding of the sustainability marketing concept.

In modern marketing the marketing mix is one of the major concepts which is defined as a 'set of controllable tactical marketing tools – product, price, place, and promotion – that the firm blends to produce the responses it wants in the target market' (Kotler/Armstrong 2004, p. 56). First brought up by McCarthy in the 1960s, this concept has endured over decades (McCarthy 1964, pp. 35-40). However, critics of the concept are appearing (Kotler/Armstrong 2004, p. 58). One main concern is particularly valid for the concept of sustainability marketing with regard to its key focus on consumer relationships. Critics argue that the four Ps only take the seller's view into account and not the customer's perspective. One of the first who realised this ongoing change from a seller's market in the 1960s and 1970s to a buyer's market in the 1980s and 1990s – and therefore also from a seller's marketing orientation to a buyer's marketing orientation – was Robert Lauterborn. In 1990, he introduced his understanding of the marketing mix: the four 'Cs' where he reconsidered the original four Ps from a consumer's perspective in the times of mass media, retailing power, a high number of product flops, and information overload (Lauterborn 1990, p. 26). The Cs are short for: consumer wants and needs, consumer costs, convenience, and communication.

Keeping these new notions in mind on the one hand and also considering the food company's perspective as the unit of analysis on the other hand, the following terms have been chosen for the sustainability marketing mix of the SuM research study: *sustainable food products, fair and suitable pricing, multi-channel distribution*, and *credible communication between animation and information*.

Which operational sustainability marketing aspects are analysed within this empirical study? In general, the marketing mix covers a multitude of different aspects. In order to analyse the specifics of the sustainability marketing mix, this study puts its focus on *five selected issues*. In detail, these aspects are (1) the kind of *pricing*, (2) the choice of *distribution channels*, (3) the problem of *communicating credence qualities*, (4) the dilemma between *communicating information or emotions* and (5) the usage of *motive alliances*.[21] These selected issues show that the focus within the sustainability marketing mix is placed on communication aspects. This fact can be explained with the key importance of credible communication in relation to sustainable food products due to the existing information asymmetries which might lead to market failure (Baranek 2007, p. 240). The particularities and difficulties which are tied to the aspect of sustainability communication and which explain the chosen focus are further outlined in the following section. Relating to the five sustainability marketing mix aspects under scrutiny, the following more specific hypotheses $H_{2/1}$-$H_{2/5}$ are deduced.

Pricing

The price is 'the amount of money which is charged for a product or a service or – in a broader sense – is the sum of all the values that consumers exchange for the benefits of having or using the product or service' (Kotler/Armstrong 2004, p. 345). The pricing is determined by three factors: costs, customers, and competitors. It is argued frequently that sustainable food products generate higher production costs than conventional food products due to higher labour intensity, higher production risk, and crop reduction. However, it can actually be stated that conventional food products are unrealistically cheap (Peattie 1995, p. 284) because their prices only take production costs into consideration which is shortsighted (Peattie 1995, pp. 280-282). Generally, pricing needs to incorporate all costs: internal production and profit margin costs as well as external socio-environmental costs (Peattie 1999, p. 61). However, particularly in terms

[21] The product quality has already been analysed within the strategic sustainability marketing and therefore it does not need to be further investigated within the operational sustainability marketing.

of sustainable food products, pricing should rather be customer value-oriented than cost-oriented because these food products offer the consumer specific values that conventional products do not offer.

Sustainable active consumers perceive that value added and are willing to pay a higher price (Balderjahn 2004, p. 186). In this case the producers or processing companies can skim off profits by selling sustainable products (*'more for more'*) (Kotler/Armstrong 2004, p. 263). Nevertheless, in order to become competitive and to address the less active consumers, it is however necessary that producers of sustainable food products reconsider pricing, realise mixed calculations (Balderjahn 2004, p. 186), and pass possible cost savings through directly to the consumer. In doing so, they demonstrate that sustainable food products do not have to be inevitably more expensive than other high quality products (*'more for the same'*) (Kotler/Armstrong 2004, p. 263). To be successful, food companies need to pursue one of these two pricing approaches (Balderjahn 2004, p. 186). However, many food companies already claim to offer better products at a lower price *('more for less'*) (Kotler/Armstrong 2004, p. 263). It is questionable whether these food processing companies can manage to sustain such best-of-both-worlds positioning in the long run because offering a higher-value usually costs more (Kotler/Armstrong 2004, pp. 263-265). Therefore, based on the discussion above, hypothesis $H_{2/1}$ states the following correlation:

$H_{2/1}$: Specific sustainable food products[22] are sold for a higher price since they offer a higher value added.

Distribution

To provide the consumers with sustainable food products without increasing their purchase costs is the task of a good distribution system within the sustainability marketing mix. For the producer of sustainable food products this implies – besides building reliable relationships with the consumers – establishing long-term relationships with the suppliers and resellers in the supply chain as well (Kotler/Armstrong 2004, p. 399; Pobisch/Belz 2007, p. 197). In the past years, a significant part of sustainable food products has been distributed in a way which ultimately has limited the general allocation (Peattie 1995, p. 255). Sustainable food products have particularly been sold

[22] 'Specific sustainable food products' mean those sustainable food products which have a comparatively higher socio-ecological product quality than others. This distinction is made for the hypotheses regarding the sustainability marketing mix ($H_{2/1}$-$H_{2/5}$)

through small enterprise distribution channels, e.g. direct sales and selective health food shops (Van der Grijp/Den Hond 1999, p. 38). Additionally, they have been distributed at large only through a limited number of distribution channels. It can be assumed that this limited distribution supported the fact that sustainable food products remained in the ecological niche since 'consumption is a matter of availability' (Peattie 1995, pp. 254-255).

However, for some years an ongoing change can be observed with regard to the applied distribution channels for sustainable food products. More and more food producers are starting to use larger mainstream distribution channels in order to sell their sustainable food products such as supermarkets and chemists (drugstores). Additionally, food retailers and discounters establish own private brands of sustainable food products (Peattie 1995, pp. 256-258; Van der Grijp/Den Hond 1999, p. 13; Jonas/Roosen 2005, pp. 636-653). Moreover, a number of 'new' distribution channels emerged such as green retailers (i.e. bio- or wholefood supermarkets like the Bio Basic supermarket in Germany). The distribution channels which have profited the most in 2005 in terms of the market growth of sustainable food products have been (1) discounters with more than 50 % increase in sales, followed by (2) supermarkets (23%), and (3) wholefood supermarkets (22%). The only distribution channel for which sales decreased during the previous year is the direct sale distribution channel (Herrmann 2006, p. 21). These developments all contribute to the positive development of the market for sustainable food products (Herrmann 2006, p. 21).

With regard to the particular target groups, it can be stated that the consumers which belong to the 'sustainable approachables' or to the 'sustainable passives' do not accept additional costs and time spent to purchase sustainable food products (Belz 2003a, p. 354). It is likely that direct sales on farms and weekly markets would require too much effort for these consumers compared to their perceived benefit. Therefore, a high degree of convenient distribution channels will be essential if sustainable food products are to be marketed successfully beyond the niche (Belz 2005a, p. 19). This can only be achieved through a multi-channel distribution strategy which combines *direct sale* as well as indirect trade channels such as *health food stores, small wholefood shops, pharmacies, drugstores, wholefood supermarkets, mail order, internet, wholesalers, discounters, and supermarkets.* Nevertheless, wholefood supermarkets, direct sales, and health food shops still account for more than 50% of the market share of sustainable food products in Germany (Hamm/Gronefeld 2004, pp. 53-54). Therefore, hypothesis

$H_{2/2}$ still assumes a correlation between specific sustainable food products and numerous, smaller distribution channels.

$H_{2/2}$: Specific sustainable food products are marketed through numerous smaller distribution channels which address only selected target groups.

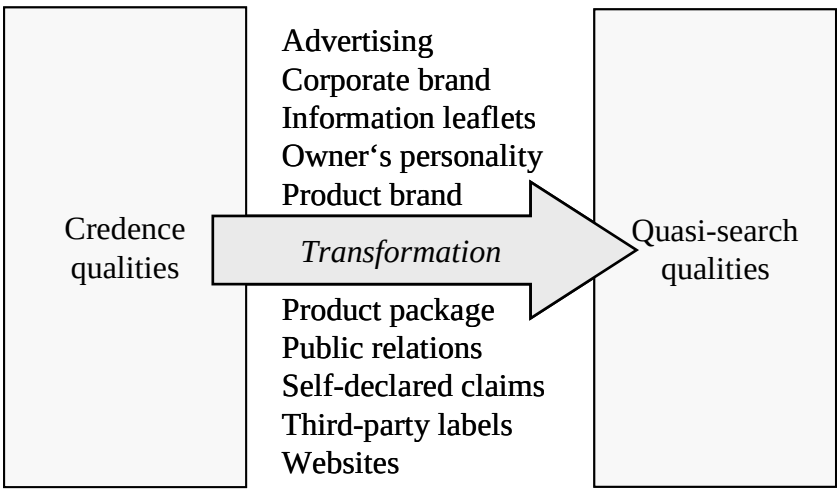
Communication I: signaling credibility

Quite often the marketing mix is reduced to the fourth 'P' – promotion – but without an innovative sustainable product, attractive prices and easy access to those products, the sustainability marketing mix would not be complete. Nevertheless, it is the bilateral communication between the company and its current and prospective customers which builds and maintains any kind of relationship, which again constitutes the core of sustainability marketing. In general, the communication mix is composed of a specific combination of advertising, sales promotion, public relations, personal selling, and direct marketing tools in order to achieve the marketing objectives (Armstrong/Kotler 2004, p. 467). When marketing sustainable food products however, one particular product specific comes into effect which needs to be considered in the communication mix: the socio-ecological product quality. It constitutes a *credence quality* which cannot be inspected or experienced by the consumer – neither before nor after the purchase of the product (Nelson 1970, pp. 311-312; Darby/Karni 1973, pp. 67-88). Consequently, many consumers are insecure as to whether the promised product qualities really apply, e.g. if the organic apple is really organic. There is an information asymmetry between the producer and the consumer. Therefore, it is the task of sustainability communication to ensure and convey credibility and reputation to the unsettled consumer who acts differently according to the particular target group (Peattie 1995, p. 216; Balderjahn 2004, p. 187; Schrader 2005, pp. 61-74). The credence qualities need to be transformed into quasi-search qualities to signal credibility to the consumer prior to purchase. This can be achieved to a greater or lesser extent by means of *conventional advertising, corporate brand, information leaflets, communication of the owner's personality, product brand, communication on the product package, public relations, self-declared claims, third-party labels, and websites* (Karstens/Belz 2006, pp. 189-211). Consequently, the following hypothesis $H_{2/3}$ is researched:

$H_{2/3}$: With regard to the problem of credence qualities, some communication tools are applied to a greater extent than others to build up trust in the consumer.
In the case of specific sustainable food products, communication tools are applied to a greater extent to signal credibility.

Figure 3.4 provides a synopsis of the communication instruments which might contribute to the transformation of credence qualities into quasi-search qualities. In the empirical part of this study the extent to which these instruments are used in order to signal credibility will be analysed. In a qualitative preliminary study published in the 'International Journal of Advertising' (Karstens/Belz 2006) the majority of these communication tools have already been explored. It is the aim of this study to evaluate these qualitative findings from a quantitative perspective.

Figure 3.4: Transformation of credence qualities into quasi-search qualities



(Adapted and extended from: Karstens/Belz 2006, p. 203)

Communication II: information versus emotion

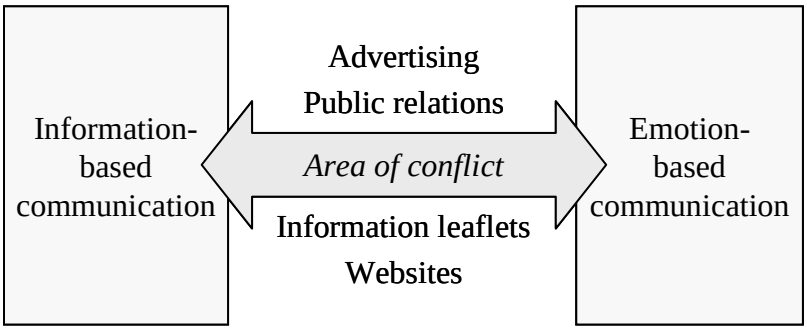
Due to the high complexity of social and environmental problems it is difficult for the consumers to fully understand the benefit of the added value of sustainable food products. The consumers often misunderstand or even doubt the explanations of the producers (Peattie 1995, p. 216). A way to signal credibility in terms of sustainable food products is to present detailed information to the consumer. However, there is an information overload – generally in society and concerning 'green' aspects in particular

(Kroeber-Riel 1993, pp. 11-16; Peattie 1995, p. 216). Additionally, an increasing amount of information does not lead to increasing purchase behaviour on the consumer side. It is more likely that emotional stimuli lead to the buying decision (Kroeber-Riel 1993, pp. 56-76; Kroeber-Riel/Weinberg 2003, p. 601; Lichtl 1999).

Therefore, marketers have to *balance informational and emotional stimuli* in order to provide the consumers with enough credible information as necessary to signal credibility and at the same time adequate animation to push sustainable purchases (Schrader 2005, pp. 68-69). The communication tools which are under scrutiny regarding this 'area of conflict' between information and emotion are *advertising, public relations*, *information leaflets*, and *websites* (figure 3.5). The following assumptions are explored concerning this area of conflict in hypothesis $H_{2/4}$:

$H_{2/4}$: Some communication tools are more information-based, some more emotion-based in terms of marketing sustainable food products.
In the case of specific sustainable food products, communication tools are more information-based than emotion-based.

Figure 3.5: Information-based vs. emotion-based communication



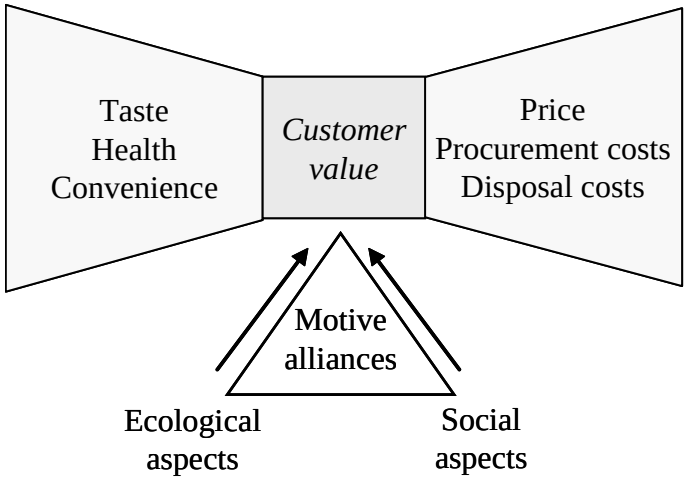
Communication III: motive alliances

The third specific issue regarding sustainability communication deals with the idea of motive alliances, i.e. the combination of socio-ecological aspects with conventional buying criteria such as taste, freshness, convenience, and cost savings. By means of motive alliances socio-ecological aspects can be sold as an added value (Belz 2005b, p. 33). Therefore, the 'hard-to-sell' social benefit of sustainable food products is turned into an 'easier-to-sell' individual benefit (Belz 2003a, p. 354). Ottman et al. also regard motive alliances as promising options to create additional consumer value and to market

sustainable products successfully (Ottman et al. 2006, p. 24). They undertake a distinction between motive alliances which emerge from sustainable products' inherent values (such as cost-efficiency, health, safety, performance, and status) and desired consumer values that are bundled to the sustainable products (such as after-sales services and brand) (Ottman et al. 2006, pp. 27-31). Irrespective of whether inherent consumer value or bundle consumer value is regarded, sustainable food products seem to have more chances on the market if the marketing draws attention to these additional customer values (figure 3.6). Therefore, the following hypothesis $H_{2/5}$ is assumed:

$H_{2/5}$: In the case of specific sustainable food products, motive alliances are used to a greater extent.

Figure 3.6: Added customer value through motive alliances



(Source: Belz 2005b, p. 33; Belz 2006b, p. 11)

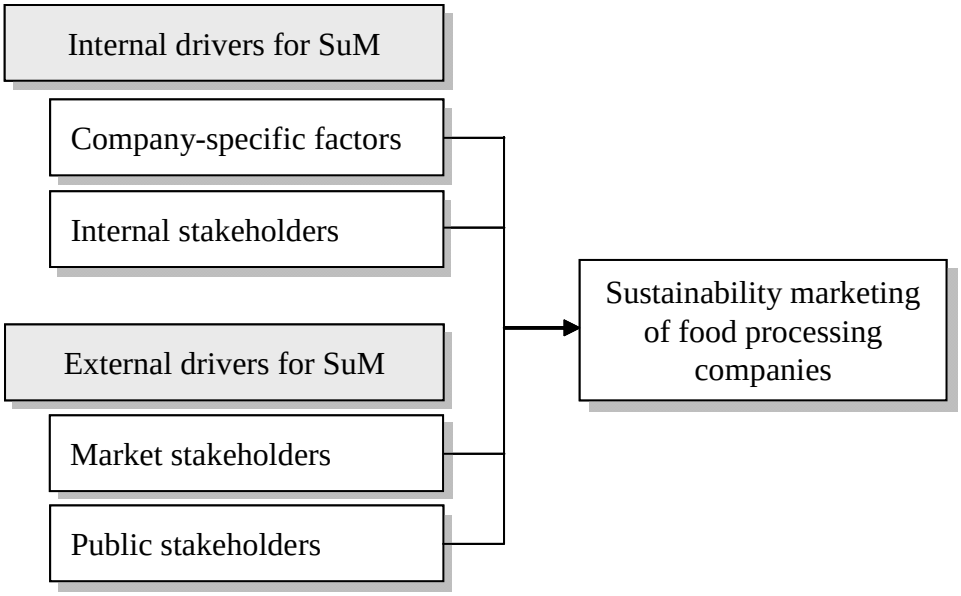
3.2 Sustainability marketing drivers

Following the identification of the specific strategic and operational sustainability marketing characteristics and the formulation of the hypotheses H_1 and H_2, the relevant drivers for the sustainability marketing commitment are determined and rationalised. After illuminating *what* the research topic is all about (sustainability marketing), it is now examined *why* food processing companies pursue this kind of marketing. Therefore, this section particularly deals with the following research questions: Why do German food processing companies take up sustainability marketing? What are the relevant drivers for each SuM strategy type? What role do stakeholders play in the context of sustainability marketing? And does the perceived pressure by certain stakeholders lead to a particular primary orientation in strategic sustainability marketing?

The identification of relevant drivers regarding sustainability marketing has been conducted by means of an intensive literature study. However, since the concept of sustainability marketing is an emerging research field which has not been confronted before by these research questions, the considered literature and empirical studies have not always touched on the precise issue of the sustainability marketing of food processing companies. The body of literature which has been analysed deals with the relevant drivers for corporate social and environmental commitment and responsibility in general. Overall there are a large number of stakeholders and other factors which have been considered as ‘drivers’ for a company’s socio-ecological commitment. For this research study, however, only a certain number of key drivers are taken into account. These drivers have been selected according to the following three criteria: (1) The chosen drivers have been considered in the majority of the analysed articles and papers; (2) they have empirically been proven to be the most influential within their particular study; and (3) they seem to be of particular interest in terms of marketing in the German food industry. Additionally – from a practical perspective – the total number of drivers is restricted to a manageable quantity due to the limits to the complex information which the interviewees can handle as well as the limited time and space within the written survey.

The drivers that are thereby detected and considered in respect of sustainability marketing commitment reflect the stakeholder classification accomplished in section 2.3.3. They can be roughly structured as follows (figure 3.7).

Figure 3.7: Drivers for sustainability marketing of food processing companies



On the one hand there are certain *internal drivers,* i.e. company-specific factors and internal stakeholders (section 3.2.1). These can be distinguished on the other hand from certain *external drivers,* that is market stakeholders and public stakeholders (section 3.2.2) (for similar structure and naming see Henriques/Sadorsky 1996, pp. 383-385; Khanna/Anton 2002, p. 539, 543; González-Benito/González-Benito 2006, p. 91). These two main categories of drivers (internal and external) are explained and analysed in depth in the following two sections in which the corresponding hypotheses H_3 to H_8 are derived as well.[23]

3.2.1 Internal sustainability marketing drivers

The group of internal drivers can be further divided into two sub-categories. The first sub-category is composed of certain company-specific factors like the *sub-industry membership* and the factor *public exposure*. Even though some of these aspects such as the sub-industry membership are not explicitly 'internal', they fall into this sub-category due to the fact that they are inherent characteristics of the food processing company in

[23] The deduction of the hypotheses concerning internal, market, and public stakeholders (H_5-H_7) is structured and combined according to the content-related classification found in the literature. Moreover, this trisection supports reader convenience. Later this structure will be empirically validated for this research study by means of a factor analysis (see section 6.1.2 and Appendix III, 3). However, each stakeholder will be separately analysed with regard to its influence on the company's sustainability marketing commitment.

terms of its situational analysis. The second sub-category combines the company-specific attitudes of certain stakeholders within the corporation. These internal stakeholders under scrutiny are the *food company's owner,* the *top management*, and the *shareholders*.

Company-specific factors: sub-industry membership and public exposure

Firstly, it is hypothesised that the *sub-industry membership* influences the sustainability marketing commitment of food processing companies. Previous studies have shown that socio-ecological issues and standards as well as stakeholder demands vary from industry to industry (e.g. Kirchgeorg 1990, pp. 95-96; Belz/Hugenschmidt 1995, pp. 229-236; Dyllick/Belz 1995b, pp. 592-593; Fineman/Clarke 1996, pp. 715-730; Dyllick et al. 1997, pp. 9-55; Banerjee 2002, pp. 187-189; González-Benito/González-Benito 2006, p. 95). On the one hand some industries – particularly belonging to the producer goods industry – face less ecological and social market demands, whereas on the other hand industries associated with the consumer goods industry are confronted by market demands to a comparatively great extent (Belz 2003b, p. 171). Different corporate environmental strategies or eco-marketing approaches make up the consequence of these different sustainability issues and stakes in each industry (e.g. Banerjee 2002, p. 188; Belz 2003b, pp. 176-177).

In addition to the differences between industries, distinctions regarding socio-ecological issues and stakes can be made between certain sub-industries as well. Schneidewind (1995) for example shows significant differences for the Swiss chemical industry between its sub-industries pharmaceutics, pesticides, and chemical colours with regard to their ecological impact and adaptation of specific environmental strategies (Schneidewind 1995, pp. 86-195, 415). Within the food industry there seem to be significant differences between each sub-industry as well (Belz 1995, pp. 198-225; Vastag et al. 1996, p. 200). Whereas the sub-industry of alcoholic beverages, for example, mainly face issues such as underage drinking and alcohol abuse, the fish sub-industry has to deal with the fact of diminishing resources and over-fishing (Belz/Karstens 2005, p. 1). Therefore, the research study analyses different food sub-industries as possible drivers for sustainability marketing. Additionally, it examines how each respondent perceives the socio-ecological problems within his/her food sub-industry. It is assumed that sustainability marketing plays different roles in different food sub-industries. Consequently, the following hypothesis H_3 is researched:

H_3: The sub-industry membership constitutes a driver for the sustainability marketing commitment of food processing companies.

Secondly, it is assumed that the specific *public exposure* or *visibility* of food processing companies has a strong influence on their sustainability marketing commitment (e.g. Kirchgeorg 1990, pp. 91-94; Arora/Cason 1996, p. 431; Videras/Alberini 2000, p. 460; Belz 2003b, p. 171). High public exposure makes food processing companies more vulnerable if caught in the act of unsustainable behaviour. In order to analyse the driver 'public exposure' it needs to be further operationalised. In this case useful parameters are the *size of the food company, its market position, its brand awareness*, and *its mandatory disclosure* of company data.

The size of the food company which is operationalised by its *sales volume p.a.* and the *number of employees* is one indicator for public exposure (Henriques/Sadorsky 1996, p. 385; Videras/Alberini 2000, p. 453, 460; González-Benito/González-Benito 2006, p. 91). However, it is also an indicator for its available resources which play a decisive role when it comes to innovate and market sustainable products (Henriques/Sadorsky 1996, p. 384; Kirchgeorg 1990, p. 91; González-Benito/González-Benito 2006, pp. 91-92). The availability of resources measured by sales volume or human capital seems to positively affect the companies' commitment in terms of environmental activities (Melnyk et al. 2003, p. 343) and eco-marketing activities (Belz 2003b, p. 176). Besides the size of the food company, its market position in terms of *market share* (Delmas/Toffel 2004, p. 237) and the *awareness of its brand* (Arora/Cason 1996, p. 431; Spar/La Mure 2003, p. 95) contribute to the company's public exposure. The more a company leads the market and the higher its brand awareness, the more it is known by the consumers. Yet, at the same time, it is also watched more closely and forms a prominent target for activists' campaigns (Elliott/Freeman 2004, pp. 10, 38). Finally, it is assumed that food processing companies which are structured in legal forms that require *mandatory disclosure* of company data are also more likely to undertake sustainability marketing activities because of their higher visibility (Kirchgeorg 1990, pp. 94-95; Videras/Alberini 2000, p. 460). Therefore, it can be assumed that these five company-specific factors which cause high public exposure lead to a commitment towards sustainability marketing.

H_4: The public exposure of food processing companies forms a driver for their sustainability marketing commitment:

- $H_{4/1}$: The larger a food processing company is in terms of sales volume p.a. and number of employees, the more it can be expected to undertake sustainability marketing.
- $H_{4/2}$: The more a food processing company leads the market regarding market share, the more likely it is to adopt sustainability marketing.
- $H_{4/3}$: Food processing companies with higher brand awareness are more likely to become involved in sustainability marketing.
- $H_{4/4}$: Food processing companies with mandatory disclosure of company data are more likely to commit to sustainability marketing than food processing companies without such mandatory disclosure.

Internal stakeholders: company owner, top management, and shareholders

Besides the company-specific factors there are additional internal drivers which influence the sustainability marketing commitment of food processing companies. These internal stakeholders are guided by their attitudes which again are accountable for the company's strategic direction (e.g. by making corporate decisions and allocating financial resources). Their understanding of the concept of sustainability marketing and its implementation are therefore crucial for its realisation (Marshall et al. 2005, pp. 97-98). In detail, this study focuses on the following internal stakeholders and their attitudes: the *food company's owner*, the *top management*, and the *shareholders*.

The first internal stakeholder under scrutiny for sustainability marketing commitment is the *company's owner* (Belz 2005b, p. 29). Particularly in the food industry which is dominated by small- and medium-sized, and family-owned enterprises there are many companies committed to sustainability by virtue of their owners' mindsets and values (Müller 2005, p. 18). At times in which organic and fair trade food products have not yet entered the corporate agenda and positively influenced sales volumes and market shares, food company's owners believed in the strategic opportunities but most importantly in the ethical rightness of sustainable food products. They had creative ideas, proved persistence, and had the courage to take (financial) risks (BLE 2006a, pp. 1-2). Even though the company's owner as an internal driver does not apply for every food company since many corporations are managed by CEOs or directors, it seems to be a relevant stakeholder which is worth looking at more closely. This is

particularly the case since the influence of the company's owner has seldom been analysed within the food industry, with regard to which it is assumed to be of specific importance.

For food processing companies which are not managed by their owner, the *top management* might constitute a key driver for sustainability marketing activities since its members have a specific influence on the decision making process (e.g. Belz 2003b, p. 175; Belz 2005b, pp. 29-30). The role of the top management in the company's environmental commitment has already been discussed in a number of studies (e.g. Lawrence/Morell 1995, p. 111; Starik/Rands 1995, pp. 908-935; Henriques/Sadorsky 1996, p. 384; Rondinelli/Vastag 1996, pp. 106-122; Catasús et al. 1997, pp. 197-205; Maxwell et al. 1997, pp. 118-134). The decisive influence of the top management can be explained on the one hand by the more accessible approach to required (financial) resources for sustainability innovations and their implementations. On the other hand reorientations in the direction of sustainability require the collaboration and coordination of many different departments which is easier to enforce when approved by the top management (González-Benito/González-Benito 2006, p. 93). Consequently, the company's socio-ecological commitment greatly depends on the managers' beliefs, attitudes, perceptions, and expectations (Flannery/May 2000, pp. 642-662; Banerjee 2001, p. 503; Del Brio/Junquera 2003, pp. 337-348; Spar/La Mure 2003, p. 96; Hahn/Scheermesser 2006, pp. 157-158).

Quazi et al. (2001), for example, show that the top management's perception of the natural environment differs significantly between companies which have implemented certain environmental management systems and companies which have not. Of a total of eight different motivating factors, the top management makes up the most motivating factor for the adoption of ISO 14001 (Quazi et al. 2001, pp. 525-542). Berry/Rondinelli (1998) point out in their research that proactive environmental management needs a champion who usually has a top position within the company i.e. either a chairman or the CEO: 'The champion must be a person with superior managerial skills and influence within the organization and with the authority to allocate adequate resources to environmental management' (Berry/Rondinelli 1998, pp. 45-46). Fineman/Clarke (1996) also establish that an 'environmental champion contributes positively to environmental action and that this role can best be filled by a chairman or managing director' (Fineman/Clarke 1996, p. 726). Sharma (2000) shows in her research that the

greater the degree to which a company's manager interprets environmental issues as opportunities, the higher is the likelihood of the company implementing voluntary environmental strategies (Sharma 2000, p. 691; for comparable findings see also Marshall et al. 2005, pp. 98, 104-106). Similar research has been conducted by Bansal/Roth (2000) who propose that the managers' individual concerns for environmental issues lead to their motivation of acting ecologically responsible (Bansal/Roth 2000, p. 731). Also Hunt/Auster (1990) identify the top management's support as a key driver for proactive environmental management (Hunt/Auster 1990, p. 9, 12). Thus, these previous findings all lead to the assumption that the top management is a main driver for sustainability marketing activities within the food industry.

The *shareholders* make up the third internal stakeholder which is analysed in respect of its influence on the company's sustainability marketing commitment. According to Henriques/Sadorsky (1996) shareholders who are predominantly interested in the corporate financial performance fear in particular three risks related to the companies' greater or lesser socio-environmental commitment. Firstly, they are displeased about environmental fines which lower profits; secondly, they are disillusioned about the progress towards environmental goals; and thirdly, they fear difficulties in raising new capital or attracting new investors (Henriques/Sadorsky 1996, p. 384). The shareholders have two options to impose pressure upon the companies. On the one hand they can express their concerns at shareholder meetings and on the other hand they can implicitly voice their opinions by simply selling their shares (Henriques/Sadorsky 1999, p. 89).
Empirical studies also reveal an ambivalent picture regarding the relationship between shareholder value and the company's orientation toward socio-environmental initiatives. They show both outcomes: shareholder value which will increase (e.g. Klassen/ McLaughlin 1996, pp. 1212-1213; Nielsen 1999, p. 73) as well as decrease (e.g. Walley/Whitehead 1994, pp. 46-52) if the company invests in sustainable products, sustainable marketing management or other socio-ecological activities (Melnyk et al. 2003, p. 335, 342). However, empirical research shows that companies perceive pressure by their shareholders to accept their environmental responsibility to a greater or lesser extent (e.g. Henriques/Sadorsky 1996, p. 389; Fineman/Clarke 1996, pp. 725-726; Berry/Rondinelli 1998, pp. 38-40; Khanna/Anton 2002, p. 543). Therefore, their influence in terms of sustainable food products and sustainability marketing is expected as relevant as well for the German food processing companies.

Summarising for all internal stakeholders, the following hypothesis H_5 is assumed:

H_5: The owner of the company, the top management, and the shareholders (i.e. the internal stakeholders) constitute drivers for the sustainability marketing commitment of food processing companies.[24]

3.2.2 External sustainability marketing drivers

Stakeholders which fall into the group of external drivers can be divided in turn into two sub-categories. The *consumers, retailers,* and *competitors* form the group of the market stakeholders (the 'market pull'), whereas the *legislators, NGOs,* and the *media* represent the group of the public stakeholders (the 'public push') (Dyllick/Belz 1995b, p. 587; Meffert/Kirchgeorg 1998, pp. 94-96). These six external drivers put companies under pressure to assume corporate social and environmental responsibility. As a logical consequence from the perspective of the company's finances and image, it can be inferred that the more pressure a company perceives concerning its unsustainable activities, the more likely it is to begin to accept its responsibility and innovate and market sustainable products (Porter/Kramer 2006, pp. 80-81). Additionally, it is analysed whether the two sub-categories of external drivers (market pull and public push), have a different influence on the primary strategic sustainability marketing orientation.

Market stakeholders: consumers, retailers, and competitors

The first market stakeholder to be discussed is the *consumer*. A number of empirical research and literature studies have identified the consumer as a key driver for the corporate adaptation of environmental management practices in general (e.g. Arora/Gangopadhyay 1995, p. 305; Henriques/Sadorsky 1996, pp. 392-393; Fineman/Clarke 1996, pp. 724-725; Ytterhus et al. 1999, p. 185; Videras/Alberini 2000, p. 449; Khanna/Anton 2002, p. 549; Delmas/Toffel 2004, p. 235; González-Benito/González-Benito 2006, p. 97; Hahn/Scheermesser 2006, pp. 157-158) and for the company's eco-/sustainability marketing commitment in particular (Belz 2003b, pp. 179-180; Belz 2005b, pp. 29-30). Ionescu-Somers (2004) states in her research that

[24] The hypotheses H_5-H_7 are stated without direction of correlation. It is one aim of this research study to detect the directions of correlation between the different stakeholders and sustainability marketing. In doing so, the study hopes to provide a basis for future research.

consumers ‘strongly influence the business case for sustainability’ (Ionescu-Somers 2004, p. 183). They can either respond positively to the company’s action by purchasing its products or negatively by boycotting its products or even filing a lawsuit against it (Porter/Kramer 2006, p. 80; Henriques/Sadorsky 1999, p. 89). It is the food companies’ goal to satisfy the changing expectations of the consumers and to meet the growing demand for healthy, high-quality food by delivering products with a perceived higher value (Ionescu-Somers 2004, p. 184).

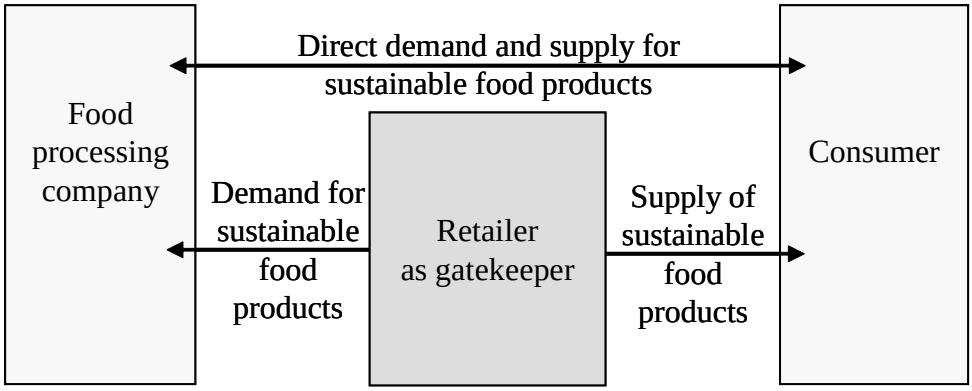
In times of food scandals and hence growing consumer uncertainty, these consumer demands might even increase. For example, concerning generic modified food products, some food producers have already rethought their strategy due to consumer resistance (Walley et al. 2000, p. 365). Wong et al. (1996) establish that for more than 50% of their analysed companies the consumer pressure is important in the decision to launch environmentally-friendly products (Wong et al. 1996, pp. 266-267). However, the study also shows that the companies have perceived a decreasing consumer pressure over time compared to other external pressures like competitors and legislators. Nevertheless, it is quite likely that the consumer strongly influences the food company’s sustainability marketing commitment.

In addition to the demands of the consumers, *retailers* make up the second market stakeholder who is putting more and more pressure particularly on food companies to process and market sustainable food products (Ionescu-Somers 2004, p. 184; Wirthgen 2005, pp. 195-197). Generally, it can be assumed that there is a diffusion of the demand for sustainable food products via the supply chain because food retailers transfer the consumer pressure down the supply chain by demanding sustainable food products from the food processing companies (Ytterhus et al. 1999, p. 187; Ionescu-Somers 2004, p. 184; Jonas/Roosen 2005, pp. 636-638). In this process the strong purchasing power of the retailers forms a key factor within the food industry (Datamonitor 2007, p. 12). Reasons for this buying power have been concentration processes in the food retail sector in the 1990s and at the beginning of this millennium due to mergers, acquisitions, franchise, marketing alliances, and the growth of retail brands (Coughlan et al. 2001, pp. 406-413).

Take, for example, Germany where over 70.2% of the food retailers’ sales of €141.7 billion in 2006 were achieved by the five largest retailers (Edeka-Group 20.4%, Rewe Zentral AG 14.8%, Schwarz-Group 12.9%, Aldi-Group 12.3%, and Metro Group 9.8%)

(BVE 2007e, p. 3, 8). In Europe, retail concentration has also been growing. In 2003, the 10 leading European retailers accounted for about 40% of total retail sales (Blackman 2005, p. 9). These food retailers with their purchasing power are likely to play the role of ‘sustainability gatekeepers’ adapted from the idea of the ‘ecological gatekeeper’ (figure 3.8) (Hansen 1995, pp. 349-372; Hansen/Kull 1996, p. 92; Belz 1996, pp. 1-16).

Figure 3.8: The retailer as ‘sustainability gatekeeper’



(Adapted and extended from: Hansen 1988, p. 337; Hansen 1995, p. 354)

On the one hand the gatekeeper function of retailing businesses can almost lead to a market exclusion of sustainable food products. However, on the other hand it increases the possibility for sustainable food products to successfully penetrate the market (Wirthgen 2005, p. 196). Since food processing companies are therefore highly dependent on the purchases and promotion of retailers, it can be assumed that food processing companies perceive retailers as drivers. Ionescu-Somers (2004), however, provides evidence that retailers do not use their power sufficiently to promote sustainable food products. Often retailers discount their product prices so much that there is no room for sustainability improvement (Ionescu-Somers 2004, p. 184). Nevertheless, it can be observed in countries like Germany that particularly food retailers have increasing interest in the growing segment of sustainable food products because it is significantly growing. More than 40% of the total sales of organic food made in 2005 were achieved through retailers (Herrmann 2006, p. 21; Will 2006, p. 47). Thus, it seems that food retailers are another key external driver for food companies to undertake sustainability marketing.

The third market stakeholder for the sustainability marketing commitment of food processing companies is the *competitor* (e.g. Belz 2003b, p. 175; Belz 2005b, p. 30). In a number of empirical studies the competitive environment and its requirements and intensity have been analysed with regard to its influence on the corporate environmental commitment (e.g. Kirchgeorg 1990, p. 81; Berry/Rondinelli 1998, pp. 38-50; Henriques/Sadorsky 1999, p. 89). Wong et al. determine (1996) in their research that competitive forces are not quite as important for companies in terms of deliver more respectively new green products as consumer pressure. However, they also discover that the perceived competitive pressure has increased in the last five to eight years (Wong et al. 1996, pp. 266-267). Particularly within industries where the competitive pressure is high and market shares are hard-fought (like the automotive industry for example), the undertaking of strategic corporate social and environmental responsibility might lead to competitive advantages and a unique selling proposition (Porter/Kramer 2006, pp. 88-91; similarly see Lawrence/Morell 1995, p. 109). Therefore, it can be assumed that with a growing market share of sustainable food products, the perceived competitor pressure increases as well since sustainable food products start to form competitive advantages. Therefore, competitors are also studied in terms of their relevance as a key driver for sustainability marketing commitment.

The following hypothesis H_6 summarises the key assumption which is made for the three market stakeholders:

H_6: The consumers, the retailers, and the competitors (i.e. the market stakeholders) make up drivers for the sustainability marketing commitment of food processing companies.

Public stakeholders: legislators, NGOs, and the media

Besides the market stakeholders another group of external drivers seems to have a great impact on the implementation of sustainability marketing. The public stakeholders which compose of the *legislators* (i.e. government regulations), *social and environmental NGOs*, and the *media* seem to provoke the implementation of sustainability marketing as well (Belz/Karstens 2005, pp. 17-18).

Empirical research and literature studies identify the *legislators* on the basis of their regulations as one of the most influential external drivers for the company's social and

environmental (marketing) commitment (e.g. Lawrence/Morell 1995, p. 111; Wong et al. 1996, pp. 266-268; Henriques/Sadorsky 1996, p. 389; Berry/Rondinelli 1998, p. 40; Henriques/Sadorsky 1999, pp. 89-97; Belz 2003b, p. 175; Delmas/Toffel 2004, pp. 234-235; Belz 2005b, p. 30; González-Benito/González-Benito 2006, pp. 96-97). Companies feel particularly affected by these regulations because they fear, for example, non-compliance penalties, product elimination or substitution, and the banning or restriction of raw materials (Henriques/Sadorsky 1996, p. 384). Empirical research even shows that this external driver has increased in terms of perceived intensity over time (Wong et al. 1996, p. 267). However, there are noticeable differences between industries. Particularly the power and chemical industries feel highly pressured whereas environmental legislation is seen as an established standard for the automotive industry (Fineman/Clarke 1996, pp. 722-724). In turn, other studies also provide evidence that regulatory pressure is mainly effective at the beginning ‘of promoting a business case for sustainability’ (Ionescu-Somers 2004, p. 185). Its pressure reduces when companies become more sustainable and ‘adopt a ‘beyond compliance’ approach’ (Ionescu-Somers 2004, p. 185). How is this driver therefore perceived by German food processing companies in terms of their sustainability marketing commitment?

Alongside the governmental regulations, *social and environmental NGOs* put additional public pressure on companies to assume their social and environmental responsibility. This influence has been evaluated in a number of studies (e.g. Fineman/Clarke 1996, pp. 719-721; Belz 2003b, p. 175; Spar/La Mure 2003, pp. 78-100; Delmas/Toffel 2004, p. 235; Hendry 2004, p. 86; González-Benito/González-Benito 2006, pp. 96-97). Companies perceive particularly a high pressure from NGOs because of their multiplying influence on the legislative process, on consumer buying patterns, and on media reporting (Henriques/Sadorsky 1996, p. 384). Lawrence/Morell (1995) establish that firms feel particularly pressured by NGOs that ‘aggressively publicized firms’ lapses in environmental responsibilities’ (Lawrence/Morell 1995, p. 111). Similar findings have been made by Ionescu-Somers (2004) who identified NGOs as key factors in reputation damage and image loss. Due to their pressure food companies which are a strong target for NGOs are forced to deal with certain sustainability issues and act earlier than they otherwise would. If a company’s brand is in danger because of an aggressive campaign by an NGO – irrespective of whether it is justified or not – it is the food companies’ task to react immediately in order to ensure the clean and accurate

image of their food product. Nevertheless, NGOs can also activate the public opinion in favour of a food company's product or performance and therefore indirectly increase consumer demand (Ionescu-Somers 2004, pp. 185-186). Their public influence is not to be underestimated by firms and their claims are to be managed seriously. Therefore, it can be assumed that NGOs are perceived as a key driver for sustainability marketing commitment.

The *media* constitutes the last external driver which is identified as crucial for this research project. Several authors point out the importance of this public stakeholder (e.g. Henriques/Sadorsky 1999, pp. 89-90; Verbeke et al. 2000, pp. 215-234; Swinnen et al. 2005, pp. 175-188; González-Benito/González-Benito 2006, pp. 96-97). Particularly in the last decades the media has enlarged its power and influence through new mass communication technology (Freeman 1984, p. 22; Henriques/Sadorsky 1999, p. 90). Even though most consumers are imperfectly informed due to the information overload and the opportunity costs of information processing, about 90% of all consumers receive their information about food and biotechnology primarily through press and television (Swinnen et al. 2005, p. 176, 187). Food companies fear the influential and persuasive power of the media (Ionescu-Somers 2004, p. 185). Entire food sub-industries have experienced the negative effect of mass media.

For example, Verbeke et al. (2000) show that television coverage on meat consumption and human health during the years of BSE had a highly negative impact on consumer demand for red meat products in Belgium (Verbeke et al. 2000, pp. 215-234). The power of the media does not only lie in the fact that they can independently choose the issue they want to report about ('first-level framing') but that they can also cover these issues either in a more positive or a more negative light ('second-level framing') (Thøgersen 2006, p. 149). Therefore, they have the ability to significantly influence social perception of a particular food risk. Since an increase in risk perception of a certain food product leads to a decrease in consumer demand and damage in terms of reputation, food companies sense the media as a serious threat (Swinnen et al. 2005, p. 187). Hence, it can be assumed that the media as a public stakeholder influences the food company in its sustainability marketing commitment.

For the three public stakeholders, hypothesis H_7 pools the key assumption stated above:

H_7: The legislators, NGOs, and the media (i.e. the public stakeholders) form drivers for the sustainability marketing commitment of food processing companies.

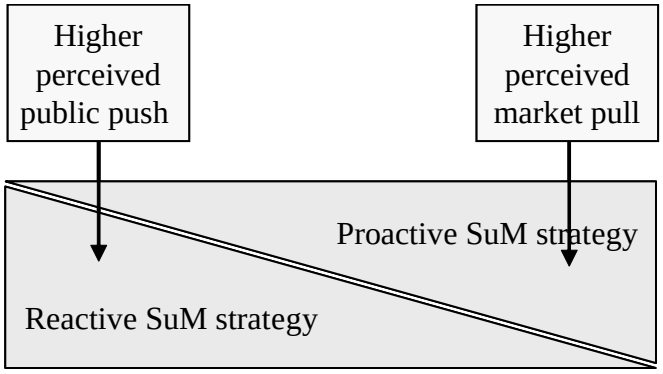
Primary sustainability marketing strategic orientation

As discussed above, external stakeholders make demands on food processing companies for various reasons. However, what they have in common to a certain extent is that they all call for the company's acceptance of its corporate social responsibility, of its agreement to pursue sustainability marketing. The food companies in turn observe these pressures and act to the effect that they process and market sustainable food products. However, the question which arises now is whether the pressure of these two groups of external stakeholders (i.e. the market and the public stakeholders) lead to different strategic sustainability marketing orientations if one of these groups is perceived as predominant in terms of pressure? Does a strongly felt public push lead to a different strategic orientation than a strongly felt market pull? Is it decisive which group of external drivers predominates in terms of the strategic sustainability marketing direction i.e. either a proactive[25] strategic orientation or a reactive strategic orientation (González-Benito/González-Benito 2006, pp. 94-95)?

Following Azzone et al. (1997) who design an effective taxonomy of operating environmental strategies dependent on external context and internal configuration, it is likely that the type of external driver and its perceived extent influences the strategic attitude of the food company (Azzone et al. 1997, pp. 7-10). Also Henriques/Sadorsky (1999) find empirical evidence that different types of stakeholders lead to different environmental strategies – either a proactive or reactive strategic attitude (Henriques/Sadorsky 1999, pp. 87-99; González-Benito/González-Benito 2006, p. 97). Figure 3.9 shows the assumed mutual correlation between the perceived pressure of either the market pull or the public push and the primary strategic sustainability marketing orientation (i.e. either proactive or reactive): The greater a food company perceives the influence of the market stakeholders (i.e. consumers, retailers, competitors) compared to the public stakeholders (i.e. legislators, NGOs, media), the more likely it is to embark on a rather proactively formed sustainability marketing strategy. In turn, the greater a food company perceives the influence of the public push compared to the market pull, the more likely it is to follow a more reactively formed strategy. Ultimately, both strategies lead to sustainability marketing – only the approach and motivation are different (Belz/Karstens 2005, pp. 17-18).

[25] Distinct from the term 'active' (which is understood as catching up with the competitors), the term 'proactive' implies the outperformance of the leading competitor regarding sustainability commitment (cf. Becker 2006, p. 912 for a similar understanding of the two terms).

Figure 3.9: Mutual correlation between differently perceived stakeholder pressures and primary strategic sustainability marketing orientation



It is assumed that the market-driven demands lead to a certain strategic attitude within the food company. In the following this market-driven strategy is called '*proactive sustainability marketing strategy*'. This rather anticipative strategy is characterised through creative sustainability innovations and strong consumer relationships on the company's own initiative (Azzone et al. 1997, p. 8). Food companies which perceive the market pull as very strong are likely to respond to these demands by processing and offering pioneering sustainable food products because they perceive a competitive advantage as a result (Videras/Alberini 2000, p. 449). Wong et al. (1996) show in their research that strategic response of firms to consumer demands is mostly proactive. Almost all of the 20 analysed companies seized the opportunity to introduce new green or greener products in order to profit from the emerging trend (Wong et al. 1996, p. 268). By means of marketing sustainable food products, they try to differentiate themselves proactively from their competitors or they strive to occupy new market niches or selected market segments respectively (González-Benito/González-Benito 2006, p. 94). Additionally, customer retention and acquisition are key success factors for firms in order that they remain competitive and meet the market pull. This offensive strategic behaviour is particularly important in times of stagnating and saturated food markets. In the case of a *proactive strategic attitude*, food companies seem to focus in their sustainability marketing activities primarily on setting up *new market segments, gaining competitive advantage through differentiation, establishing customer retention and customer acquisition.*

If, in contrast, the public-driven demands predominate in the food company's perception of the external pressures, it is quite likely that the strategic attitude is rather reactive, meaning that they embark on a '*reactive sustainability marketing strategy*'. It

is assumed that food companies which face a strong public push are mainly reacting to external demands which they perceive as constraints (Azzone et al. 1997, p. 8). Ionescu-Somers (2004) identified in her research that the public push is not a main driver when food companies become 'more progressive and adopt a 'beyond compliance' approach' (Ionescu-Somers 2004, p. 185). Public pressure seems more influential in the early stages of the sustainability marketing commitment. Nevertheless, these companies process and offer sustainable products as well, yet their main objective is to manage public demands in order not to be vulnerable and to stay trustworthy and credible (Wong et al. 1996, p. 268). In times of consumer uncertainty and scepticism as well as food scandals, this more defensive strategic attitude should not be underestimated. In their study, Wong et al. (1996) point out that firms 'have played down their greenness' in their marketing commitment as a reaction to the green backlash (Wong et al. 1996, p. 270). They now aim at product quality performance and reputation in order to avoid becoming a public target (Wong et al. 1996, p. 266). The public pressure, particularly the influence of aggressive NGOs and the media supporting them, are identified as the main contributors to reputation damage and image loss (Ionescu-Somers 2004, p. 185; Swinnen et al. 2005, p. 187). This means that the *reactive sustainability marketing strategy* is primarily concerned with keeping up a *good brand image* on the corporate as well as on the product level and that it deals with *maintaining and building up trust, credibility, and a good reputation.*

On the basis of the discussion above, the following assumptions can be made:

H_8: There is a correlation between the perceived stakeholder pressure (either market pull or public push) and the pursued primary strategic sustainability marketing strategy (either proactive or reactive).

- $H_{8/1}$: The stronger (less) the food processing company perceives the influence of the market stakeholders in comparison to the public stakeholders, the more likely it is to pursue a proactive (reactive) sustainability marketing strategy.
- $H_{8/2}$: The stronger (less) the food processing company perceives the influence of the public stakeholders in comparison to the market stakeholders, the more likely it is to follow a reactive (proactive) sustainability marketing strategy.

3.3 Sustainability marketing outcome

The previous two sections 3.1 and 3.2 analysed and discussed in depth the relevant literature and empirical studies in order to generate and operationalise the first two parts of the conceptual framework (the sustainability marketing characteristics and drivers). As the last pillar of the conceptual framework, this section deals with the evaluation of the sustainability marketing outcome (i.e. sustainability marketing controlling). In this context, the key question is how the sustainability marketing activities can be assessed for the specific purpose of the SuM research study. This question is answered in section 3.3.1. The key sustainability marketing objectives, on the basis of which the final evaluation of the sustainability marketing outcome will ultimately be accomplished, are outlined in section 3.3.2.

The key research questions concerning the sustainability marketing outcome are: Which sustainability marketing objectives are perceived as being achieved and which ones are not? What is the perceived sustainability marketing outcome of the different SuM strategy types? And are there any differences between the SuM strategy types and their perception of sustainability marketing outcome?

3.3.1 Approaches to evaluating the sustainability marketing outcome

Food processing companies which sell sustainable food products are like any other company subjected to the constraints of the economic market, meaning that they need to sell their products in order to be economically successful and ultimately remain on the market. In *conventional marketing* there is an entire body of literature which deals exclusively with *key marketing performance measures* and their influence on and significance for corporate reporting (e.g. Ambler/Kokkinaki 1997, pp. 665-678; Clark 1999, pp. 711-732; Davidson 1999, pp. 757-777; Ambler 2003; Ambler/Puntoni 2003, pp. 289-309; Ambler et al. 2004, pp. 475-498; Barwise/Farley 2004, pp. 257-262; Grønholdt/Martensen 2006, pp. 243-252). These performance measures range from *financial results* (e.g. profitability, cash flow, and shareholder value) to *market results* (e.g. sales, market share, and penetration) to *behavioural customer results* (e.g. number of transactions per customer and churn rate), and to *mental consumer results* (e.g. brand awareness, customer satisfaction, and likelihood to recommend) (Grønholdt/Martensen 2006, p. 248).

The question which arises now for the SuM research study is how the evaluation of the *sustainability marketing outcome* should be accomplished. Is it sufficient to use key marketing performance measures as named above or is it necessary to give consideration to the performance of all three sustainability dimensions (i.e. social, environmental, and economic aspects)? (for the discussion on measuring corporate contribution to sustainability, see for example Veleva/Ellenbecker 2000, pp. 101-120; Figge/Hahn 2004, pp. 173-178). In the following, three possible approaches to measure the sustainability marketing outcome are briefly outlined with their advantages and disadvantages (Belz/Karstens 2005, pp. 20-21).

The *first* approach uses a *uni-dimensional method* for measuring the sustainability marketing outcome by means of one economic performance measure: sales (marked in light grey in table 3.3). The simplified rationale is the following: the sustainability marketing outcome only depends on the number of sold sustainable food products because the more sustainable food products are sold, thereby substituting conventional food products, the more benefits there are economically for the company as well for the social and ecological environment. The advantage of this measuring procedure lies in its comparatively simple application and implementation, i.e. the measurement of sales and earning figures of sustainable food products in comparison to competing conventional food products. However, this approach might over-simplify or even fail to capture the complex concept of sustainability and the specifics of the sustainability marketing concept by neglecting the social and environmental dimension.

These shortcomings are incorporated in a *second* approach which uses a *multi-dimensional method* for measuring the sustainability marketing outcome (marked in light and medium grey in table 3.3). The assessment of corporate sustainability in general and of sustainability marketing in particular is a challenging task because of the triple bottom line of the sustainability concept. The outcome is evaluated according to the company's social, environmental, and economic performance by means of a number of different indicators (Velvea/Ellenbecker 2000, pp. 101-119; Figge/Hahn 2004, p. 174). In the case of the assessment of marketing activities, the economic outcome can be comparatively easily evaluated by means of financial measures such as sales, profitability, cash flow, and gross margin (Grønholdt/Martensen 2006, p. 248). It is possible to refer to specific marketing activities and to pursue the consequences from an economic perspective. In contrast, it is difficult to evaluate and even monetarise the

social and environmental performance of sustainable food products or food processing companies (e.g. Callens/Tyteca 1999, pp. 43-45; Veleva/Ellenbecker 2000, pp. 101-105). This is particularly challenging in terms of different marketing mix activities. Possible social and ecological performance measures are, for example, the number of occupational accidents, the investment in the local community, the promotion of job creation, CO_2-emissions per sold sustainable product, the number of 'food miles' per sold sustainable product, and the type of used energy source. This multi-dimensional approach would in fact fulfil the idea of the sustainability concept but it would go beyond the scope of this study.

Table 3.3: Synopsis: approaches for measuring the sustainability marketing outcome

Number of considered performance measures (1 to n) / Considered sustainability dimensions			*1*	*2*	…	*n*
Economic dimension	*uni-d.*	*multi-d.*	sales	profitability	…	gross margin
Social dimension	*uni-d.*		number of occupational accidents	investment in local community	…	promotion of job creation
Ecological dimension	*uni-d.*		CO_2-emission per sold sustainable product	number of 'food miles' per sold sustainable product	…	type of used energy source (renewable vs. non-renewable)
Sustainability marketing objectives			…	…	…	…

Therefore, the SuM research study pursues a *third approach* to measuring the sustainability marketing outcome. To be sure, the sustainability marketing outcome inevitably depends on the market success of the sustainable food products. However, in this approach the market success is not measured through earning and sales figures but rather through factors which reflect *key objectives* of the sustainability marketing concept (marked in dark grey in table 3.3). It is assumed that if a food processing company evaluates selected sustainability marketing objectives as accomplished, the sustainability marketing is as such successful and sustainable food products are sold. This procedure adopts a compromise between the first and second approaches.

However, applying this indirect method which uses sustainability marketing objectives as indicators for the outcome, no direct conclusions can be drawn on the actual economic or socio-ecological corporate performance. This is certainly a shortcoming of this approach. But, as an advantage this compromise does not ask for sensitive corporate data which might negatively influence the response behaviour of the surveyed food processing companies. What are then the key objectives of sustainability marketing which again – if accomplished – reflect the sustainability marketing outcome?

3.3.2 Key objectives of sustainability marketing

The key sustainability marketing objectives are determined by means of three criteria: (1) the chosen sustainability marketing objectives are at the same time key marketing performance measures (Grønholdt/Martensen 2006, p. 248); (2) they consider the characteristics of the sustainability marketing concept[26]; and (3) – from a practical point of view – they make up a manageable number of key sustainability marketing objectives. According to these three criteria, *six* key sustainability marketing objectives are identified which are relevant in terms of the evaluation of the sustainability marketing outcome: (1) credibility/building up trust, (2) corporate image, (3) product image, (4) competitive advantage/differentiation, (5) customer acquisition, and (6) customer retention.

The first key sustainability marketing objective (*credibility/building up trust*) arises from the information asymmetries which result from the credence qualities of sustainable food products. The presence of credence qualities forms a key challenge for the marketing of sustainable food products. The customers have to believe the information provided by the producers with respect to the social and ecological product qualities. This kind of information asymmetry opens the door for opportunistic behaviour on the supply side, which may lead to scepticism on the demand side and, finally, to non-purchases and market failure. That is why signaling credibility and trust are crucial to sustainability marketing activities. Consequently, credibility constitutes a key performance measure for the sustainability marketing outcome which is specific to sustainable food products.

[26] See as well Belz/Strannegard 1997, p. 12, for the evaluation of environmental management results and Ottman 1998, p. 49, for success factors for green marketing.

Concerning the *image*, it can be stated that it decisively influences purchase decisions. The particular *corporate* and *product images* contribute to the fact that consumers attach a different importance to competing offers which look similar – especially in the high quality segment (Kotler/Armstrong 2004, p. 261). Consequently, a good corporate or product image positively influences the sustainability marketing outcome. Therefore, they comprise the second and third key sustainability marketing objectives which are relevant for this study (Davidson 1999, p. 766; Grønholdt/Martensen 2006, p. 248).

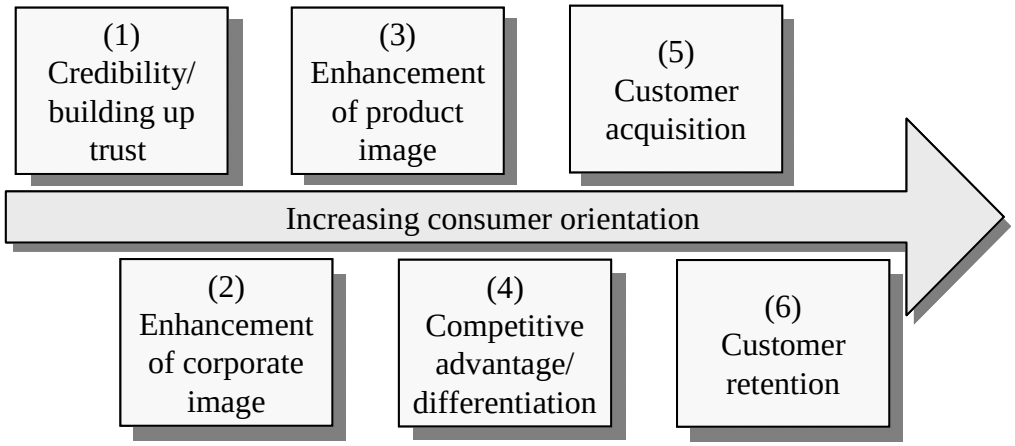
Whereas the socio-ecological product aspects imply on the one hand a number of difficulties in terms of communication due to their credence qualities, these aspects offer additional values on the other hand. By means of these added-values, sustainable food products differentiate themselves from conventional food products and thereby have a decisive competitive advantage – a so-called unique 'value proposition' (Kotler/Armstrong 2004, p. 6, 263) or 'unique sustainable proposition' (Belz 2005a, p. 13). In doing so, the food processing companies can be successful in the generally saturated German food market. This aspect is covered by the fourth key sustainability marketing objective of *competitive advantage/differentiation* (Grønholdt/Martensen 2006, p. 248).

The two final key sustainability marketing objectives are already expressed in the definition of sustainability marketing. The building and maintaining of sustainable and profitable relationships with customers forms a requirement for sustainability marketing. Therefore, *customer acquisition* and *customer retention* are used in this study to evaluate the sustainability marketing outcome. Additionally, these two objectives comprise key measures of marketing performance. Particularly customer retention is one of the most commonly used and most valuable measures (Davidson 1999, p. 757; Ambler/Puntoni 2003, pp. 289-309; Grønholdt/Martensen 2006, p. 248). By means of these six selected key sustainability marketing objectives, the SuM research study aims to evaluate the sustainability marketing outcome.

In addition to the assessment of each key objective, there is a certain logic behind these objectives which adds another dimension to the evaluation of the sustainability marketing outcome. The objectives can be further differentiated with regard to their *consumer orientation*. Figure 3.10 shows that the sustainability marketing objectives increase in customer orientation from (1) to (6). Building up trust and credibility, enhancing the corporate and product image as well as gaining competitive advantages

through differentiation are essential for the market success of sustainable food products. However, these objectives do not directly focus on the consumer. In contrast, customer acquisition and retention are much more consumer-oriented activities. Sustainability marketing outcome is therefore determined by objectives which focus directly on the consumer and particularly also by objectives which are only indirectly consumer-oriented (such as credibility, image, and differentiation). However, all of these sustainability marketing objectives need to be met in order to be successful in the market of sustainable food products.

Figure 3.10: Key sustainability marketing objectives



Besides these key sustainability marketing objectives, the food processing companies are also asked to state their overall sustainability marketing satisfaction. In spite of the difficulties of self-assessments the answers might as well contribute to the evaluation of the sustainability marketing outcome with regard to the different SuM strategy types. Hypothesis $H_{9,}$ which assumes a correlation between the sustainability marketing outcome and the different SuM strategy types, is as follows:

H_9: The sustainability marketing outcome measured by six key sustainability marketing objectives and by the overall sustainability marketing satisfaction is influenced by the specific strategic and operational characteristics of sustainability marketing, i.e. by the different SuM strategy types.

3.4 Synopsis of the conceptual framework

The conceptual framework (figure 3.11, p. 93) summarises the findings of the previous literature study. It shows the relevant hypotheses which will be investigated in the empirical study and illustrates the relations between the sustainability marketing characteristics, the sustainability marketing drivers, and the sustainability marketing outcome which make up the three pillars of the SuM research study.

In the following, the hypotheses are summarised and expressed in equations. In doing so, it will become apparent which dependent variables y_i and independent variables x_{ij} are used in order to test the hypotheses. In general, the relation is expressed as follows (Backhaus et al. 2006, pp. 46-47):

$y_i = f_i (x_{i1}, x_{i2}, ..., x_{ij}, ..., x_{iJ})$

y_i = dependent variable
i = 1, 2, 3, 4, 5 and
  1 = strategic sustainability marketing
  2 = operational sustainability marketing
  3 = sustainability marketing
  4 = primary strategic sustainability marketing orientation
  5 = sustainability marketing outcome
x_{ij} = independent variable j influencing dependent variable y_i
j = 1, 2, ..., j, ..., J
J = number of independent variables influencing dependent variable y_i

SUSTAINABILITY MARKETING CHARACTERISTICS

STRATEGIC SUSTAINABILITY MARKETING (SSUM)

H_1: The different strategic sustainability marketing directions of food processing companies can be characterised by means of certain ‘Sustainability Marketing Strategy Types’ (SuM strategy types). Each SuM strategy type is composed of a distinctive combination of the five strategic sustainability marketing dimensions.

y_1 = SSuM; $x_{ij} = x_{1j}$

j = social product quality (1), ecological product quality (2), market segmentation (3), targeting (4), positioning (5)

$y_1 = f_1 (x_{11}, x_{12}, x_{13}, x_{14}, x_{15})$

OPERATIONAL SUSTAINABILITY MARKETING (OSUM)

H_2: The sustainability marketing mix of food processing companies is influenced by the particular SuM strategy type to a great extent. It is assumed that there is a general fit between the strategic and operational sustainability marketing.

- $H_{2/1}$: Specific sustainable food products are sold for a higher price since they offer a higher value added.
- $H_{2/2}$: Specific sustainable food products are marketed through numerous smaller distribution channels which address only selected target groups.
- $H_{2/3}$: With regard to the problem of credence qualities, some communication tools are applied to a greater extent than others to build up trust in the consumer.
  In the case of specific sustainable food products, communication tools are applied to a greater extent to signal credibility.
- $H_{2/4}$: Some communication tools are more information-based, some more emotion-based in terms of marketing sustainable food products.
  In the case of specific sustainable food products, communication tools are more information-based than emotion-based.
- $H_{2/5}$: In the case of specific sustainable food products, motive alliances are used to a greater extent.

y_2 = OSuM; $x_{ij} = x_{2j}$

j = pricing (1), distribution (2), communication I (3), communication II (4), communication III (5)

$y_2 = f_2 (x_{21}, x_{22}, x_{23}, x_{24}, x_{25})$

SUSTAINABILITY MARKETING DRIVERS

INTERNAL DRIVERS

Company-specific factors

H_3: The sub-industry membership constitutes a driver for the sustainability marketing commitment of food processing companies.

H_4: The public exposure of food processing companies forms a driver for their sustainability marketing commitment:

- $H_{4/1}$: The larger a food processing company is in terms of sales volume p.a. and number of employees, the more it can be expected to undertake sustainability marketing.
- $H_{4/2}$: The more a food processing company leads the market regarding market share, the more likely it is to adopt sustainability marketing.
- $H_{4/3}$: Food processing companies with higher brand awareness are more likely to become involved in sustainability marketing.
- $H_{4/4}$: Food processing companies with mandatory disclosure of company data are more likely to commit to sustainability marketing than food processing companies without such mandatory disclosure.

Internal stakeholders

H_5: The owner of the company, the top management, and the shareholders (i.e. the internal stakeholders) constitute drivers for the sustainability marketing commitment of food processing companies.

EXTERNAL DRIVERS

Market stakeholders

H_6: The consumers, the retailers, and the competitors (i.e. the market stakeholders) make up drivers for the sustainability marketing commitment of food processing companies.

Public stakeholders

H_7: The legislators, NGOs, and the media (i.e. the public stakeholders) form drivers for the sustainability marketing commitment of food processing companies.

$y_3 = SuM$; $x_{ij} = x_{3j}$

i = sub-industry membership (1), sales volume (2), number of employees (3), market share (4), brand awareness (5), mandatory disclosure (6), company's owner (7), top management (8); shareholders (9), consumers (10), retailers (11), competitors (12), legislators (13), NGOs (14), media (15)

$y_3 = f_3 (x_{31}, x_{32}, x_{33}, x_{34}, x_{35}, x_{36}, x_{37}, x_{38}, x_{39}, x_{310}, x_{311}, x_{312}, x_{313}, x_{314}, x_{315})$

PRIMARY STRATEGIC SUSTAINABILITY MARKETING ORIENTATION (SSUMORIENTATION)

H_8: There is a correlation between the perceived stakeholder pressure (either market pull or public push) and the pursued primary strategic sustainability marketing strategy (either proactive or reactive).

$H_{8/1}$: The stronger (less) the food processing company perceives the influence of the market stakeholders in comparison to the public stakeholders, the more likely it is to pursue a proactive (reactive) sustainability marketing strategy.

$H_{8/2}$: The stronger (less) the food company perceives the influence of the public stakeholders in comparison to the market stakeholders, the more likely it is to follow a reactive (proactive) sustainability marketing strategy.

$y_4 = SSuMOrientation$; $x_{ij} = x_{4j}$

j = market stakeholders (1); public stakeholders (2)

$y_4 = f_4 (x_{41}, x_{42})$

SUSTAINABILITY MARKETING OUTCOME

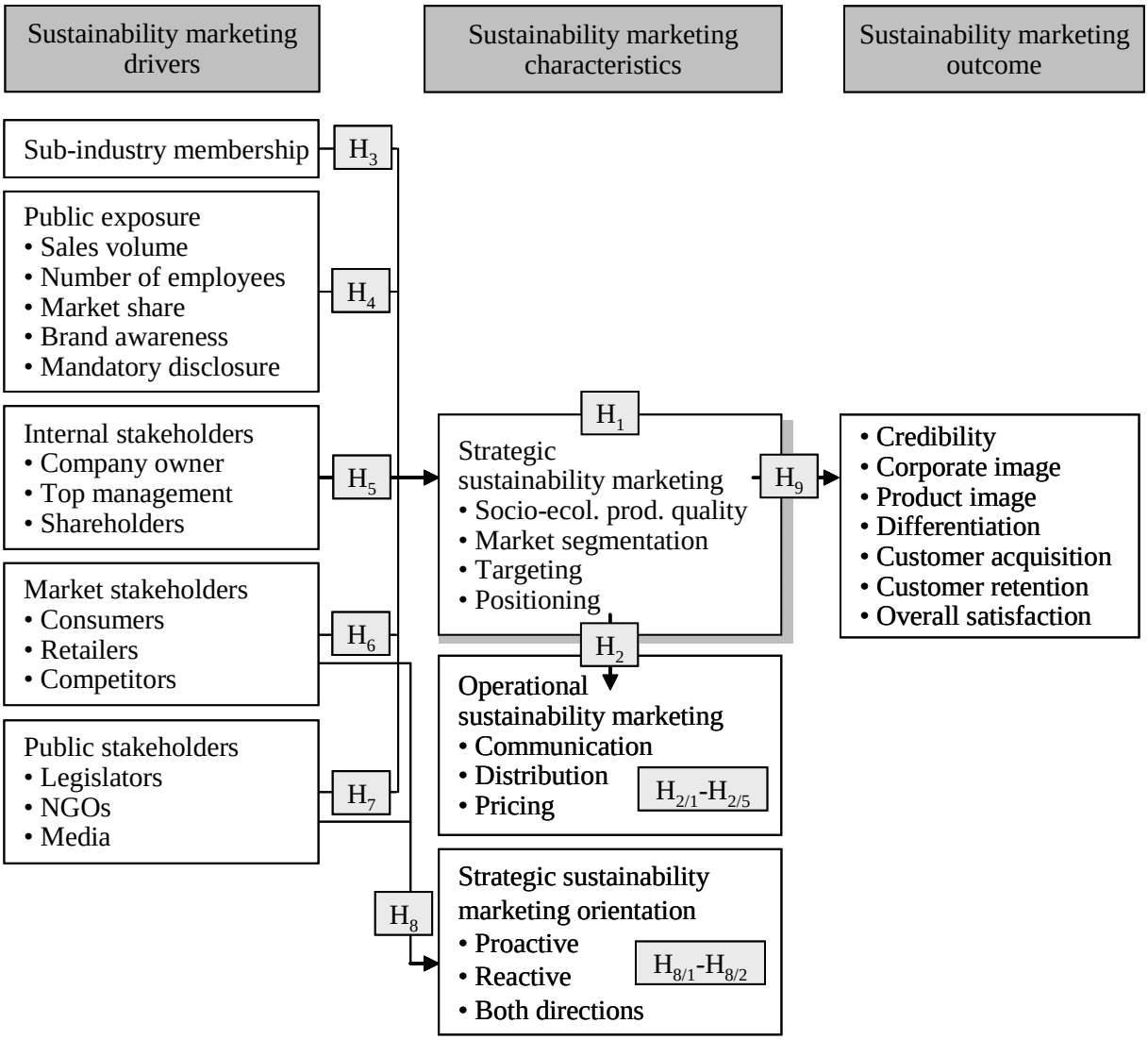
H_9: The sustainability marketing outcome (SuMO) measured by six key sustainability marketing objectives and by the overall sustainability marketing satisfaction is influenced by the specific strategic and operational characteristics of sustainability marketing, i.e. by the different SuM strategy types.

y_5 = SuMO; $x_{ij} = x_{5j}$

j = SuM strategy type 1 (1), SuM strategy type 2 (2), ..., SuM strategy type n (n)

$y_5 = f_5 (x_{51}, x_{52}, \ldots, x_{5n})$[27]

Figure 3.11: Conceptual framework



[27] The exact number of SuM strategy types is not known until the cluster analysis. Therefore, j = 1, ..., n with n = exact number of clusters.

C EMPIRICAL PART

4. METHODOLOGICAL APPROACH

In order to empirically test the conceptual framework and the hypotheses, an email survey was conducted in Germany in December 2006 and January 2007. This chapter outlines in detail the methodological approach of this empirical survey, dividing the approach into a planning (section 4.1), data collection (section 4.2), as well as an editing and analysing section (section 4.3).

4.1 Planning of the survey

The objective of the SuM research study is to analyse the sustainability marketing characteristics, drivers, and outcome of German food processing companies by means of a quantitative approach. This intention is implemented by use of a standardised email questionnaire. The quantitative study shall supplement and add to the already existing conceptual approaches and qualitative research findings in the field of sustainability marketing. Firstly, this section outlines the advantages and disadvantages of email surveys in marketing research as a chosen methodological approach and describes how the disadvantages of such an approach can be addressed. Secondly, the empirical scope, i.e. the German food processing industry, is briefly presented, followed by thirdly, the design, pre-test, and technical implementation of the questionnaire. Fourthly, the sampling frame is elucidated.

Email surveys in marketing research: advantages and disadvantages

Fostered by the growing number of internet and email users and due to the disadvantages of postal or mail surveys (i.e. slow response time, manual transcription of data, and high costs for copies and postal charges), the number of studies that use email to collect data has increased over the years (Bachmann et al. 1999, p. 12; Sheehan 2001, p. 6; Ilieva et al. 2002, p. 361). Email surveys were said to have a promising future in 1998 (Schaefer/Dillman 1998, p. 378). So, how are email surveys adopted by the addressed respondents today? What advantages do email surveys have and what disadvantages and risks arise compared to postal surveys?

The advantages of email surveys are in particular *cost efficiency* and *response speed* (Bachmann et al. 1996, pp. 31-35; Ilieva et al. 2002, pp. 361-368; Deutskens et al. 2004,

p. 21). The costs of an email survey are said to be between 5% and 20% of the costs of a paper survey. Upon an increasing sample size, the costs of an email survey decrease significantly – a result mainly of the reduction and elimination of paper and postal costs (Sheehan 2001, p. 2). Besides monetary costs, time can also be saved. An additional advantage of the email survey is that manual data entry can be omitted if the questionnaire is programmed in such a way that the responses are automatically transferred into the data analysis software (e.g. SPSS). This also leads to less data entry errors and higher quality responses (Weible/Wallace 1998, p. 20; Ilieva et al. 2002, p. 366). Regarding response speed, empirical research has established that the average response time of email surveys is shorter than for mail surveys (Sheehan/McMillan 1999, pp. 45-46). In the study by Ilieva et al. (2002), for example, the average response time for email surveys was 5.59 days whereas the average time necessary for the mail survey to be returned was 12.21 days. Similar findings are also made by Bachmann et al. (1996 and 1999).

Alongside these two key advantages of email questionnaires compared to paper surveys, there are disadvantages as well. One important issue which needs to be examined more closely is the *response rate*. The assumption that the return rates of email surveys are generally higher than the response rates of mail surveys can no longer be verified by empirical studies (e.g. Bachmann et al. 1999, pp. 11-15; Sheehan/McMillan 1999, pp. 46-47; Sheehan 2001, p. 2). The comparison between the response rates of paper surveys and email surveys does not lead to a consistent finding. Earlier studies favoured the response rates of email survey (Kiesler/Sproull 1986; Parker 1992) but more recent studies show either no significant differences between the two methods (Schaefer/Dillman 1998) or higher response rates for the postal survey (Schuldt/Totten 1994; Weible/Wallance 1998; Shermis/Lombard 1999). However, these different findings in response rate are not surprising if the key influencing factors regarding the response rate are taken into account. Above all the number of follow-up contacts and the year the survey was conducted influence the response rate significantly (Sheehan 2001, p. 8). The number of follow-up contacts has a positive effect on the response rate. In general, multiple follow-ups seem to yield higher response rates than one-time reminders. Regarding the survey year, the means of return rates have decreased from about 60-70% to 20-30% from 1986 to 2000 (Sheehan 2001, p. 6). Sheehan (2001) established that while the number of studies using email to collect data has increased from 1986 to 2000, the average response rate seems to be decreasing. This negative

correlation can be explained by the 'over-surveyed' respondents (Sheehan 2001, p. 2). There seems to be a backlash in terms of the respondents' answering behaviour. In the age of advertising emails, electronic newsletters, assorted junk emails, and multiple web surveys, the respondents view email surveys more often with scepticism and annoyance (Bachmann et al. 1999, pp. 12-15). This tendency seems to have increased since the 1980s (Sheehan 2001, pp. 2-3).

Another problem concerning email surveys is the essential *computer literacy of the respondents* and *their access to the facility* (Bradley 1999, pp. 391-392; Cavana et al. 2001, pp. 240-241, 246; Ilieva et al. 2002, p. 372). This requirement leads to a related disadvantage, namely the difficulty of obtaining a sampling frame which provides a realistic image of the population and in which every element has the same chance of being selected for participation (Dillman 2000, pp. 9-11; Sheehan 2001, p. 3). Even though the use of emails is becoming more and more common, not every individual has an email address. As a consequence, individuals or companies for whom email addresses are perhaps available might not reflect the targeted population. This phenomenon which might influence the representativity of the sample is referred to as 'coverage error' (Dillman 2000, p. 9).

Remaining aware of the discussed pros and cons of email surveys, the present empirical study was planned and conducted as an email survey, especially for feasible and pragmatical reasons such as it being cost- and time-saving. In order to counter the risk of a low response rate, a number of stimuli were implemented in the email survey (Fox et al. 1988, pp. 467-491; Yammarino et al. 1991, pp. 613-639). In general, *incentives* form a promising tool for increasing return rates of mail and email surveys (Church 1993, pp. 63-79; Deutskens et al. 2004, pp. 23-24). However, they need to be applied with careful thought. The incentives should not dominate the actual survey – otherwise they might negatively influence the data quality (Ilieva et al. 2002, p. 365). For the email survey at hand, the respondents who entered their email addresses at the end of the questionnaire participated in a *lottery* of ten gift packages. Participation in the lottery is therefore contingent upon the return of the survey. In addition to the lottery incentive, the participants will also receive an *executive summary* if desired. In a pre-notification the guarantee of *confidential data treatment* and publication was specifically mentioned as well as the *date of return*. The participants had about one week of time in which to complete and return the questionnaire. A *personal address*

was chosen in those cases in which the actual respondent was known. Lastly, a friendly *reminder* was mailed one week after the first email request in order to increase the return rate.

Another simplified version of response was the written version of the questionnaire, which was available as pdf-download in addition to the online version (Bachmann et al. 1996, p. 34). So the respondents could choose to either fill out the survey directly on the computer screen or print out the pdf-version, fill it out on paper, and fax it to the author. This dual approach was chosen to further increase the response rate because some respondents prefer the online version and others the written version. In general, the access to the questionnaire was planned in such a way that the barrier to answering was as low as possible.

Empirical scope: German food processing industry

The selection of the industry and the country to be analysed with respect to its sustainability marketing activities has been based on two key criteria: (1) *economic importance* and (2) *socio-ecological relevance*. But before going into more detail here, some key global developments which again have direct influence on the German food industry are outlined.

The increasing global demands for food products, both in terms of quantity and quality (e.g. Brown 1995, pp. 44-53; Worldwatch Institute 2004, p. 75; Gehlhar/Regmi 2005, p. 12; BVE 2007b), have great impact on the social and ecological environment. Especially with regard to the growing population in countries such as India and China the question arises: Who will feed China? (Brown 1995) – or better the world, primarily if cropland and resources are used increasingly for bio-energy? Now the fight over scarce resources has begun (BVE 2007c). The prices for highly demanded agricultural resources such as rape, cereal, and sugar-beet on the one hand and dairy products, meat products, beer, and chocolate on the other hand have already increased in the first half of 2007 (BVE 2007a). Social inequality and injustice might be the results because higher prices can primarily be paid by consumers in developed countries. This fact excludes again the consumers of poorer countries from the allocation of food products (Brown 1995, pp. 102-117), but also in developed countries such as Germany social consequences arise in connection with the food industry. A recent study has shown that a balanced diet cannot be assured for children if the parents are depending on the unemployment compensation II (Kersting/Clausen 2007, pp. 508-513).

Within the EU-25 the German food industry assumes a particular significant role with regard to the analysis of sustainability marketing. On the one hand it makes up, from an *economic perspective*, the second largest food industry in Europe after France and has a €133.6 billion turnover. Within Germany, the food industry represents the third largest industry (CIAA 2006b, p. 9). On the other hand it constitutes, from a *socio-ecological perspective*, a pioneer country which accounts for about 30% of all revenues of the European organic food market (Datamonitor 2006a, p. 11)[28]. In this way, Germany leads the European market of organic food products. Nevertheless, this market segment is still small, having estimated total revenues of between €3.5 billion (Datamonitor 2006b, p. 8) and €4.6 billion (ZMP 2007). This accounts for a market share for organic food products of about 3-4% of the entire German food market. However, this segment is significantly growing. The German growth rate over the last four years (2002-2006) averaged 10.9% per year. From 2006 to 2011 an additional growth rate of 12.1% per year is predicted for Germany (Datamonitor 2006b, p. 8, 13). The ZMP even calculated a growth rate for 2006 of 18% (ZMP 2007). Compared to the amount of sold organic food products, the sales volume of fair trade products is still low, amounting to €142 million in 2007. However, this segment has also achieved a significant growth rate in sales volume of 29% compared to the previous year (FLO 2007, p. 13). Therefore, fair-traded food products seem to constitute a promising market segment for the future. In comparison, the growth rate for the entire German food industry accounted for 3.4% in 2006 (BVE 2007d, p. 2). On the basis of these two examples – organic and fair trade products – it could be shown that it makes sense, not only from an ethical but also from a strategic point of view, to turn to this growing market segment of sustainable food products.

As outlined above, the German food industry is most suitable for being analysed in terms of sustainability marketing due to its economic and socio-ecological relevance. Within the German food industry there are a number of sustainability demands from market stakeholders which make up current fields of competition, and therefore, sustainable food products already play a decisive role in the eyes of the food processing companies. Due to its advanced sustainable market development and its dominant economic role, the German food industry serves – as a kind of pioneer industry – for the analysis of drivers for and characteristics of sustainability marketing particularly well.

[28] The European organic food market reached a market value of €11.8 billion in 2006 (Datamonitor 2006a, p. 9).

Design, pre-test, and technical implementation

The title of the study as announced among the addressed food processing companies was adapted to a more general one. The research study was communicated as 'Success Factors in the Food Industry: The Case of Value Food Products'. In doing so, words such as 'sustainable' or 'sustainability' which seem to be difficult to grasp were avoided. In this way, a rejection of the email survey was supposed to be prevented.

The hypotheses framed in the previous chapter are further operationalised and combined in the written questionnaire which contains a total of 24 questions (Appendix I, 1). The questionnaire consists of five parts (A to E), each covering a different aspect of the content. Table 4.1 summarises the contents of the different parts and names the corresponding hypotheses and questions in the survey.

Table 4.1: Questionnaire structure: content and corresponding questions and hypotheses

Part	Content	Questions	Hypotheses
A	Socio-ecological product qualities	2, 4, 5	H_1
B	Sustainability marketing characteristics	3, 6-13	H_1, H_2
C	Sustainability marketing drivers	1, 14-15	H_3, H_5-H_8
D	Sustainability marketing outcome	16-17	H_9
E	Company data	18-24	H_4

The questionnaire is standardised and contains only closed response categories. With regard to the data analysis, nominal, ordinal, and interval scales are used. Rating scales with at least five categories can be interpreted as interval scales which enables statistical analysing methods such as the cluster analysis and the binary logistic regression (on the discussion of scales of measurement, see Khurshid/Sahai 1993, pp. 303-324). Furthermore, an even number of answering categories is advised so as to eliminate ambiguous central categories (Cavana et al. 2001, p. 206). Therefore, in cases where it is advisable a six-point scale is used in this questionnaire (cf. Kunert 2006, pp. 120-121).

In order to test the validity and practicability of the research design and the comprehensibility of the questionnaire, a *pre-test* was conducted in October 2006 (Cavana et al. 2001, pp. 238-239). Five German food processing companies from different sub-industries answered a written version of the questionnaire and commented on issues such as the length of the questionnaire, its comprehensibility, and layout as

well as on additional response alternatives. After considering the results of the pre-tests, the technical implementation of the email survey was realised by ICD Service Gehring. The web version of the questionnaire was tested as well, especially in terms of web layout and correct technical implementation.

Sampling frame

As the population, the number of food processing companies located in Germany in 2005 was chosen (German Federal Office of Statistics 2007, pp. 10-11). To reproduce the population and to give a *representative sample* of the German food processing industry *in terms of sub-industry membership* and *sales volume*, a broad approach was selected (random sample). Basically, the food processing companies had to fulfil two requirements in order to be addressed in the empirical study: (1) they had to *produce* their own food products in contrast to food retailers, and (2) they had to be reachable *via email*.

The email addresses of the German food processing companies were collected on the one hand from Schober business data, one of the leading business data banks in Europe (Schober Information Group, Handbook and CD 2006). In total 4,100 food processing companies are listed with impersonalised email addresses within the Schober data bank 2006. On the other hand, a separate collection of 160 personalised email addresses of food processing companies was conducted using the internet (Ilieva et al. 2002, p. 364; Schaefer/Dillman 1998, pp. 380-381).

4.2 Data collection

The actual data collection took place in December 2006 and January 2007. In two mailings altogether 4,260 emails were sent out, followed by a friendly reminder about one week later (Appendix I, 2 and I, 3). The following section describes firstly the response rate and the position of the respondents, and secondly the sample characteristics.

Response rate and position of respondents

Of the 4,260 sent emails, 676 were returned due to failure addresses (n = 631) and an expressed disinterest to participate in online questionnaires (n = 45) (Bachmann et al. 1996, p. 34). At less than 15% the share of non-deliverable emails is quite acceptable

(Bachmann et al. 1999, p. 13). Therefore, the effective sample size amounts to 3,584 emails which actually reached their addressees. Of these, 384 utilisable questionnaires returned. So, the *net return rate* of the SuM research study is *10.71%* (Deutskens et al. 2004, p. 27). This net return rate seems to be quite low, particularly compared to response rates of other online surveys which vary from 70% to 6% (Ilieva et al. 2002, p. 367; Sheehan/McMillan 1999, p. 46). However, keeping the survey year in mind, an increasing decline of email survey return rates can be observed. In reference to Sheehan's study (2001), a further decline of the response rate in the last six to seven years up to the year 2007 can be assumed. Therefore, the present response rate is on the one hand disappointing to a certain extent, but on the other hand probably a contemporary phenomenon.

In terms of the study's *response quality*, it is important to know who actually filled out the questionnaire. Addressed to general managers and marketing managers, the questionnaires were filled out primarily by general managers (52.3%), followed by owners (22.7%), and marketing managers (9.4%). The remaining 15.6% were completed by production managers and other executive staff members. The relative high percentage of company owners participating in the study results from the high number of small food processing companies which are often owned and managed by the same person.

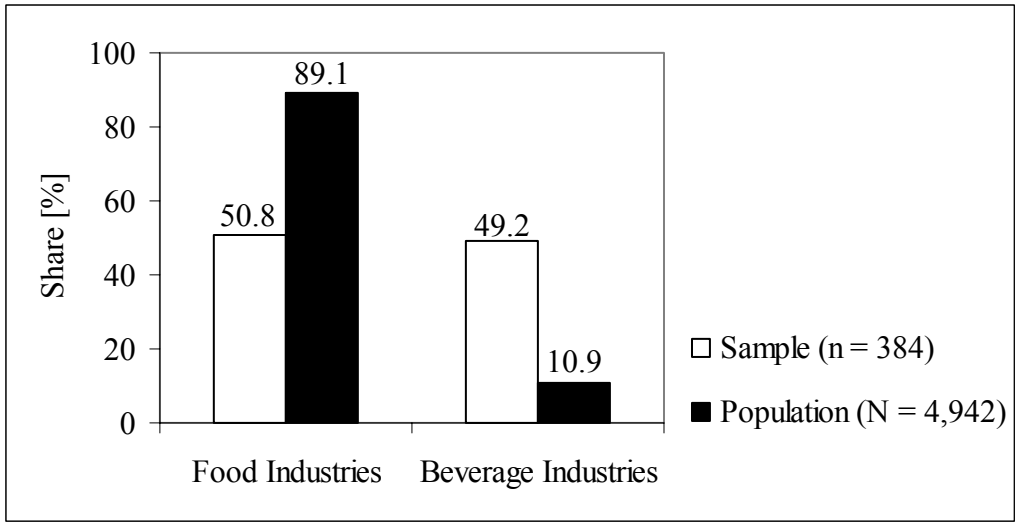
Sample characteristics

So as to evaluate the representativity of the sample, the population and the sample are examined in terms of sub-industry distribution but also in terms of sales volume distribution. The classification of the food sub-industries was adopted from the Confederation of Food and Drink Industries in Europe (CIAA 2006b, p. 10), whereas the classification of the sales volume was taken from the German Federal Office of Statistics (German Federal Office of Statistics 2007, p. 42).

Firstly, the sample is compared to the population with regard to the general *distribution* of the number of processing companies concerning *food and beverage industries* (figure 4.1). Within the sample, food (50.8%) and beverage companies (49.2%) are almost uniformly distributed. In turn, in the population, food companies represent almost 90% of the processing companies. As a result, it can therefore be stated that the beverage industry (food industry) is overrepresented (underrepresented) in the sample compared

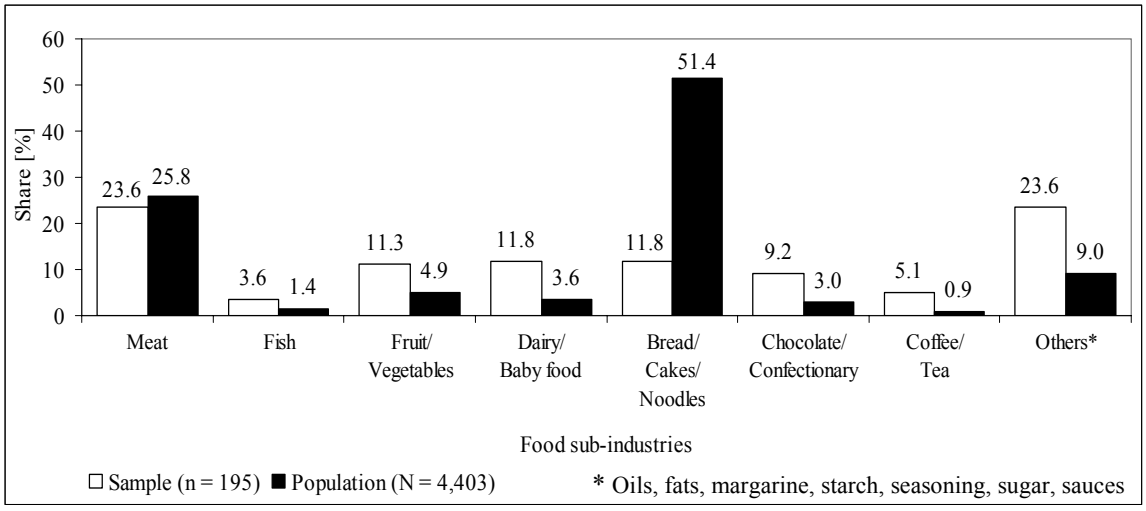
to the population. A reason for this bias can be found in the imperfect coverage of the population (Dillman 2000, pp. 194-203). There were already too many companies producing (alcoholic) beverages in the sampling frame compared to food producing companies.

Figure 4.1: Distribution of the number of processing companies with regard to food and beverage industries



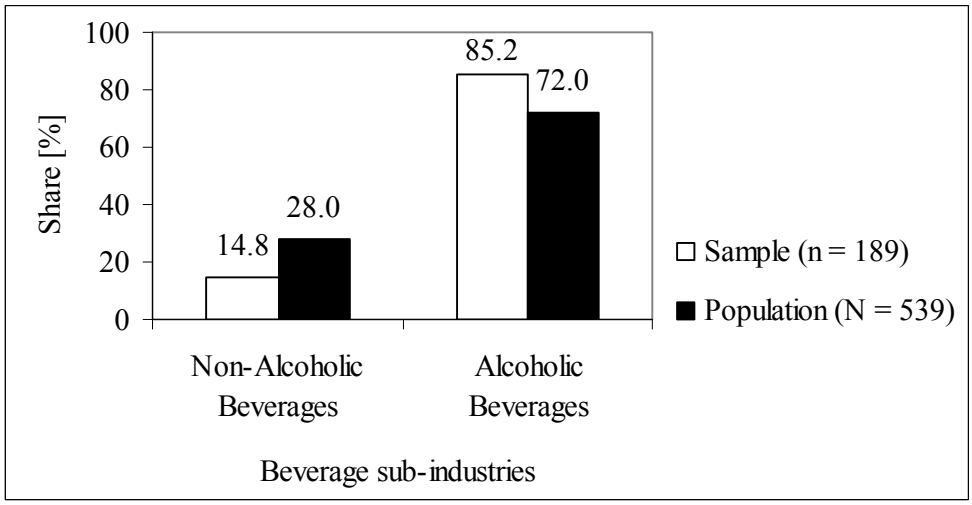
So, how are the single food and beverage sub-industries distributed in the sample compared to the population? Overall the SuM research study distinguishes between eight food sub-industries (figure 4.2). Regarding these food sub-industries the comparison of the population and the sample shows only a small degree of congruency, i.e. in the case of the meat and the fish sub-industry (deviation ± 3 percentage points). The most striking difference is the small number of bakeries and pastry shops in the sample. Again, this can be explained by the fact that within the email distribution the percentage of bakeries and pastry shops was already underrepresented, which led to a bias forming. As a result of the minor importance of the bread and cake sub-industry in the sample, those sub-industries which are in general comparatively smaller are now partly overrepresented, i.e. fruit/vegetables, dairy/baby food products, chocolate/ confectionary as well as coffee/tea.

Figure 4.2: Distribution of the number of processing companies with regard to food sub-industries



In terms of beverage sub-industries, the SuM research study distinguishes between alcoholic and non-alcoholic beverages. Figure 4.3 shows that the companies producing alcoholic beverages (non-alcoholic beverages) are to a certain extent overrepresented (underrepresented) in the sample compared to the population.

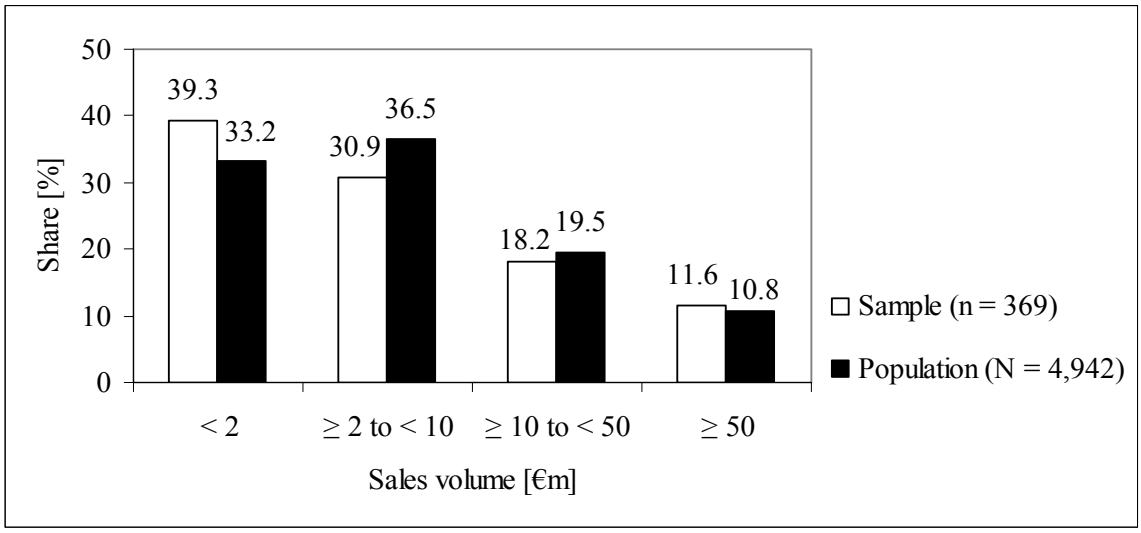
Figure 4.3: Distribution of the number of processing companies with regard to beverage sub-industries



Secondly, besides the testing of the sub-industry distribution, the sample is compared to the population with regard to its *sales volume distribution*. The food processing companies are classified in four groups according to their sales volume in the year 2005 (less than €2m; €2m to less than €10m; €10m to less than €50m, and more than €50m). Figure 4.4 shows the percentage of food processing companies belonging to each group

for the population as well as for the sample (German Federal Office of Statistics 2007, pp. 42-43). The comparison shows that the sample reflects the population with regard to the company's sales volume quite realistically (deviation ± 6 percentage points). Small- and medium-sized companies dominate the German food industry, as is also reflected by the sample.

Figure 4.4: Distribution of the number of food processing companies with regard to sales volume



Overall it can be stated that in terms of *sub-industry distribution*, the sample does *not represent the population*. Within the sampling frame there are on the one hand comparatively few bread and pastry processing companies and on the other hand there are rather a lot of companies producing (alcoholic) beverages. These are the key biases within this sampling frame which influence the sub-industry distribution of the sample. However, with regard to *sales volume distribution*, the sample represents a *realistic picture of the German food processing industry*.

An additional aspect which needs to be discussed at this point is that a low response rate means a high number of non-responses at the same time. In this case almost 90% of the contacted food processing companies did not answer. Chances are that this high non-response rate has ultimately led to a '*nonresponse bias*' (Armstrong/Overton 1977, pp. 396-402, Israel 2003, pp. 1-3). The principle behind it is that 'if persons who respond differ substantially from those who do not, the results do not directly allow one to say how the entire sample would have responded' (Armstrong/Overton 1977, p. 396). In the case of the SuM research study, this could be interpreted as follows: if the survey

has above all been answered by those food processing companies which are already socially and ecologically committed to a greater or lesser extent, the results show a bias and cannot be generalised offhand to the population. Therefore, the results of this study need to be evaluated and discussed with particular consideration and awareness concerning this critical issue.

4.3 Data analysis

All statistic analyses within the SuM research study were accomplished with the aid of the statistically program SPSS 14 (Bühl 2006). Using methods of *descriptive* statistics, the data was analysed in terms of absolute and relative frequencies. Regarding the mean comparison, both the one-sample *t-test* and the non-parametric *Mann-Whitney-U-test* were applied. Moreover, correlations were evaluated by means of the *Spearman-rank-correlation-test*. Concerning the *explanatory* data analysis, different multivariate methods were used such as *cluster analysis*, *binary logistic regression*, *discriminant analysis*, and *factor analysis*. Particularly the first two are of importance for this study. That is why they are thoroughly outlined in the following with regard to their advantages and disadvantages as well as their implementation in the SuM research study.

Cluster analysis

Cluster analysis is used with the aim of grouping objects based on the specific characteristics they possess (Hair et al. 2006, pp. 561-567). It classifies objects (for example, companies) so that each object is very similar to the others within the cluster. The goal is to achieve high internal (within-cluster) homogeneity and high external (between-cluster) heterogeneity (Hair et al. 2006, p. 562). The cluster analysis is used as a multivariate method in this study in order to identify strategy types upon which the previously-stated hypotheses regarding the drivers and the outcome will be tested. It helps to reduce the information and makes testing the hypotheses more practical. However, besides these benefits the cluster analysis must be examined critically, too. The generation of clusters is used primarily as an exploratory technique and tends to be rather descriptive. The cluster procedure always comes to a certain output regardless of the true data structure. Moreover, the cluster analysis depends highly on the variables used. The outcome can be totally different if variables are added or deleted.

For the SuM research study the hierarchical *Ward's Method* was chosen as the cluster procedure (Backhaus et al. 2006, pp. 522-527; Bühl 2006, p. 543; Hair et al. 2006, p. 588). Hierarchical methods are used if the number of possible cluster solutions is not clear and if the sample size is moderate, i.e. between 300-400 cases (Hair et al. 2006, p. 593). This agglomerative procedure starts with each case as a separate cluster and combines in subsequent steps the two clusters that are the most similar. As the similarity measure, the squared Euclidean distance was used (Bühl 2006, p. 538). The process comes to an end when all cases are clustered in one group. This clustering method is applied often in practice because compared to other algorithms it tends to find quite good partitions and it tends to assign the cases correctly to the clusters (Bergs 1981, p. 96, 121; Backhaus et al. 2006, p. 551).

Cluster methods require complete data sets. Therefore, cases with three or less missing values were edited in such a way that the arithmetic mean of that certain variable was filled in. Cases with more than three missing values were eliminated from the cluster analysis because there is the risk of harmonising the data if too many arithmetic means are used. This procedure might impede a possible bias of the results since cases with too many missing values were not taken into account (Backhaus et al. 2006, pp. 553-554). The remaining cases were then tested in terms of outliers. This was done with the aid of the single-linkage cluster method, a hierarchical cluster procedure which tends to build a high number of small groups and a small number of large clusters and helps to identify outliers (Backhaus et al. 2006, p. 520, 549). By means of this method four outliers were eliminated, leading to a final number of 308 company cases to be clustered.

The last step of the cluster analysis is to define the number of cluster solutions which reflects the sample structure 'the best'. Besides practical reasoning the decision criteria should be also based on statistical aspects. In support of this decision, the development of the degree of heterogeneity can be consulted, being identical to the sum of squares of the Ward procedure. In places where the sum of squares escalates, the combination of further clusters should be stopped. The heterogeneity degree is indicated by the coefficients within the agglomeration schedule in SPSS. This decision criterion can be visualised with aid of the 'elbow-criterion' (Backhaus et al. 2006, pp. 534-536). As a final test for the quality of the selected cluster solution, a discriminant analysis is conducted. With the aid of the classification results the percentage of the original grouped cases which have been correctly classified can be examined (Bühl 2006, pp. 451-474).

Binary logistic regression

The binary logistic regression calculates the probability that a certain event will occur or not, depending on the values of the independent variables. This event, which forms the dependent variable, is therefore dichotomous. The logistic regression assigns the values 1 and 0 to the two possibilities (Hair et al. 2006, pp. 355-356). In order to determine the probability of the occurrence of y = 1 [generally P(y = 1)], it is assumed that a latent variable 'Z' exists which is not empirically observable. With the aid of 'Z' it is possible to produce the binary characteristics of the dependent variable Y in dependence on the values of the independent variables X_j (Backhaus et al. 2006, pp. 430-431). In the following this relationship is formally outlined for a case of observation k:

$$(1) \qquad y_k = \begin{cases} 1 \text{ if } z_k > 0 \\ 0 \text{ if } z_k \leq 0 \end{cases} \qquad \text{with } z_k = ß_o + \sum_{j=1}^{J} ß_j \cdot x_{jk} + u_k$$

'Z' = latent variable
z_k = values of latent variables (k = 1, 2, ..., K)
Y = dependent variable
y_k = values of dependent variables (k = 1, 2, …, K)
X_j = independent variables
x_{jk} = values of independent variables (j = 1, 2, ..., J; k = 1, 2, ..., K)
J = number of independent variables
K = number of observations
u_k = values of disturbance variables (k = 1, 2, …, K)
$ß_0$ = constant
$ß_j$ = regression coefficients

'Z' can be interpreted as an aggregated influencing strength which brings about the occurrence of y = 1. Additionally, it is assumed that 'Z' is generated by a linear combination of the different independent variables X_j. However, in order to conclude the probability, a probability function is needed which produces either y = 1 or y = 0 depending on 'Z'. This function is the so-called logistic function (Backhaus et al. 2006, p. 431).

Logistic function:

$$(2) \qquad p = \frac{1}{1 + e^{-z}} \qquad \text{with e = 2.71828183 (Euler's number)}$$

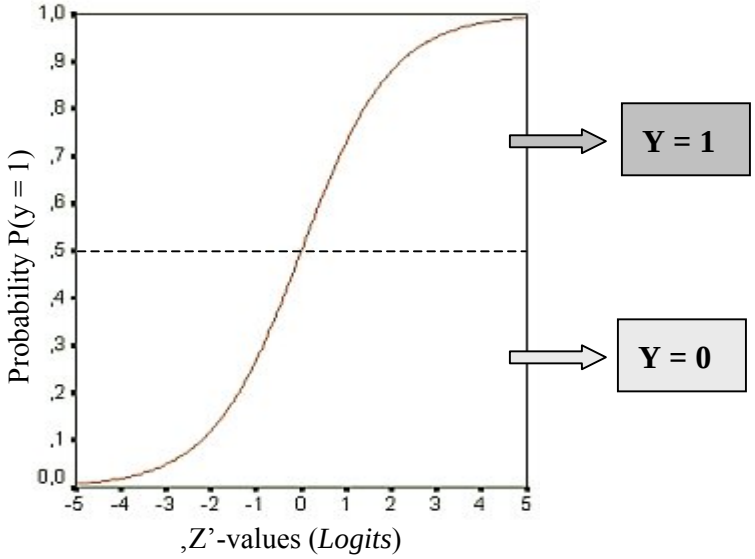
The logistic regression approach calculates the probability for the occurring event y = 1 using the logistic function. The parameter $ß_0$ and the regression coefficients $ß_j$ reflect the influencing strength of the considered independent variables X_j regarding the extent of the probability P(y = 1). The logistic regression constitutes a probability relation between the event y = 1 and the independent variables X_j. Considering the equations (1) and (2), the logistic regression equation can therefore be defined as follows:

Logistic regression equation:

$$(3) \qquad p_k(y=1) = \frac{1}{1+e^{-z_k}} \qquad \text{with } z_k = ß_o + \sum_{j=1}^{J} ß_j \cdot x_{jk} + u_k$$

It is the goal of this estimation procedure (maximum-likelihood method) to determine the parameters $ß_j$ of the regression model in such a way that the probability of sustaining the observed data is maximised. However, in terms of interpretation the binary logistic regressions causes some difficulties since the relationship between the independent variables X_j and the probabilities $p_k(y = 1)$ is not linear. The independent variables only influence the exponent of the e-function. Therefore, the independent variables influence the probability of the event occurring merely indirectly and non-linearly. Yet, what can be interpreted is the direction of the influence of the independent variables. Upon increasing X_j-values (i.e. in the case of increasing values of the independent variables), positive regression coefficients lead to an increase in the probability of the occasion y = 1, whereas negative regression coefficients lead to a decrease in the probability of the occasion y = 1 (Backhaus et al. 2006, p. 441). However, a modification of the X_j-value from 1 to 2 has a different effect on the probability than a modification from 2 to 3 even though the modification amounts $\Delta = 1$ in both cases. This results from the non-linear correlations within the e-function (figure 4.5).

Figure 4.5: Shape of the logistic function and corresponding probability distribution



(Source: Backhaus et al. 2006, p. 432, 439)

The interpretation of the logistic regression equation can be simplified if P(y = 1) is not considered as such but rather in relation to its complementary probability P(y = 0) or 1-P(y = 1) respectively. This relation is called the *odds ratio*. Odds with less than 1.0 represent probabilities less than 50% for P(y = 1) and odds greater than 1.0 correspond to a probability greater than 50% for P(y = 1). With the aid of the odds, the strength of the effect which a certain independent variable has on the probability can be interpreted (Hair et al. 2006, p. 359).

Odds of the logistics regression:

$$(4) \qquad \text{Odds}\,(y = 1) = \frac{p(y = 1)}{1 - p(y = 1)} = e^{Z}$$

If the logarithm of the odds (*Logits*) is taken, it leads again to 'Z', i.e. the aggregated influencing strength.

$$(5) \qquad \ln(\text{Odds}) = Z \ln(e) = Z \qquad \text{with } z_k = ß_o + \sum_{j=1}^{J} ß_j \cdot x_{jk} + u_k$$

In order to assess the goodness-of-fit of the estimated model, the so-called pseudo-R^2-test *Nagelkerke-R^2* [0 to 1] is applied. The Nagelkerke-R^2 is a measure which reflects the amount of variation accounted for by the logistic model. 1 indicates a perfect model fit. However, logistic models with .2 are acceptable and with .5 are very good

(Backhaus et al. 2006, p. 456; Bühl 2006, p. 376). For the purposes of the predictive accuracy the *confusion matrix* is used. It compares the hit ratio of the logistic regression with the random classification of the elements. The hit ratio has to be higher than the random probability (Backhaus et al. 2006, pp. 456-457). Table 4.2 summarises the different options for interpreting the logistic regression coefficients.

Table 4.2: Logistic regression coefficients' effect on probability P(y = 1)

Regression coefficient ß	Effect coefficient Exp ß [0; +∞]	Logit (z) [-∞; +∞]	Odds [0; +∞] $\frac{P(y=1)}{1-P(y=1)}$	P(y = 1)
ß > 0	$e^{ß} > 1$	increases by ß	increase by $e^{ß}$	increases
ß < 0	$e^{ß} < 1$	decreases by ß	decrease by $e^{ß}$	decreases

(Source: Backhaus et al. 2006, p. 445)

5. Analysis of Sustainability Marketing Characteristics

In this chapter the focus is placed on the analysis of the sustainability marketing characteristics of German food processing companies participating in the SuM research study. However, firstly, it needs to be examined which of the food processing companies actually produce sustainable food products (section 5.1). Secondly, the analysis of the sustainability marketing characteristics takes place (section 5.2). Besides the descriptive analysis of the strategic sustainability marketing characteristics via frequency distribution, certain heterogeneous groups of respondents – i.e. sustainability marketing strategy types (SuM strategy types) – are identified by means of a hierarchical cluster analysis, and are described in more detail and interpreted. Thirdly, the chapter outlines and analyses the corresponding operational sustainability marketing characteristics (section 5.3), followed by the classification and assessment of the SuM strategy types within the polarised German food market (section 5.4). Finally, a synopsis of the characteristics for each SuM strategy type is provided (section 5.5).

5.1 Processing sustainable food products

Before proceeding to analyse the characteristics of sustainability marketing, the initial starting point of the study needs to be foregrounded again – the *sustainable food product*. Per definition, sustainability marketing can only be executed and performed if the food product to be marketed is a sustainable food product. Food companies which do not process sustainable food products (or are not aware of it) and which therefore cannot implement or perform any kind of trustworthy sustainability marketing are called 'NoSuM food companies' and have to be excluded from further analysis. The other food companies – so-called 'SuM food companies' – consider social or ecological aspects along the value creation chain at least to a minimum extent.

Table 5.1 provides a detailed outline of the composition of the NoSuM food companies in terms of their answering patterns. Overall 22 food processing companies were classified as NoSuM food companies. This leads to a remaining sample of 362 SuM food companies for the following analysis of the sustainability marketing characteristics.

Table 5.1: Answering patterns of NoSuM food companies

Number of participating food processing companies (Gross sample)	Frequency 384	Share [%] 100.0
Number of food processing companies which…		
… do not at all consider socio-ecological aspects in their food products.	13	3.4
… do not know whether they consider socio-ecological aspects in their food products.	2	.5
… did not answer the questions 4 and 5 at all.	7	1.8
Total number of food processing companies which do not produce sustainable food products (Net sample NoSuM food companies)	22	5.7
Total number of food processing companies which produce and market at least one sustainable food product (Net sample SuM food companies)	362	94.3

What can be said about the NoSuM food companies? Are there any distinctions in comparison to the SuM food companies which might explain the fact that they do not process sustainable food products? Besides the questions regarding their socio-ecological product quality, the NoSuM food companies answered questions concerning aspects of public exposure (i.e. sales volume p.a., number of employees, market share, brand awareness, mandatory disclosure), concerning their sub-industry membership, and their perception of socio-ecological problems within their particular sub-industry.

With regard to their companies' size measured by sales volume p.a., the NoSuM food companies are particularly dominated by micro enterprises: 55.6% of the NoSuM food companies earn less than 2 million € p.a. (SuM food companies: 38.6%). However, the Mann-Whitney-U-test does not show a significant difference between NoSuM food companies and SuM food companies in terms of sales volume p.a.. In addition, the Mann-Whitney-U-test does not reveal any kind of significant distinctions between the two company types with respect to the number of employees, market share, and mandatory disclosure. These aspects of public exposure are therefore not appropriate to explain why a company belongs to the group of the NoSuM food companies.

Only with regard to brand awareness does the Mann-Whitney-U-test identify a noticeable difference between the NoSuM food companies and the SuM food companies ($\alpha = .068$) (Appendix II, 1). The brand awareness of the NoSuM food companies ($\bar{x} = 1.59$) is considerably lower than the brand awareness of the SuM food companies ($\bar{x} = 1.99$). Therefore, it can be assumed that the brand awareness might be an important influencing factor in terms of the sustainability marketing commitment. It

can be assumed that food processing companies which have higher brand awareness are moving towards processing sustainable food products, and consequently undertaking sustainability marketing because they fear possible losses in brand value and reputation if they do not commit to sustainability marketing. Considered vice versa: food processing companies which have lower brand awareness are less likely to take up sustainability marketing because the possible (negative) consequences for the brand value are easier to cope with than the effort of committing to sustainability marketing. However, due to the small sample of NoSuM food companies, the results need to be validated by further research. Also a closer look needs to be taken at the brand awareness of the SuM food companies to further verify the findings.

With respect to the sub-industry membership, it can be observed that the 22 NoSuM companies can be found in all food and beverages sub-industries. No sub-industry is therefore particularly averse or attached to sustainability aspects with regard to product quality. This fact is noticeable because particular sustainable food products such as fruit, vegetables and dairy products are demanded more often than other sustainable food products such as confectionary and alcoholic beverages (BMELV 2007, p. 10).

Therefore, a factor other than the sub-industry membership might explain why the NoSuM food companies do not process sustainable food products. This factor can be found within the companies: 60% of them believe that their food sub-industry is not at all affected by socio-ecological problems (SuM food companies: 24.6%). The Mann-Whitney-U-test shows significant differences (α = .010**) between the individual perception of the socio-ecological problems of the NoSuM food companies ($\bar{x}$ = 2.05) and the SuM food companies ($\bar{x}$ = 2.79) (Appendix II, 2). This different managerial way of thinking – the questionnaires were also predominantly answered by general managers, owners, and marketing managers – can therefore be interpreted as a further indicator of the NoSuM food companies' lack of sustainability marketing commitment.

In the following, the focus is placed on the remaining 362 SuM food companies. However, it needs to be critically remarked that the sample of these SuM food companies is determined by a *two-fold bias*. In addition to the already mentioned 'non-response bias', the exclusion of the NoSuM food companies intensifies the bias in favour of food processing companies which are (already) socio-ecological committed.[29]

[29] The NoSuM food companies are excluded from the study's analysis but they are reconsidered in the comprehensive discussion of the study's results in section 5.4.2.

This bias within the sample is actually inherent in the content of this research study, i.e. of sustainability marketing. Therefore, in the course of further analysis, it needs to be borne in mind that direct generalisations for the entire German food processing industry cannot be made on the basis of this sample.

5.2 Strategic sustainability marketing

The strategic sustainability marketing of food processing companies is defined by five different strategic aspects: social product quality, ecological product quality, market segmentation, targeting, and positioning. The initial point for the analysis of sustainability marketing is the behaviour of German food processing companies concerning these aspects. At first, the descriptive analysis of the single strategic characteristics is briefly presented (section 5.2.1), followed by the identification and characterisation of the SuM strategy types (section 5.2.2).

5.2.1 Analysis of strategic sustainability marketing characteristics

Social product quality

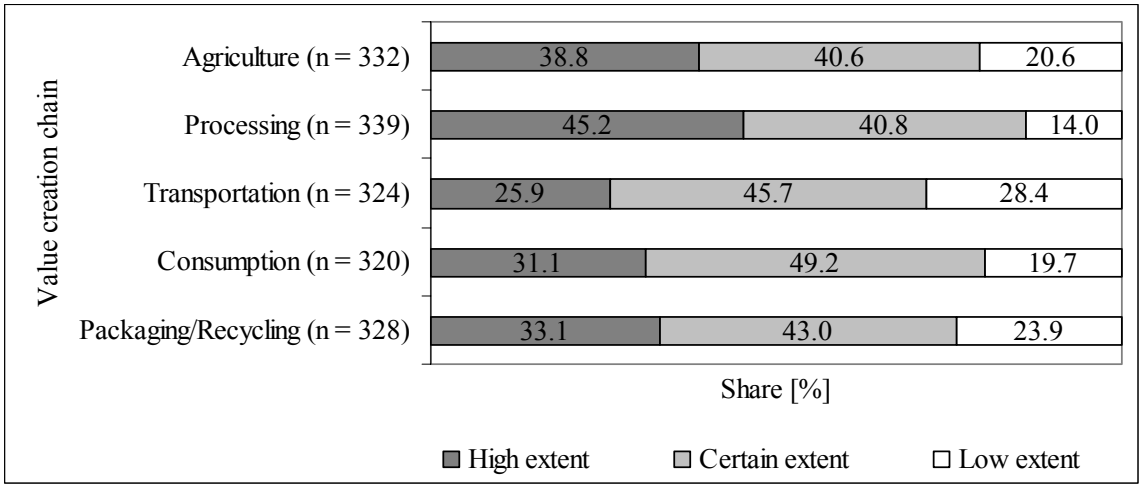
The social product quality is measured on an ordinal scale for each step along the value creation chain from agriculture to processing, transportation, consumption, and packaging/recycling. Cumulated, these five different measures indicate the total social quality of a sustainable food product, which constitutes the first aspect of the sustainability marketing strategy. The results outlined in figure 5.1 show that food companies consider *social* product aspects primarily on the processing level to a comparatively high extent ($\overline{x}$[30] = 2.31).[31] On the agriculture ($\overline{x}$ = 2.18), consumption ($\overline{x}$ = 2.12), and packaging/recycling ($\overline{x}$ = 2.09) level, they are mainly regarded to a certain extent. The social aspects implemented in the transportation level are the lowest ($\overline{x}$ = 1.97). A statistical mean comparison (t-test) of the social product qualities on each level of the value creation chain shows significant differences. Compared to the

[30] Due to a large number of different arithmetic means ($\overline{x}$) in this study, no indices are used for the sake of clarity. The means are always listed directly after the aspect to which they refer. This supports reader convenience. The same procedure applies to the used Spearman-rank-correlation-coefficients (r). In addition, the arithmetic mean is further referred to simply as the 'mean' since it is the only mean used.

[31] Item means based on three-point scale (1: low extent; 3: high extent). The original six-point scales of the social and ecological parameters within the questionnaire have been pooled together to a three-point scale so as to assure comparability to the other strategic parameters market segmentation, targeting, and positioning.

reference level with the highest mean (i.e. processing), the consideration of social product aspects on all the other levels of the value creation chain is significantly smaller ($\alpha \leq .001$***[32]) (Appendix II, 3).

Figure 5.1: Consideration of social product aspects (N = 362)[33]



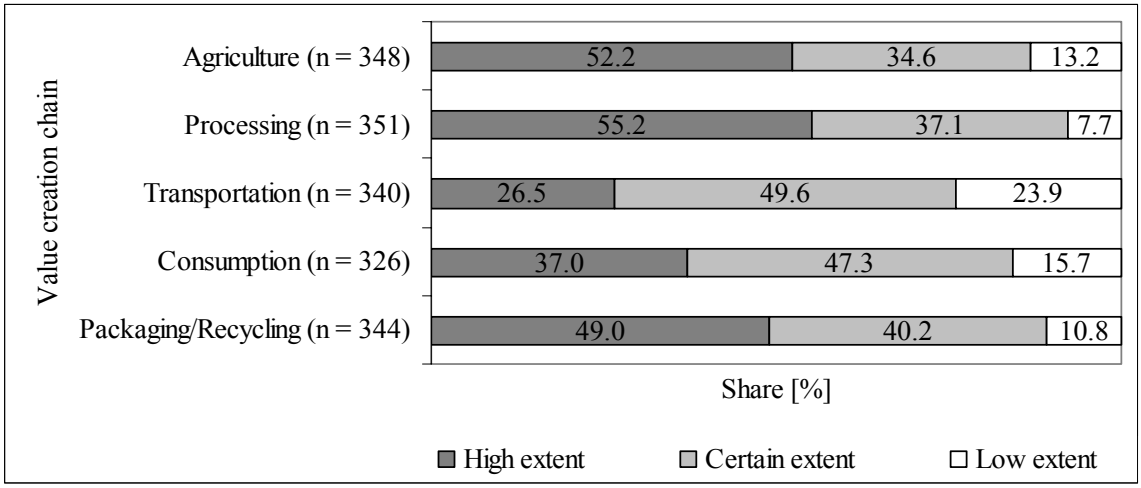
Ecological product quality

As was the case for the social product quality, the ecological product quality is also measured on an ordinal scale along the value creation chain. It comprises the second aspect of the sustainability marketing strategy. With respect to the consideration of *ecological* product aspects, it can be stated that they are considered to a very high extent, particularly on the processing ($\bar{x}$ = 2.47), agriculture ($\bar{x}$ = 2.39), and packaging/recycling levels ($\bar{x}$ = 2.38) (figure 5.2). Regarding the consumption ($\bar{x}$ = 2.21) and transportation level ($\bar{x}$ = 2.03), ecological aspects are generally regarded to a certain extent. Also with regard to ecological product aspects, a statistical mean comparison (t-test) presents significant differences. Taking the processing level again as a reference mean, the consideration of ecological product aspects on the other levels of the value creation chain are significantly smaller ($\alpha \leq .026$*) (Appendix II, 4).

[32] Significance level $\alpha \leq .001$: ***; significance level $\alpha \leq .01$: **; significance level $\alpha \leq .05$: *; not significant = NS (Bühl 2006, p. 115). This classification is used throughout the SuM research study.

[33] A similar procedure to the one concerning the omitted indices of the means ($\bar{x}$) and correlation coefficients (r) is applied to the sample size (n). Due to missing values and a high number of different items to be analysed, the sample size 'n' is often changing. However, each 'n" is not given an index in order to ensure clarity. In general, it can be stated that in cases in which more than one aspect is illustrated in a figure, the capital 'N' in the figure's title indicates the size of the chosen sample (and not the population), whereas the small 'n's within the figure show how many SuM food companies relate to that particular aspect.

Figure 5.2: Consideration of ecological product aspects (N = 362)



These findings concerning the considered extent of social and ecological product qualities lead to the following two conclusions. Firstly, these findings show that social and ecological aspects are mostly incorporated during the processing phase of sustainable food products. Food processing companies seem to consider socio-ecological aspects primarily on the corporate level before they implement them in other upstream and downstream activities. However, particularly in terms of their resources, food companies seem to assume their responsibility and consider social and ecological aspects on the agricultural level of the value chain as well. Socio-ecological aspects are considered comparatively less in downstream activities such as consumption, packaging/recycling, and transportation. Of these, environmental packaging and recycling criteria play the most important role. Secondly, the results indicate that the ecological product quality is generally more considered than the social product quality. This can be attributed to the fact that – in relation to the social dimension – ecological aspects are more concrete, based on scientific findings, and are therefore easier to implement (Hansen/Schrader 2001, p. 23). In addition, it seems that ecological issues are subjected to higher pressure and thus to higher awareness due to a higher extent of legal regulation. In turn, the pressure and awareness of social aspects is perceived as comparatively lower.

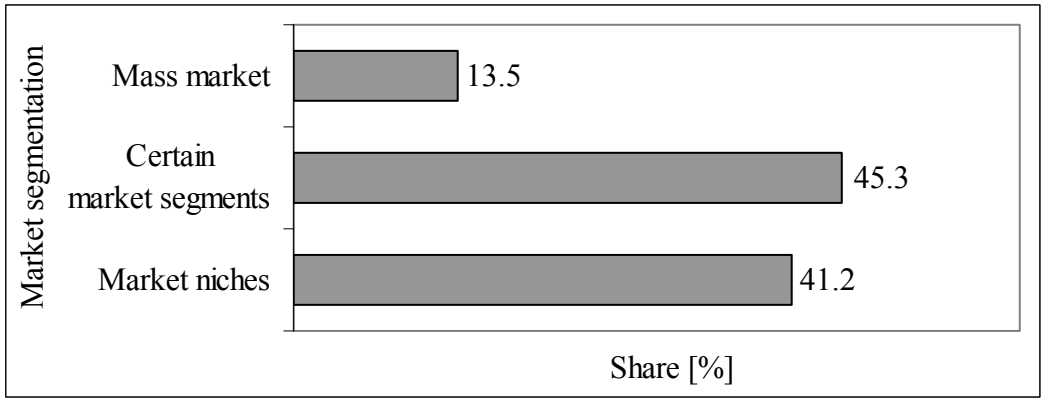
Market segmentation

Regarding the other three strategic aspects (i.e. market segmentation, targeting, and positioning), three parameter values have been stated in each case. In the case of the

market segmentation, the food processing companies have been asked to state where they sell their sustainable food products: either in the mass market, in certain selected market segments or within a market niche. Figure 5.3 presents the results, showing clearly that the majority of the food processing companies market their sustainable food products in market niches (41.2%) or selected market segments (45.3%). Only a small proportion aims for the mass market (13.5%).

This fact can be explained by means of the high number of small- and medium-sized businesses within the food processing industry (CIAA 2006b, p. 4). These food companies can serve only market niches and selected market segments due to their limited resources. The result is additionally supported by the fact that small specialised shops are still the dominant distributors of high quality organic food products which particularly cater for the socio-ecological niche (Gerlach/Spiller 2007, pp. 141-143).

Figure 5.3: Market segmentation in terms of sustainable food products (n = 362)

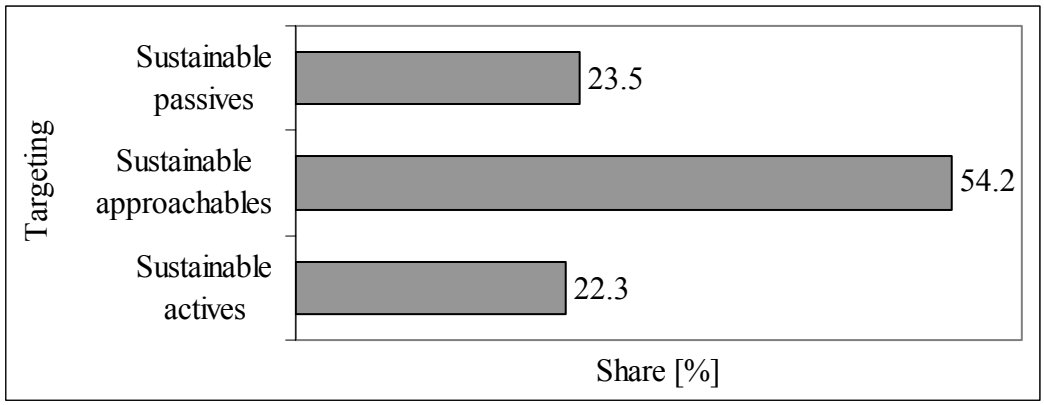


Targeting

Depending on the level of the consumer's socio-ecological consciousness, the food companies have also been asked to indicate their primary *target group* as the fourth strategic characteristic. Figure 5.4 provides the outcome. It can be seen that 22.3% of the SuM food companies aim at consumers with a high socio-ecological consciousness. They are also referred to as the 'sustainable actives'. 23.5% of the SuM food companies target the so-called 'sustainable passives', i.e. consumers with no particular level of socio-ecological consciousness. This leaves more than half (54.2%) of all participating food processing companies aiming at the target group of those that can be activated in terms of consuming sustainable food products ('sustainable approachables').

These findings are plausible due to the fact that the target group of the sustainable actives is limited or already fully developed respectively. Therefore, the present findings can be interpreted in accordance with the argument put forward by Enneking et al. (2004). They state that if the market for sustainable food products is to be enlarged, new consumer groups besides the traditional 'organic shopper' need to be developed (Enneking et al. 2004, pp. 273-275). Consequently, the consumer group of those that can be socio-ecologically activated forms a prospering target group which should be aimed at intensively in the future (Baranek 2007, pp. 67-68).

Figure 5.4: Targeting in terms of sustainable food products (n = 358)



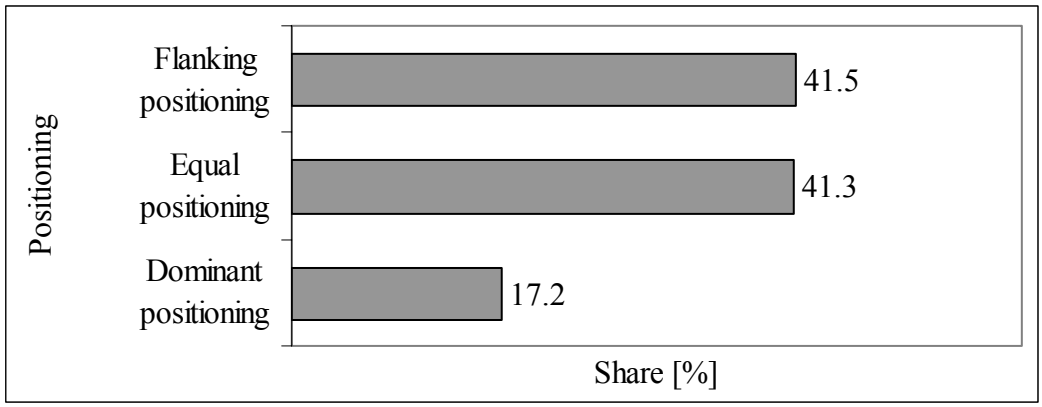
Positioning

The fifth and last aspect of strategic sustainability marketing which needs to be clarified is the extent of the socio-ecological *positioning*. The food companies have been asked to state the relevance of the socio-ecological product quality of their sustainable food products compared to price and performance. Figure 5.5 summarises the responses which show that the flanking (41.5%) and equal positioning strategy (41.3%) achieve almost equal frequencies. The dominant positioning strategy is only pursued by 17.2% of all SuM food companies.

However, in comparison to the empirical survey conducted by Belz (2005b) in Switzerland, the current results from Germany show higher shares in terms of equal and dominant positioning (Belz 2005b, p. 30). This finding can be explained by the fact that the study by Belz (2005b) involved all industries and not just the food industry. It can be assumed that an equal or a dominant positioning strategy respectively is used more frequently in the case of food products than for others products. Particularly in times when the German food market is no longer just dominated by the price but increasingly

seized by higher quality food products which is indicated amongst other things by the increasing sales of organic food products (BVE 2007e, p. 3), an equal or dominant positioning strategy seems useful.

Figure 5.5: Positioning of socio-ecological product quality (n = 361)



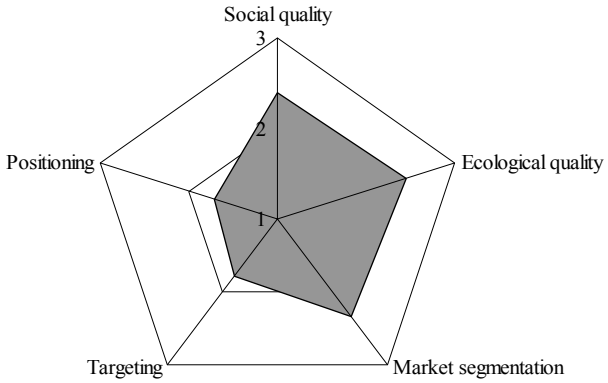
5.2.2 Identification and characterisation of sustainability marketing strategy types

After the general analysis of the five strategic aspects and their parameter values the data is now examined in terms of the identification of certain sustainability marketing strategy types ('SuM strategy types'). Is it possible to determine certain strategic patterns? What kind of sustainability marketing do the food processing companies follow: a 'reduced' sustainability marketing approach with only certain selected socio-ecological aspects or a profound, all-embracing sustainability marketing strategy? Are they more niche market-oriented or do they aim for the mass market? What are the corresponding target groups? And which positioning strategies are aimed at?

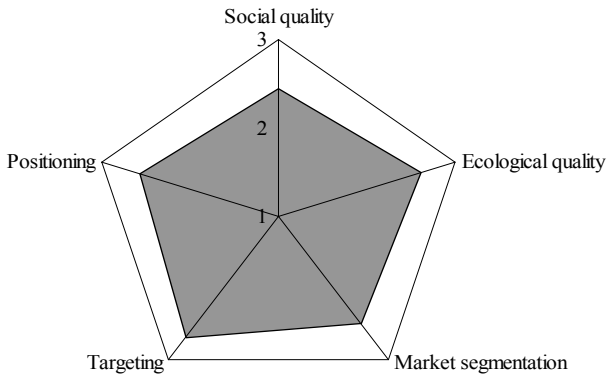
Using the hierarchical cluster method, 308 of the questioned food processing companies can be clustered in *four* different strategy types (see Appendix II, 5 for 'elbow criterion', Appendix II, 6 for the underlying coefficients, and Appendix II, 7 for corresponding means). In order to have a better overview of the specific cluster distinctions, the means of the strategic variables were entered into a coordinate system (figure 5.6). The further the lines run from the point of origin the more *specific* is the sustainability marketing strategy of the food processing companies in respect of high social and ecological product qualities, niche marketing, dominant positioning strategy as well as the addressing of sustainable active consumers.

Figure 5.6: Characteristics of SuM strategy types (N = 308)

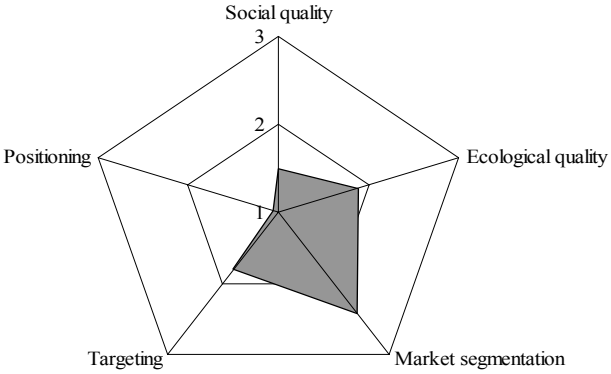
Cluster A (n = 122)



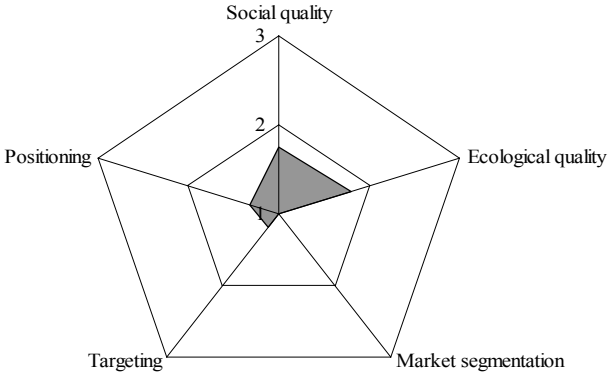
Cluster B (n = 84)



Cluster C (n = 71)



Cluster D (n = 31)



With regard to these five characteristics of strategic sustainability marketing, a brief description of the four SuM strategy types is provided, starting with the *quantitatively largest* cluster. This typology describes the four clusters particularly in terms of their *distinctive characteristics*.

Cluster A (n = 122)

39.6% of the questioned food processing companies belong to cluster A, thereby forming the largest cluster of the study. The food companies within this cluster are characterised by a high social and ecological product quality. They aim particularly for consumers with a certain and low socio-ecological consciousness respectively and market their food products in niches and selected market segments. Their high social and ecological product quality is positioned as equal or flanking compared to price and performance. Their *high socio-ecological product quality* and the orientation towards *selected market segments* are typical of the food processing companies within cluster A.

Cluster B (n = 84)

The second largest cluster, encompassing 27.3% of those surveyed, is distinguished by food processing companies for which product quality is both socially and ecologically of a very high standard along the entire value creation chain. They position their high product quality above performance and price, aim at consumers who have a comparatively high socio-ecological consciousness and especially sell their products in market niches. The key distinction criterion for cluster B is the particular *high socio-ecological product quality* as well as the *dominant positioning strategy* and the targeting of the *sustainable actives*.

Cluster C (n = 71)

Comprising 23.0% of the questioned food processing companies, cluster C forms the third largest cluster. The food companies in this cluster are marked by a low socio-ecological product quality, particularly in the case of the social product quality. If social and ecological product qualities are pooled together, the food companies within this cluster have the lowest product quality of all. However, they aim at consumers with a certain or low socio-ecological consciousness and market their food products primarily in market niches. In terms of positioning, the product quality is only used as a flanking attribute compared to price and performance. The main distinction criterion of cluster C is the *niche market strategy* and the *particularly low social product quality*.

Cluster D (n = 31)

10.1% of the participating German food processing companies belong to cluster D. The smallest of all four clusters consists of companies which process food products that have a comparatively medium to lower socio-ecological quality. In terms of positioning, this product quality only plays a flanking role compared to price and performance. These food processing companies strive for consumers who have no particular socio-ecological consciousness within the mass market. The *mass market strategy* as well as the targeting of the *sustainable passives* are distinctive for cluster D.

The comparison of the four strategy clusters and their distinctive characteristics leads to the following *specific names* and *qualitative order*: The food processing companies in cluster B perform above average in all five strategic dimensions. Therefore, they form the leading SuM strategy cluster and are called *'SuM Strategy Performers'*. A similar strategy is followed by the food companies in cluster A. They perform similarly with regard to the socio-ecological product quality and the niche market strategy. However,

they are less specific in their positioning and targeting strategy. Consequently, these food companies are termed *'SuM Strategy Followers'*. Food processing companies which do not seem to pursue a certain strategy are characteristic of cluster C. Neither an obvious premium nor a distinctive price strategy can be clearly detected (Porter 2004, pp. 34-44). In this way, these food processing companies appear to be 'stuck-in-the-middle' (Porter 2004, p. 41). This is why they will be referred to as *'SuM Strategy Indecisives'*. The smallest cluster D also makes up the final cluster as regards qualitative SuM strategy characteristics. The food processing companies in this cluster serve the mass market. They target the sustainable passives with no particular socio-ecological product quality. They will be called *'SuM Strategy Passives'* – a name expressive of this strategy. Table 5.2 gives a synopsis of the cluster labelling and its percentage within the sample. It should be pointed out that the attributed cluster names are used in a value-free manner, i.e. they do not indicate whether a certain SuM strategy type is superior to, or economically more successful than, the other SuM strategy types.[34] [35]

Table 5.2: Cluster naming and share

No.	Name	Cluster	Share [%]
1	SuM Strategy Performers	B	27.3
2	SuM Strategy Followers	A	39.6
3	SuM Strategy Indecisives	C	23.0
4	SuM Strategy Passives	D	10.1

The analysis of the strategic sustainability marketing characteristics and the results of the hierarchical cluster analysis lead to the conclusion that *hypothesis H_1* – i.e. the different strategic sustainability marketing directions of food processing companies can be characterised by means of distinctive SuM strategy types – can be *tentatively accepted*.

[34] To test the discriminatory power of the cluster analysis, a *discriminant analysis* has been carried out. By means of the classification results it can be seen that 94.5% of the originally grouped cases have been correctly classified (Appendix II, 8). With the aid of Wilks-Lambda statistic, it can be shown that all five strategic aspects divide the four clusters significantly ($\alpha \leq .000$***) (Appendix II, 9). Additionally, all three discriminant functions contribute significantly ($\alpha \leq .000$***) to the division of the clusters (Appendix II, 10; Appendix II, 11) (Bühl 2006, pp. 472-473). These results support the quality of the previously conducted hierarchical cluster analysis (Backhaus et al. 2006, pp. 179-185).

[35] In addition, in Appendix II, 12, the four SuM strategy types are presented in one figure in order to visualise the mean differences of each strategic characteristic. The corresponding table (Appendix II, 13) shows that most means differ significantly ($\alpha \leq .000$***) from one another (Mann-Whitney-U-test).
The non-parametric Mann-Whitney-U-test is used to compare the means and detect significant differences between the strategic variables of the different SuM strategy types. This test is suggested in cases in which the assumption of normal distribution cannot be maintained and in which an ordinal instead of an interval scale is given (Bühl 2006, p. 313). Most statistical validations in this study are carried out using the Mann-Whitney-U-test.

5.3 Operational sustainability marketing

Following the analysis of the strategic sustainability marketing characteristics, this section will now place its focus on the operational sustainability marketing characteristics, which is a combination of the four dimensions product quality, pricing, distribution, and communication. The socio-ecological product quality as requirement for sustainability marketing has already been discussed with respect to the different sustainability marketing strategies. Therefore, the focus is placed in this section exclusively on pricing (section 5.3.1), distribution (section 5.3.2), and communication (section 5.3.3). These operational sustainability marketing aspects are analysed in each section, firstly based on all SuM food processing companies (n = 362), and secondly distinguished by the four SuM strategy types (n = 308). In addition, an analysis of the implementation of selected sustainability marketing aspects is carried out (section 5.3.4).

The following questions are generally central to this section: How is the sustainability marketing mix pursued in the German food market? What specific sustainability marketing mix does each SuM strategy type use? Are there any significant differences in terms of pursued pricing, used distribution channels, and applied communication approach?

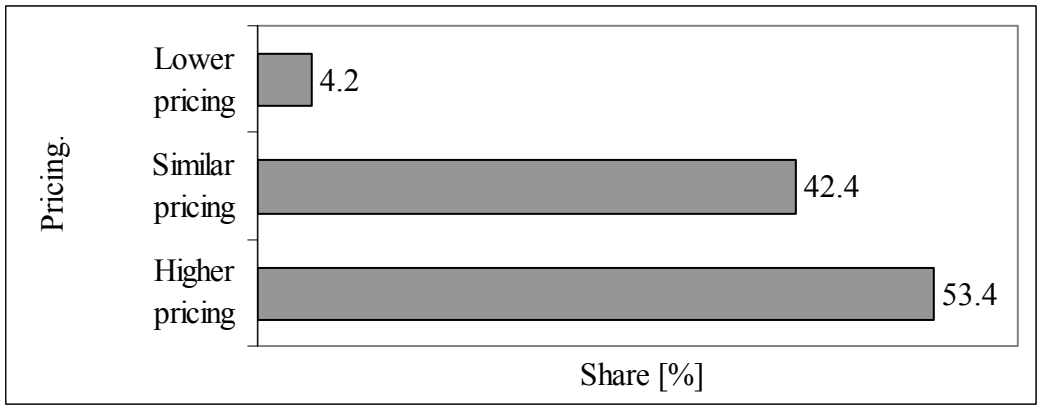
5.3.1 Pricing

The food processing companies have been asked to compare the pricing of their sustainable food products to competing conventional food products. The results are presented in figure 5.7. More than half of the sustainable food products (53.4%) are sold at a higher price than the competing conventional food products. 42.4% of the sustainable food products are marketed at a similar price. This leaves 4.2% of the quality food products which are sold at a lower price than competing conventional food products.

This finding accompanies the assumption that sustainable food products are predominatly marketed at a higher or a similar price than competing conventional food products since they offer a higher product quality. In these cases, the price clearly serves as a quality indicator (e.g. Jacoby et al. 1971, pp. 570-571; Dodds et al. 1991, pp. 307-319). An explanation for this higher or similar pricing can also be seen in the German food distribution system. Empirical research by Hamm/Gronefeld (2004)

strongly supported the hypothesis that in countries with a low share of total organic food sales in general food stores such as Germany, consumer prices premiums are higher (Hamm/Gronefeld 2004, p. 129).

Figure 5.7: Pricing of sustainable food products compared to competing conventional food products (n = 358)



In terms of the SuM strategy types the following statements can be made (figure 5.8). A higher pricing is particularly implemented by the SuM Strategy Performers (67.5%). Lower pricing (1.2%) is hardly an option for these food processing companies. This finding is conclusive with regard to their superior socio-ecological product quality and their target group of the sustainable actives who accept payment of a price premium.

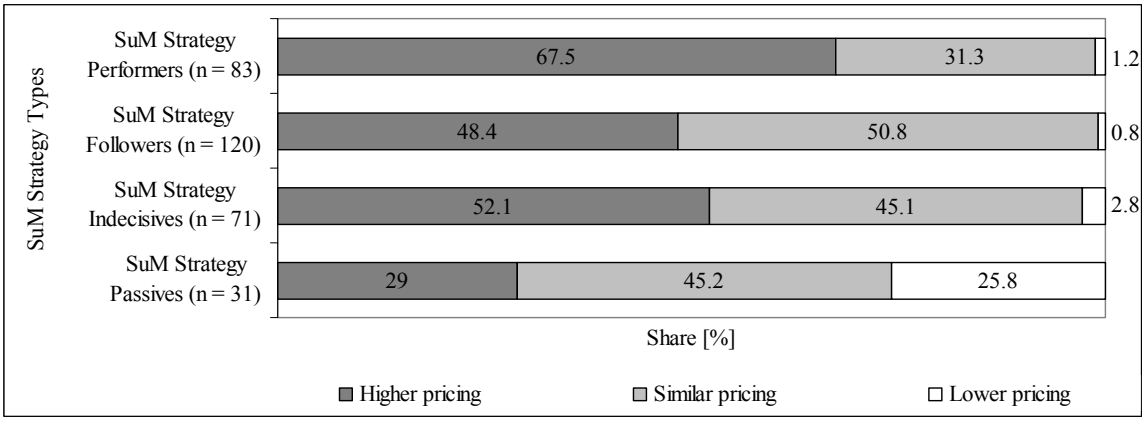
In contrast, only 29% of the SuM Strategy Passives pursue a higher pricing – a comparatively low amount. For these companies, similar or lower pricing constitute the primary options. Their pricing can be explained by the lower socio-ecological product quality on offer, the targeting of the socio-ecological passives, and the mass market strategy. The SuM Strategy Passives pursue a pricing strategy instead of a premium quality strategy.

The food companies belonging to the SuM Strategy Followers either chose higher (48.4%) or similar (50.8%) pricing. Also for these companies, lower pricing (.8%) does not form an option. As against the SuM Strategy Performers, the SuM Strategy Followers market their sustainable food products at a somewhat lower price but still at a comparatively high level compared to a competing conventional food product. With respect to the high socio-ecological quality of the food products processed and marketed by the SuM Strategy Followers, this finding makes sense.

The SuM Strategy Indecisives also adopt a higher (52.1%) or similar (45.1%) pricing strategy. These results, however, cannot be explained by their socio-ecological product

quality since it is comparatively low. One explanation for this pricing decision might lie in their niche market strategy in which they might be able to demand a higher market price (Villiger 2000, pp. 217-218). Nevertheless, their pricing strategy does not seem consistent regarding their comparatively low sustainable product quality. Thus, the SuM Strategy Indecisives also seem characteristically inconsistent in terms of pricing.

Figure 5.8: Share of pricing by SuM strategy type (N = 305)



Regarding the correlation between pricing and the SuM strategy types, the SuM Strategy Performers correlate in a significantly positive fashion with higher pricing (r = .19***) whereas the SuM Strategy Passives show a significant relationship to lower pricing (r = -.22***) (Appendix II, 14)[36]. With respect to their means (Mann-Whitney-U-test), the SuM Strategy Performers ($\bar{x}$ = 2.66)[37], Indecisives ($\bar{x}$ = 2.49), and Followers ($\bar{x}$ = 2.48) differ significantly ($\alpha \leq .003$**) from the pricing of the SuM Strategy Passives ($\bar{x}$ = 2.03). Moreover, the SuM Strategy Performers differ as well from the SuM Strategy Followers (α = .008**) and Indecisives (α = .049*) (Appendix II, 15). This testing statistically validates the previous statements and allows for the assumption that the SuM Strategy Passives pursue a pricing strategy whereas the SuM Strategy Performers use a premium quality strategy.

Considering these statistical tests of the means and correlation coefficients, *hypothesis $H_{2/1}$* – i.e. specific sustainable food products are sold for a higher price since they offer a higher value-added – can be *tentatively accepted*.

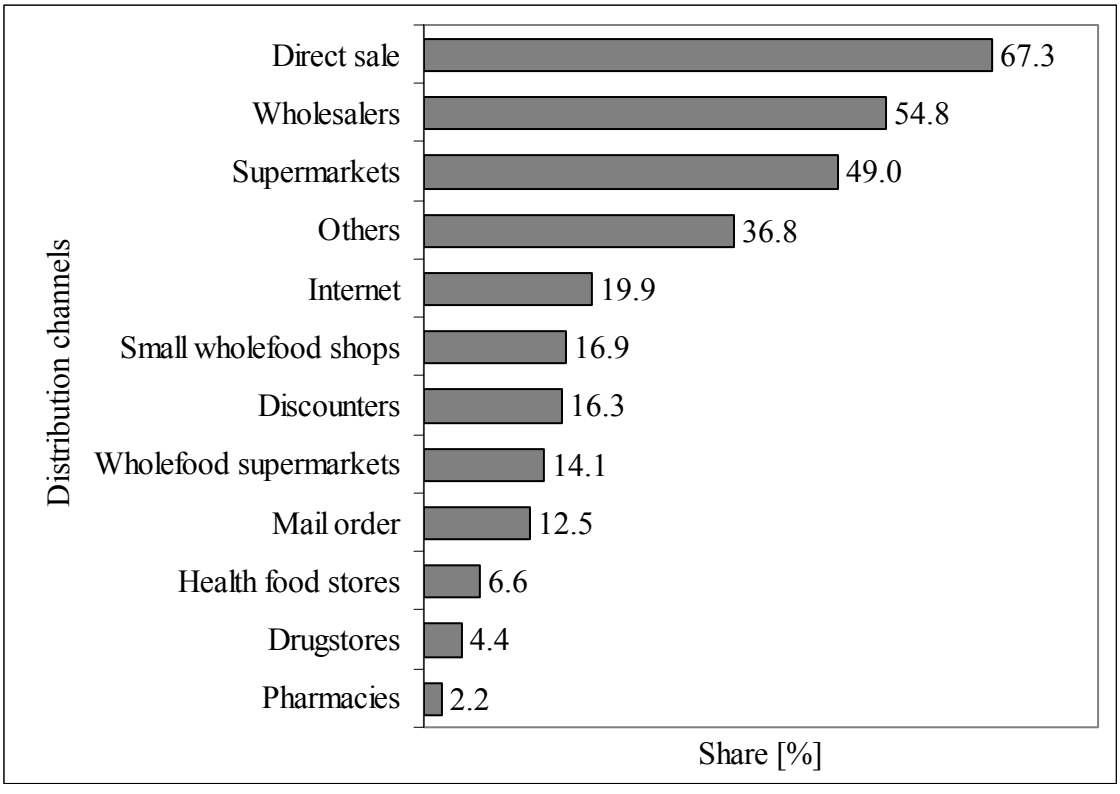
[36] For the Spearman-rank-correlation-test the SuM Strategy Performers are coded '1' whereas the other SuM strategy types are coded '0'. For the other SuM strategy types this procedure is repeated analogously. In doing so, correlations between a certain SuM strategy type and a certain marketing mix aspect can be detected.

[37] Item means based on three-point scales (1: lower pricing; 3: higher pricing).

5.3.2 Distribution

With regard to the used distribution channels twelve different channel options have been given to the food processing companies. The respondents could mark as many distribution channels as are applicable to their sales structure. Figure 5.9 shows the results of this question. More than half of all questioned food companies primarily use three distribution channels: direct sale (67.3%), wholesalers (54.8%), and supermarkets (49.0%). The importance of direct sales can be ascribed to the high number of small- and medium-sized food processing companies which market their sustainable food products directly to the consumer without so-called 'middlemen'. These main channels are followed by the internet (19.9%), small wholefood shops (16.9%), discounters (16.3%), wholefood supermarkets (14.1%), and mail order (12.5%) as further applied ways of distribution. The channels which are least used are health food stores (6.6%), drugstores (4.4%), and pharmacies (2.2%).

Figure 5.9: Used distribution channels in the German food market (n = 361)

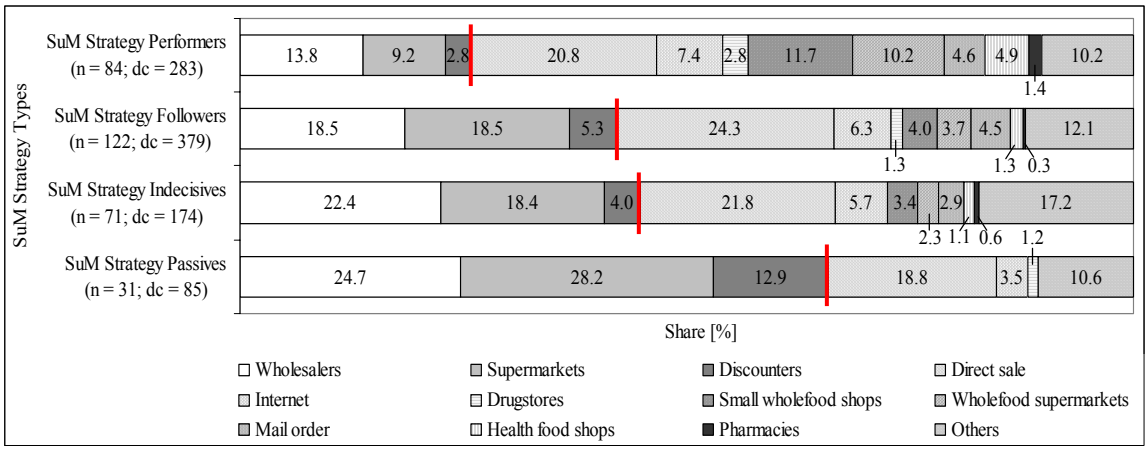


Direct sale still dominates the sustainable food processing industry as distribution channel. However, the extent to which each distribution channel is used does not enable a conclusion about the market share of this particular channel. Discounters and wholefood supermarkets for example have gained in importance as distribution channels for

sustainable food products in recent years.[38] In 2005 the market share of supermarkets and discounters amounted to more than 40% whereas the market share for direct sale accounted merely for 10.1% (Herrmann 2006, p. 21).

The distinction by SuM strategy type shows that the SuM Strategy Performers practice a kind of multi-channel distribution compared to the other SuM strategy types in general and to the SuM Strategy Passives in particular (figure 5.10). Besides the three leading distribution channels listed above (direct sale (20.8%), wholesalers (13.8%), and supermarkets (9.2%)), they particularly market their sustainable food products through smaller and more specific distribution channels such as small wholefood shops (11.7%), wholefood supermarkets (10.2%), and health food shops (4.9%). They also make more use of the internet (7.4%) and mail order (4.6%) to sell their sustainable food products.

Figure 5.10: Share of used distribution channels by SuM strategy type (N = 308/DC = 921)[39]



Regarding the first three distribution channels in figure 5.10 (wholesalers, supermarkets, and discounters), the following findings can be made to support the statement above: Whereas the SuM Strategy Performers market only 25.8% of their sustainable food products through these three distribution channels, the SuM Strategy Passives sell

[38] If the market development (1980-2007) of sustainable food products in general and of organic food products in particular is considered in terms of their distribution structure, it can be observed that until the second half of the 1990s organic food products were distributed through direct sale and small wholefood shops. At that time conventional food retailers started to begin to distribute organic food products. With increasing range, the demand also grew, particularly intensified by food scandals at the beginning of the new millennium. After a short period of consolidation (2002-2003) the demand increased again in double figures and at the end of the year 2003 all discounter chains entered the German market for sustainable food products and wholefood supermarkets were increasingly established (cf. Belz 1998b, pp. 26-27 for the Swiss market development and BLE 2006b, pp. 2-3 for the German market development; cf. also Belz 2001, pp. 148-150).

[39] DC = number of used distribution channels applied by all SuM strategy types; dc = number of used distribution channel applied by one particular SuM strategy type

65.8% of their food products through these more common and larger distribution channels. It is likely that the SuM Strategy Performers – as producers of sustainable food products of a high socio-ecological quality – need to market their food products through a higher number of smaller distribution channels. This is the case since they aim at the market niche and the target group of the sustainable actives which buy most of their food products in small wholefood shops and wholefood supermarkets.

In contrast, the SuM Strategy Followers and Indecisives pursue a kind of 'selected-channel' distribution. They both cannot be clearly assigned to the one or the other distribution focus – i.e. either multi-channel distribution (SuM Strategy Performers) or 'common-channel' distribution (SuM Strategy Passives). However, compared to the SuM Strategy Indecisives, the Followers lean towards a multi-channel distribution. This becomes even more so the case when the average number of distribution channels per SuM strategy type[40] is scrutinised. Whereas the SuM Strategy Performers and Followers pursue on average 3.4 and 3.1 different distribution channels respectively, the SuM Strategy Indecisives and Passives use about 2.5 and 2.7 distribution channels respectively. On average, every food processing company markets its food products via 3.0 distribution channels.

Looking at the means and correlation coefficients between the applied distribution channels and the SuM strategy types, the statements made above can be statistically verified (table 5.3). The SuM Strategy Performers correlate in a significantly positive manner with a high number of smaller, more specific distribution channels such as small wholefood shops (r = .35***), wholefood supermarkets (r = .33***), health food stores (r = .24***), drugstores (r = .15***), and pharmacies (r = .13*). By making less use of common distribution channels and thereby supporting the results above, the SuM Strategy Performers correlate negatively with the distribution channel supermarkets (r = -.23***). In contrast, the SuM Strategy Passives affect larger, more common distribution channels such as discounters (r = .19***) and supermarkets (r = .19***) and therefore correlate positively with them. This is also indicated by the negative correlation between the SuM Strategy Passives and the comparatively smaller distribution channels of small wholefood shops (r = -.15**), wholefood supermarkets (r = -.14*), and mail order (r = -.12*). As stated above, the remaining two SuM strategy types cannot be

[40] Average number of distribution channels per SuM strategy type $= \frac{n}{dc}$.

categorised as clearly. The SuM Strategy Followers particularly favour the distribution channels of direct sale (r = .15**) and supermarkets (r = .13*), but treat small wholefood shops (r = -.11*) less favourably. They seem to distribute their sustainable food products through less specific distribution channels compared to the SuM Strategy Performers. For the SuM Strategy Indecisives no particular distribution channel is preferred. In particular, they correlate negatively to smaller distribution channels like direct sale (r = -15**), wholefood supermarkets (r = -.15*), small wholefood shops (r = -.13*), and drugstores (r = -.12*).[41] A specific distribution strategy cannot be ascribed to the SuM Strategy Indecisives, which again exposes their difficult character.

Table 5.3: Means and correlation coefficients between applied distribution channels and SuM strategy types (Spearman-rank-correlation-test) (N = 308)

Applied distribution channels[42]	SuM strategy types							
	SuM Strategy Performers		SuM Strategy Followers		SuM Strategy Indecisives		SuM Strategy Passives	
	$\bar{x}$	r	$\bar{x}$	r	$\bar{x}$	r	$\bar{x}$	r
Direct sale (n = 205)	.70	.05	.75	**.15****	.54	**-.15****	.52	-.11
Wholesalers (n = 169)	.46	-.10	.57	.04	.55	.00	.68	.09
Supermarkets (n = 152)	.31	**-.23*****	.57	**.13***	.45	-.05	.77	**.19*****
Internet (n = 58)	.25	.10	.20	.02	.14	-.07	.10	-.08
Small wholefood shops (n = 54)	.39	**.35*****	.12	**-.11***	.08	**-.13***	.00	**-.15****
Discounters (n = 46)	.10	-.09	.16	.03	.10	-.08	.35	**.19*****
Wholefood supermarkets (n = 47)	.35	**.33*****	.11	-.09	.06	**-.15***	.00	**-.14***
Mail order (n = 35)	.15	.08	.14	.07	.07	-.08	.00	**-.12***
Health food stores (n = 21)	.17	**.24*****	.04	-.09	.03	-.09	.00	-.09
Drugstores (n = 14)	.10	**.15****	.04	-.02	.00	**-.12***	.03	-.02
Pharmacies (n = 6)	.05	**.13***	.01	-.07	.01	-.02	.00	-.05
Others (n = 114)	.35	-.03	.38	.01	.42	.06	.29	-.06

[41] An additional Mann-Whitney-U-test confirms these findings by showing a number of significant differences between the means of the SuM strategy types (Appendix II, 16).
[42] For all applied distribution channels, the following coding is used: 0: No; 1: Yes.

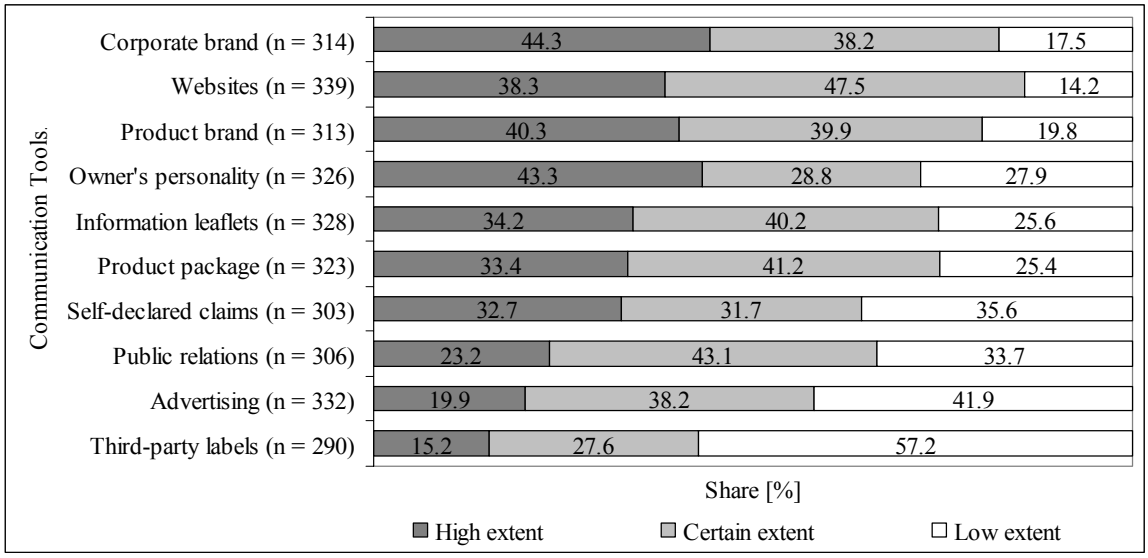
Considering these significant correlations between the number and kinds of used distribution channels and the four SuM strategy types, *hypothesis* $H_{2/2}$ – i.e. specific sustainable food products are marketed through numerous smaller distribution channels which address only selected target groups – can be *tentatively accepted*.

5.3.3 Communication

Signalling credibility

Figure 5.11 reflects the usage of different communication tools with respect to their perceived ability to signal credibility due to the information asymmetry which accompanies socio-ecological product quality aspects.

Figure 5.11: Usage of communication tools to signal credibility (N = 362)



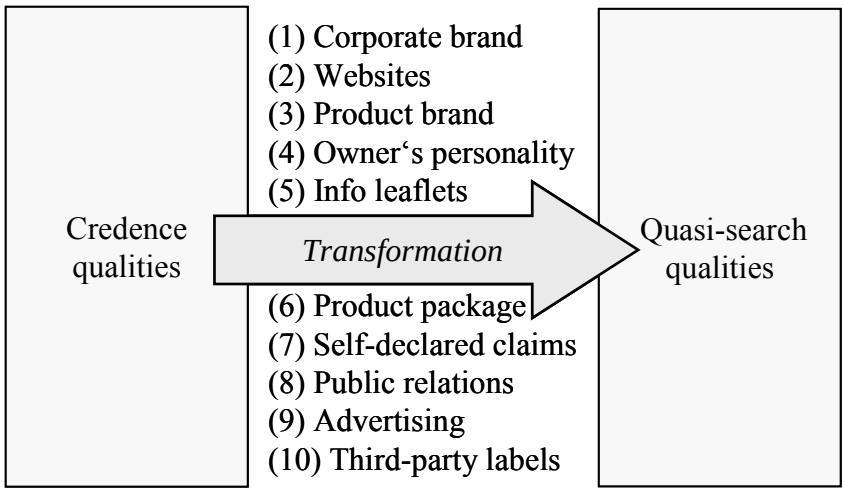
The figure shows the communication instruments organised according to their means.[43] The corporate brand ($\bar{x}$ = 2.27), websites ($\bar{x}$ = 2.24), and the product brand ($\bar{x}$ = 2.20) are mostly applied in order to signal credibility regarding the socio-ecological product quality. These communication tools are followed by the owner's personality ($\bar{x}$ = 2.15), information leaflets ($\bar{x}$ = 2.09), and the product package ($\bar{x}$ = 2.08) which are also often used to build up trust in consumers and to reduce information asymmetries. In contrast, self-declared claims ($\bar{x}$ = 1.97), public relations ($\bar{x}$ = 1.90), conventional advertising ($\bar{x}$ = 1.78), and third-party labels ($\bar{x}$ = 1.58) are the least used to signal credibility. A statistical comparison (t-test) shows significant differences between these

[43] Item means based on three-point scales (1: low extent; 3: high extent).

means. All communication tools except websites and product brand are significantly ($\alpha \leq 000$*** and $\alpha = .014$* respectively) less used to signal credibility than the reference communication instrument, i.e. corporate brand (Appendix II, 17).

A preliminary, qualitative study by Karstens/Belz (2006) has evaluated from an expert's perspective which communication tools are credibly implemented by selected German food processing companies to reduce information asymmetries (Karstens/Belz 2006, pp. 189-211). In a continuation of this preliminary study, the quantitative SuM research study now aims at *ranking* these communication tools according to their extent of implementation. Such a ranking provides information about the actual usage of communication instruments in connection with sustainable food products. To the original six communication instruments explored in the preliminary study, four further communication tools have been added: conventional advertising, product package, public relations, and information leaflets. The ranking is conducted according to the mean. The extent of implementation decreases from the communication tool ranked (1) to the communication tool ranked (10) (figure 5.12).

Figure 5.12: Transformation of credence into quasi-search qualities by signalling: rated implementation of communication tools



(Adapted and extended from: Karstens/Belz 2006, p. 203)

The *corporate brand* is most commonly used by German food processing companies to signal credibility and transform credence into quasi-search qualities. Independent of its size, every company has some kind of corporate brand name. Due to limited financial and personnel resources, small- and medium-sized companies, which dominate the German food processing industry, can often not implement a marketing department or

engage the services of an external marketing agency. Consequently, the corporate brand seems to be the most appropriate communication tool for transforming credence into quasi-search qualities. If the corporate brand is credible, stakeholder-oriented, transparent, beneficial, and if it is associated with sustainability-oriented brand identity and sustainability performance, this 'corporate sustainability branding' leads to the company appearing trustworthy and to it not having to fear negative effects on its reputation (Hermann 2005, pp. 232-238). Therefore, from a (small- and medium-sized) company's perspective this communication tool seems to hold a very high potential for building up trust in consumers. However, if food products are unbranded and displayed in the grocery stores – which often applies to fruit and vegetables as well as freshly packed meat and cheese products – it becomes 'much more difficult for the consumer to form quality expectations' because of the missing brand name (Grunert 2002, p. 277). In these cases, other signalling instruments might come into effect.

Interestingly, the second most applied communication instrument is the internet, meaning specifically the company's *websites*. This platform seems to become more and more important for food processing companies in providing additional information to different customers. At the same time it is also of growing significance for the consumers with regard to collecting supplementary information (Nilsson et al. 2004, p. 523). Reasons for the intensive usage of the company's websites can be found in its low-cost appliance and maintenance from a corporate perspective as well as in the opportunity of it being conveniently accessed at any time and (almost) any place from a consumer's perspective. The main disadvantage, however, is that the consumers need to individually seek this information (Karstens/Belz 2006, p. 203). Some food companies have already developed innovative and informative web tools which are able to reduce complex information such as socio-ecological product impacts to plain but emotive rating systems that are easy to understand for all customers. However, besides the fact that the internet makes information available to the consumers, it also provides the opportunity for interaction between the producers and the consumers, e.g. within web blogs and online communities: 'This two-way dialogue helps firms to progressively learn about and from individual and groups of customers' (Sawhney et al. 2005, p. 6). These kinds of interactive communication tools reduce, on the one hand, the gap between the producers and the consumers (Bartl et al. 2004, p. 145) and, on the other hand, form additional information generators and distributors – to the extent that

customers are engaged in collaborative product innovations through a variety of internet-based mechanisms (on the discussion of the internet as platform for customer engagement in product innovation, see e.g. Sawhney/Prandelli 2000, pp. 24-54; Dahan/Hauser 2002, pp. 332-353; Bartl et al. 2004, pp. 141-166; Sawhney et al. 2005, pp. 4-17; Füller et al. 2006, pp. 435-453).

The *product brand* is ranked third in terms of its usage by food processing companies to signal credibility. This result is not surprising if it is taken into account that the underlying function of brand names 'is to give the consumers information about product quality' (Rao/Ruekert 1994, p. 88). In favour of this assumption, the positive influence of brand names on perceived product quality has already been examined and assessed by a number of previous studies (e.g. Jacoby et al. 1971, pp. 570-579; Dodds et al. 1991, pp. 307-319; Hite et al. 1991, pp. 115-121; Srinivasan/Till 2002, pp. 417-431). Branded food products generally tell 'the consumers who the manufacturer […] is, and whom to punish should the product not perform as expected' (Rao/Ruekert 1994, p. 89). Therefore, brand names can be interpreted as quality assurances which again lead to the assumption that branded food products are 'less likely to debase quality than unbranded products' (Rao/Ruekert 1994, p. 89; Srinivasan/Till 2002, p. 419).

Another informative finding is that the *owner's personality* is also applied to a high extent to signal credibility (ranked fourth). The market of organic food products has been particularly promoted by persons with specific normative ideas and less by political exertion of influence (Brand 2007, p. 141). It can be assumed that this is a phenomenon of the food processing industry which is characterised by a high number of family-owned SMEs. The owner therefore acts as a guarantor for the promised product quality.

A comparatively moderate application is found with regard to the communication tools of information leaflets and product package (ranked fifth and sixth). These rather conventional communication tools are used to a certain extent by food processing companies to signal credibility. *Information leaflets* are particularly useful at the point-of-sale and for consumer groups which are not particularly computer literate. However, it can be assumed that this kind of flyer will be increasingly substituted by the internet as a more contemporary and animating information provider. The present findings – that websites are applied to a higher extent than information leaflets – can already be interpreted as a sign of this development.

Product package is primarily used to contain and protect the product. More recently, product packaging has turned into a key marketing tool which is the 'seller's last chance to influence buyers' (Kotler/Armstrong 2004, p. 286). However, its application for the purposes of signalling credibility is rather moderate. This might be due to the fact that the product package actually 'carries' others communication instruments such as the corporate and product brands, third-party labels, and self-declared claims and is therefore not regarded as a separate tool.

Communication instruments which are applied to a lesser extent to transform credence into quasi-search qualities are self-declared claims, public relations, conventional advertising, and third-party labels (ranked seventh to tenth). There are a number of possible barriers which can be used as explanations for these findings. Regarding *self-declared claims* (ISO Type II), the highest barrier is probably the fact that the claims need to be absorbed by the consumers. Therefore, they form a long-term investment which does not pay off right away. The self-declared claims need to be established and maintained by the food company, which is an elaborate, complex and thereby often an expensive task. However, self-declared claims are applied to a higher extent by the food processing companies than third-party labels. From the perspective of the theory of information economics, this result is to some extent surprising since self-declared claims are assumed to be less appropriate for signalling credibility to the consumer than third-party labels due to their lack of external control. Yet the producers of sustainable food products seem to attach less weight to the disadvantages of self-declared claims as to the disadvantages of third-party labels (see below).

Concerning *public relations* it is not particularly unexpected that this communication instrument is not applied to a higher extent since it is often described as a 'marketing stepchild' (Kotler/Armstrong 2004, p. 516). Especially SMEs misunderstand and misjudge the opportunities of public relations activities (Moss et al. 2003, pp. 197-210). They have not yet realised the potential of public relations as a kind of 'third-party communication' to credibly communicate socio-ecological product qualities for little money (Kotler/Armstrong 2004, pp. 516-517).

In terms of *conventional advertising* it can be assumed that it is less applied because of its comparatively high costs (Kotler/Armstrong 2004, p. 516) and because it is the primary application for the mass market. Both aspects form limitations to SMEs' ability to use advertising to a higher extent. Additionally, in terms of content, advertising is not

really qualified to transport credible information regarding socio-ecological food product qualities – amongst other things because of its deceptive practice (Ford et al. 1990, pp. 433-441; Kotler/Armstrong 2004, p. 629).

The communication instrument least used to signal credibility is *third-party labels* (ISO Type I). This is to some extent surprising since third-party labels especially promise to signal credibility due to their being awarded by independent institutions. However, from a company's perspective, they also have a number of limitations such as payable annual fees, decreasing competitive advantage due to excessive application, and possible negative spillover effects if competitors misuse the label or are involved in a food scandal (Karstens/Belz 2006, p. 200). Additionally, from a consumer's perspective, third-party labels are often ignored due to a lack of knowledge and awareness. Furthermore, they are often misconceived and overinterpreted in terms of their quality perception (Morris et al. 1995, pp. 328-350; Tootelian/Ross 2000, pp. 25-38).
With respect to third-party labels, Belz (2001) differentiates four market situations: (1) there is no third-party label for that particular product or field of application; (2) there is a third-party label which is universally approved but only known by a minority of the consumers; (3) there is a third-party label which is universally approved and at the same time is well known by the majority of the consumers; and (4) there are a number of different third-party labels which compete with each other (Belz 2001, p. 162). To credibly communicate the socio-ecological product quality to the customers and therefore to transform credence qualities into a quasi-search qualities, the third market situation is – from the perspective of information economics – ideal. However, if one of the other three market situations exists on the market for sustainable food products, food processing companies will have to take action in order to counteract market failure, i.e. if credence qualities are not transformed into quasi-search qualities and mistrust and uncertainty determine the market (Belz 2001, pp. 162-171). It can be assumed that in the case of the German food industry, the comparably minor implementation of third-party labels as a communication tool to signal credibility and trust can be explained by the fact that in Germany there are a large number of competing third-party labels (fourth market situation): besides the German national 'Bio-Siegel', there are the different labels of nine German cultivation organisations[44]. Additionally, there is a European label identifying food from organic agriculture, several regional labels indicating food

[44] Biokreis, Bioland, Biopark, Demeter, Ecoland, Ecovin, Gäa, Naturland, Verbund Ökohöfe

from a particular region, and third-party labels for specific types of foods such as fish from sustainable fisheries (i.e. Marine Stewardship Council (MSC)). As a consequence of this label overload, the consumers are rather confused and uncertain as to which label to trust. The empirical results show that the food processing companies are comparatively hesitant and pessimistic about third-party labels despite their great importance in overcoming information asymmetries. Therefore, it needs to be the goal of food processing companies to intensify the promotion of an (existing) third-party label to reduce uncertainty and mistrust within the German food industry (Belz 2001, p. 170).

Following the ranking, the focus will now be placed on the specific usage of the communication tools distinguished by SuM strategy type. Table 5.4 shows the means and correlation coefficients between the used communication tools and the different SuM strategy types. It reveals a number of significant distinctions regarding the implementation of specific communication tools to signal credibility. Generally, it can be observed that the means for the communication tools of each SuM strategy type proceed quite similarly but on different levels with regard to extent (Appendix II, 18). The relation can be described as follows: the higher the socio-ecological product quality, the higher is the extent to which the communication tools are used to signal credibility. Therefore, it can be assumed that the need to indicate credibility is dependent on the degree of socio-ecological complexity of the food product quality.
Specifically the SuM Strategy Performers use a multitude of communication tools to a high extent in order to signal credibility. Particularly due to their dominant positioning strategy, it is essential for them to appear credible and to build up even more trust in the consumer. The intensive usage of the owner's personality ($\bar{x}$ = 2.40) is for example specific to the SuM Strategy Performers. No other strategy type uses this communication tool to a comparably high extent in order to signal credibility. The SuM Strategy Followers pursue a similar usage of communication tools, but to a somewhat lower extent. The only communication instrument which is used to a higher extent by the SuM Strategy Followers compared to the Performers is conventional advertising ($\bar{x}$ = 1.85).
In contrast, the SuM Strategy Indecisives which have the lowest product quality of all four strategy types do not use any communication tool to a high extent. Basic communication instruments such as websites ($\bar{x}$ = 2.09), information leaflets ($\bar{x}$ = 1.94), and the product package ($\bar{x}$ = 1.91) are implemented to a certain extent. In particular, third-party labels ($\bar{x}$ = 1.36), conventional advertising ($\bar{x}$ = 1.63), and self-

declared claims ($\bar{x}$ = 1.69) are hardly used. Since they have no particular socio-ecological product quality, the SuM Strategy Indecisives do not seem to see the necessity and urgency to credibly communicate any product quality – especially if it involves any follow-up costs as is the case with third-party labels. These findings are already intrinsically expressed in their flanking positioning strategy. A similar implementation of communication tools can be observed in terms of the SuM Strategy Passives. However, it is distinctive of the SuM Strategy Passives that they use – in comparison to the other strategy types – conventional advertising ($\bar{x}$ = 1.93) the most. This can be explained by their mass market strategy.

Table 5.4: Means and correlation coefficients between used communication tools to signal credibility and SuM strategy types (Spearman-rank-correlation-test) (N = 308)

Used communication tools[45]	SuM strategy types							
	SuM Strategy Performers		SuM Strategy Followers		SuM Strategy Indecisives		SuM Strategy Passives	
	$\bar{x}$	r	$\bar{x}$	r	$\bar{x}$	r	$\bar{x}$	r
Corporate brand (n = 279)	2.44	**.19****	2.35	.11	1.89	**-.25*****	2.00	-.11
Websites (n = 294)	2.38	**.14***	2.25	.01	2.09	**-.12***	2.10	-.07
Product brand (n = 279)	2.30	**.12***	2.27	.11	1.84	**-.23*****	2.07	-.05
Owner's personality (n = 292)	2.40	**.20*****	2.16	.02	1.88	**-.17****	1.93	-.09
Information leaflets (n = 290)	2.31	**.19****	2.06	-.02	1.94	-.10	1.82	-.11
Product package (n = 291)	2.27	**.17****	2.05	-.02	1.91	-.11	1.90	-.07
Self-declared claims (n = 277)	2.20	**.19****	2.04	.08	1.69	**-.18****	1.52	**-.17****
Public relations (n = 276)	2.07	**.13***	1.92	.01	1.76	-.11	1.79	-.05
Advertising (n = 291)	1.73	-.05	1.85	.09	1.63	-.11	1.93	.07
Third-party labels (n = 268)	1.71	**.13***	1.59	.05	1.36	**-.15***	1.45	-.05

The relations described above are statistically supported by a number of significant correlations between the used communication tool and the SuM strategy types. The Spearman-rank-correlation-test finds positive relationships between the SuM Strategy

[45] For all used communication tools the following coding is applied: 1: low extent; 3: high extent.

Performers and the high usage of communication tools such as the owner's personality (r = .20***), corporate brand (r = .19**), information leaflets (r = .19**), self-declared claims (r = .19**), product package (r = .17**), websites (r = .14*), public relations (r = .13*), third-party labels (r = .13*), and product brand (r = .12*). In contrast, the SuM Strategy Indecisives significantly correlate with the low usage of a number of communication tools. These communication instruments are corporate brand (r = -.25***), product brand (r = -.23***), self-declared claims (r = -.18**), the owner's personality (r = -.17**), third-party labels (r = -.15*), and websites (r = -.12*). Additionally, the SuM Strategy Passives also correlate negatively with the usage of self-declared claims (r = -. 17**).[46] One salient finding is that the SuM Strategy Indecisives shows particular reluctance to communicate credibility by means of their corporate and product brand. This can be interpreted as a lack of strength in terms of their corporate and product brands. As a consequence of these empirical findings, it can be assumed that these brands are not clearly positioned in the market for sustainable food products and that they are often dominated by retailers.

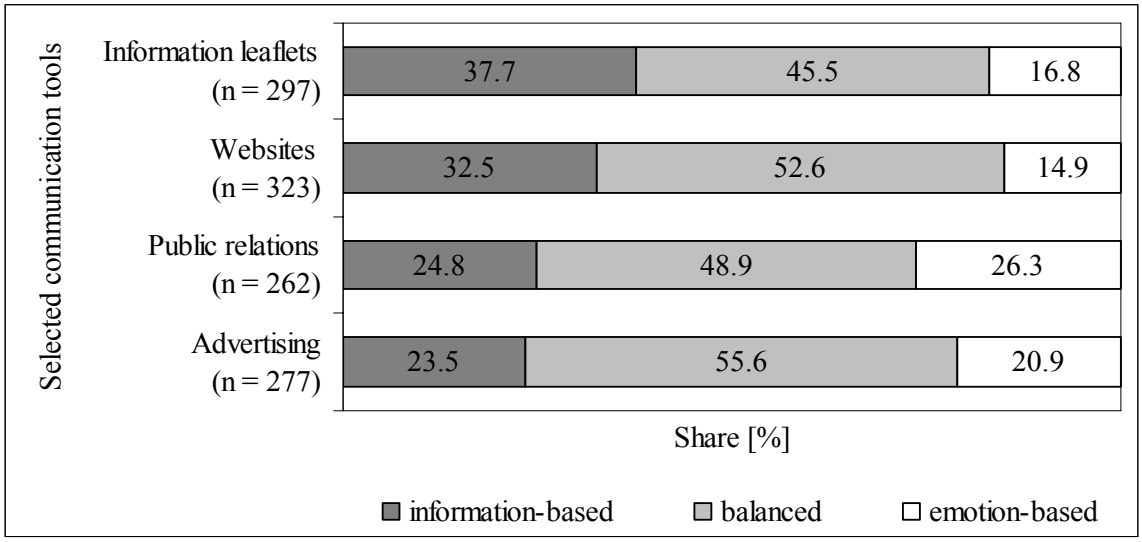
Considering these significant findings the *first part of hypothesis* $H_{2/3}$ – that some communication tools are applied to a greater extent than others to build up trust in the consumer – can be *tentatively accepted*. Furthermore, the *second part of hypothesis* $H_{2/3}$ – that in the case of specific sustainable food products, communication tools are applied to a greater extent to signal credibility – can also be *tentatively accepted*.

Information versus emotion

Another communication aspect which is specific to the marketing of sustainable food products is the conflict between providing credible informational and emotional stimuli. In the context of conventional advertising, PR activities, information leaflets, and websites, the food processing companies express their orientation of the communication tools from information-based to emotion-based. It can be observed that information leaflets ($\bar{x}$ = 2.21)[47], websites ($\bar{x}$ = 2.18), and conventional advertising ($\bar{x}$ = 2.03) seem to be more information-based in contrast to public relations ($\bar{x}$ = 1.98) which tend to be comparatively emotion-based (figure 5.13).

[46] An additional Mann-Whitney-U-test confirms these findings by showing a number of significant differences between the means of the SuM strategy types (Appendix II, 19).
[47] Item means based on three-point scales (1: tends to be based on emotions; 2: balanced; 3: tends to be based on information).

Figure 5.13: Communication between information and emotion (N = 362)



A statistical mean comparison (t-test) indicates significant differences regarding the emotion- and information-based usage of these communication tools (Appendix II, 20). Taking information leaflets as a reference communication tool, advertising and public relations differ significantly ($\alpha \leq .000$***) from information leaflets whereas websites do not show significant differences. This indicates that information leaflets and websites are more information-based in comparison to public relations and advertising.

The findings can be explained in the way that with respect to sustainable food products information leaflets and websites are mainly used to deliver additional product and corporate information to the consumers (e.g. Kotler/Armstrong 2004, pp. 86-87). Advertising is applied to inform and persuade the customers to make a positive buying decision by using comparatively more emotional stimuli. With respect to low involvement products such as food products, a trend towards more emotional advertising has generally been noticed over recent years (e.g. Becker 2006, pp. 577-578). Public relations as a communication tool is also comparatively more emotional-based in terms of sustainable food products. A possible explanation could be that in order to have a stronger impact on the public awareness, rather emotional stories are given to the media instead of informational ones (e.g. Kotler/Armstrong 2004, pp. 515-519). However, it needs to be kept in mind that almost half of all SuM food companies marked that the four communication tools are neither information- nor emotion-based. But that they are rather balanced in their usage of either informational or emotional stimuli.

When differentiating between the four SuM strategy types, there are no significant correlations between the information- and emotion-based implementation of certain communication tools and the SuM strategy types. This finding leads to the assumption that the complexity of the socio-ecological product quality no longer explicitly demands the usage of information-based communication tools.

With regard to these findings the *first part of hypothesis* $H_{2/4}$ – that some communication tools are more information-based, some more emotion-based in terms of the marketing of sustainable food products – can be *tentatively accepted*. However, there *are no significant findings* which support the *second part of hypothesis* $H_{2/4,}$ i.e. that in the case of specific sustainable food products, communication tools are used in a more information-based than an emotion-based manner. Therefore, it *cannot be tentatively accepted*.

Motive alliances

The last aspect of the sustainability marketing mix that is to be examined is the extent to which food processing companies combine socio-ecological marketing aspects with conventional marketing aspects such as taste, freshness, convenience, and cost savings in their communication.

Figure 5.14: Usage of motive alliances as communication tool in the case of sustainable food products (n = 360)

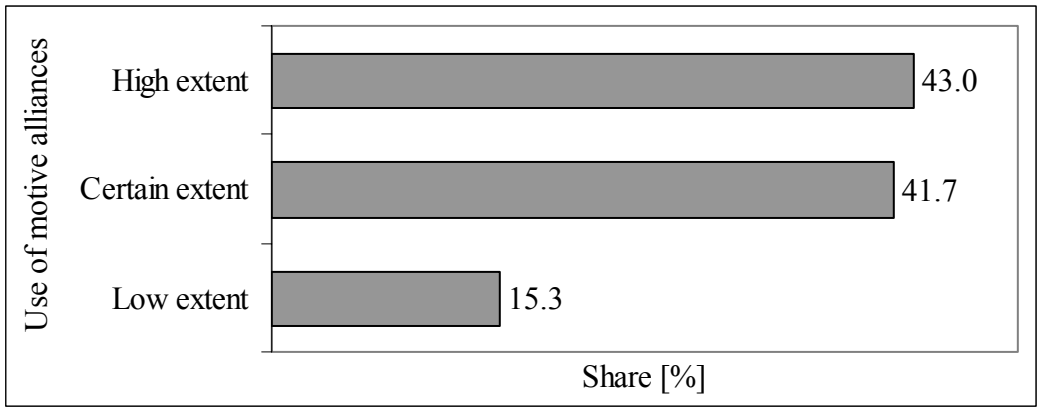


Figure 5.14 presents the answers and shows that motive alliances are used to a high extent by 43.0% of the questioned food processing companies. Additionally, 41.7% apply this communication instrument to a certain extent, whereas a mere 15.3% of the enterprises employ motive alliances to a low extent in their communication mix. In

comparison, a quantitative study conducted in Switzerland showed that about 40% of the companies are sceptical with regard to the implementation of motive alliances (Belz 2005b, p. 33). This difference between the two studies might be explained by the participating companies. Whereas exclusively food processing companies participated in the SuM research study, the Swiss study was not limited to a particular industry. Thus, it can be assumed that motive alliances play a decisive role in the context of marketing sustainable food products where quality, convenience, taste, freshness, and particularly health aspects make up buying criteria (Meffert/Kirchgeorg 1998, p. 283; Belz 2001, p. 88; Ottman et al. 2006, p. 28).

However, in comparison to food products which can be combined with a number of different additional benefits, there is a lack of similar motive alliances in terms of green energy for example (e.g. Bilharz 2005: 'electric current has no vitamins'). It can be assumed that this fact constitutes an important barrier for theses kinds of sustainable products (Bilharz 2005, p. 150).[48]

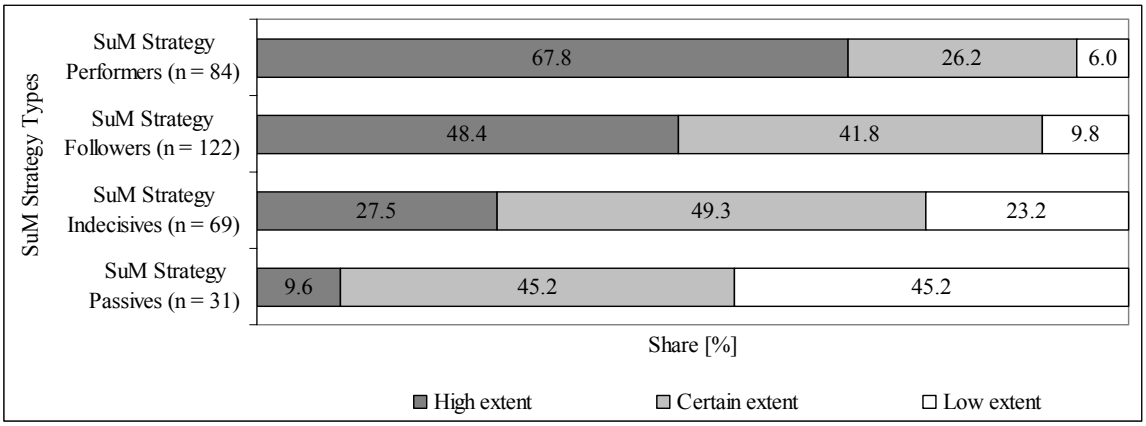
In addition to the distinction between industries, social and ecological criteria can be further differentiated. In general, it can be said that ecological criteria can be combined better and easier with conventional buying criteria than social criteria (e.g. Ottman et al. 2006, p. 28). Ecological criteria – particularly in connection with food products – can be transformed into an individual benefit which the consumers are most likely to act on (such as health aspects and taste). Compared to ecological criteria, it is a lot more difficult to transform social criteria into an individual benefit that goes beyond a mere individual edification or self-esteem benefit.

Regarding the differentiation by SuM strategy type, the following statements can be made. Generally, there are noticeable differences in the usage of motive alliances between the four SuM strategy types. Whereas 67.8% of the SuM Strategy Performers employ motive alliances to a high extent to market their sustainable food products, only 9.6% of the SuM Strategy Passives make explicit use of this communication instrument (figure 5.15). The vast majority of this strategy type only implements motive alliance to a certain (45.2%) or low extent (45.2%). By contrast and similar to the SuM Strategy Performers, most of the food processing companies within the SuM Strategy Followers group implement motive alliances to a high (48.4%) or a certain extent (41.8%). Again, the SuM Strategy Indecisives are less specific in their usage of motive alliances as a

[48] On the discussion of motive alliances in the automobile industrie, cf. Hoffmann 2002, pp. 179-205.

communication tool. Almost the same share implements the instrument to a high (27.5%) as to a low extent (23.2%).

Figure 5.15: Share of motive alliance usage by SuM strategy type (N = 306)



An explanation for the varied communication behaviour in terms of motive alliances could be seen in the positioning strategy as well as in the target group. Motive alliances are applied to a higher extent if the socio-ecological product quality is positioned more dominantly. A similar statement can be made for the target group. Particularly the sustainable actives and the sustainable approachables seem to be open to health and nutritional aspects in combination with socio-ecological product qualities.

Evaluating the correlations between the implementation of motive alliance and the SuM strategy types, significant correlation can be found. The SuM Strategy Performers relate positively to the implementation of motive alliances (r = .28***). In contrast, the SuM Strategy Passives (r = -.29***) and Indecisives (r = -.20***) correlate negatively with the usage of motive alliances (Appendix II, 21).

The statistical mean comparison (Mann-Whitney-U-test) also shows considerable differences between almost all four strategy types (Appendix II, 22). The SuM Strategy Performers ($\bar{x}$ = 2.62)[49] and Followers ($\bar{x}$ = 2.39) differ significantly ($\alpha \leq .001$***) from the SuM Strategy Indecisives ($\bar{x}$ = 2.04) and Passives ($\bar{x}$ = 1.65). Moreover, the SuM Strategy Indecisives also diverge significantly ($\alpha = .01$**) from the Passives as do the SuM Strategy Performers from the Followers ($\alpha = .007$**).

[49] Item means based on three-point scales (1: low extent; 3: high extent).

With regard to these significant findings, *hypothesis $H_{2/5}$* – that in the case of specific sustainable food products motive alliances are used to a greater extent – can be *tentatively accepted*.

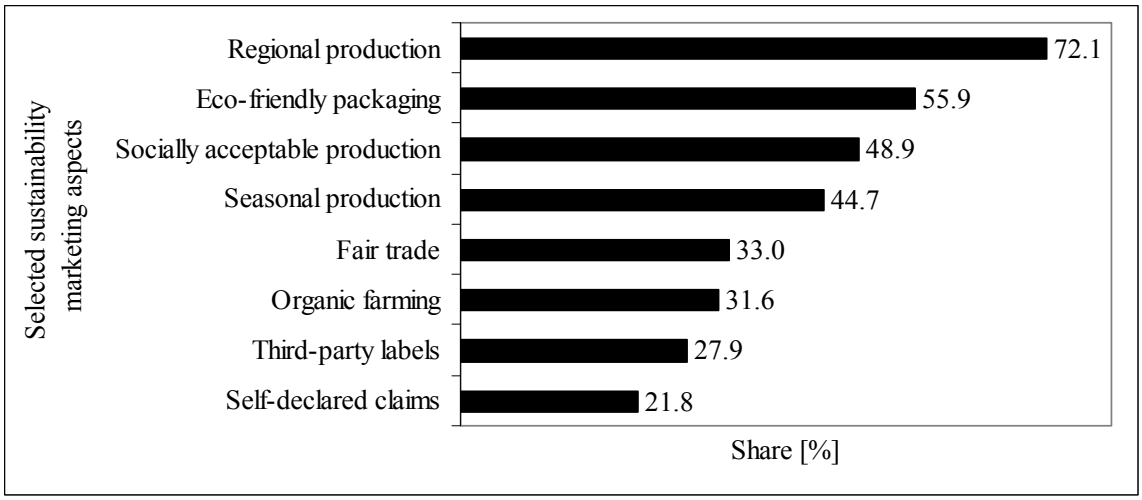
The in-depth analysis of the sustainability marketing characteristics has shown that: (1) the four SuM strategy types differ significantly in terms of their strategic and operational sustainability marketing; and (2) there is an internal fit between the strategic and operational sustainability marketing for at least three SuM strategy types. Therefore, *hypothesis H_2* as a whole can be *tentatively accepted* as well.

5.3.4 Implementation of selected sustainability marketing aspects

An additional qualitative reference to test the quality of the deducted clusters can be found in the number of the selected sustainability marketing aspects implemented by the German food processing companies. Do some aspects find greater application in the German food processing industry than others? And if so, do certain SuM strategy types particularly apply certain sustainability marketing aspects? The food processing companies could choose from a total of seven different sustainability marketing aspects or state that none of these aspects applies to their food company. The assumption behind this is that the SuM Strategy Performers and Followers have already implemented a number of specific sustainability marketing aspects whereas the SuM Strategy Indecisives and Passives have failed to do so.

As figure 5.16 shows, 72.1% of the food companies use resources which are regionally produced in (at least) some of their food products. This greatly contributes to the regional value creation. Aspects concerning eco-friendly packaging, socially acceptable working conditions, and seasonal production are also highly considered within the German food processing industry. About half of the food companies state that they use less or environmentally-friendly packaging (55.9%), pay attention to socially acceptable ways of production (e.g. fair compensation, safe working conditions or regular employment) (48.9%), and respect seasonal differences in their food products (44.7%). Social and ecological aspects which are increasingly to be found in the public arena are fair trade and organic farming. About one-third of the questioned food processing companies implement these aspects – fair trade (33.0%) and organic farming (31.6%) – at least partly in their food products. In contrast, only 27.9% of the food companies use third-party labels and only 21.8% make voluntary self-declared claims.

Figure 5.16: Importance of selected sustainability marketing aspects (n = 362)



It can be observed that whereas social and ecological aspects are considered to a high extent within the production and packaging sector, credible communication tools such as independent third-party labels or voluntary self-declared claims seem to be less established. Similar findings have already been made by Belz (2003b) concerning eco-marketing activities in different industries in Europe. The study shows as well that companies place their focus particularly on eco-friendly packaging and least of all on eco-labels (Belz 2003b, pp. 173-174). Even though both studies cannot be precisely compared due to different settings[50], these similarities are nevertheless noticeable. It seems that, as discussed above, labels have several limitations which hinder companies from implementing them (Belz 2001, pp. 161-170; Karstens/Belz 2006, pp. 200-201).

SuM food companies consider on average 3.5 sustainability marketing aspects for their products. If the average number of socio-ecological marketing aspects is separately analysed for each of the four SuM strategy types, a considerable difference can be observed. Whereas the SuM Strategy Performers and SuM Strategy Followers implement an average of 4.2 and 3.6 socio-ecological marketing aspects respectively the SuM Strategy Indecisives realise about 2.9 and the SuM Strategy Passives only 2.4 sustainability marketing aspects.

[50] The SuM study analyses only one industry in one country and takes, alongside ecological aspects, explicitly social aspects into account whereas the study by Belz (2003b) looks at the eco-marketing approach of companies from twelve different industries in ten European countries.

Table 5.5: Means and correlation coefficients between selected sustainability marketing aspects and SuM strategy types (Spearman-rank-correlation-test) (N = 308)

Selected sustainability marketing aspects[51]	SuM strategy types							
	SuM Strategy Performers		SuM Strategy Followers		SuM Strategy Indecisives		SuM Strategy Passives	
	$\bar{x}$	r	$\bar{x}$	r	$\bar{x}$	r	$\bar{x}$	r
Regional production (n = 231)	.77	.03	.81	**.12***	.62	**-.17****	.74	-.01
Eco-friendly packaging (n = 174)	.56	-.01	.62	.10	.49	-.08	.52	-.03
Socially acceptable production (n = 158)	.58	.09	.56	.07	.39	**-.13***	.42	-.06
Seasonal production (n = 141)	.44	-.02	.49	.06	.52	.07	.23	**-.16****
Fair trade (n = 105)	.38	.05	.41	**.12***	.21	**-.16****	.26	-.06
Organic farming (n = 101)	.55	**.29****	.28	-.09	.25	-.09	.10	**-.17****
Third-party labels (n = 90)	.49	**.26****	.21	**-.14***	.27	-.03	.13	**-.12***
Self-declared claims (n = 68)	.44	**.32****	.17	-.10	.13	**-.12***	.03	**-.15****
No statement applies (n = 15)	.01	-.11	.03	-.06	.11	**.16****	.06	.03

Table 5.5 shows certain correlations between selected sustainability marketing aspects and the SuM strategy types. The SuM Strategy Performers correlate positively with self-declared claims (r = .32**), organic farming (r = .29**), and third-party labelling (r = .26**). These findings lead to the assumption that the SuM Strategy Performers comparatively more often implement these kinds of sustainability marketing aspects in their businesses than the other SuM strategy types. The SuM Strategy Followers correlate positively with regional production (r = .12*) and fair trade (r = .12*) but negatively with third-party labelling (r = -.14*). In contrast, the SuM Strategy Passives correlate negatively with a number of sustainability marketing aspects, i.e. organic farming (r = -.17**), seasonal production (r = -.16**), self-declared claims (r = -.15**), and third-party labelling (r = -.12*). In comparison to (almost all of) the other SuM strategy types, it can therefore be assumed that the SuM Strategy Passives make less use of these kinds of sustainability marketing aspects. Also the SuM Strategy Indecisives

[51] For all selected sustainability marketing aspects the following coding is applied: 0: No; 1: Yes.

correlate negatively to certain sustainability marketing aspects. Specifically, these aspects are regional production (r = -.17**), fair trade (r = -.16**), social acceptable production (r = -.13*), and self-declared claims (r = -.12*). It is particularly noticeable that the SuM Strategy Indecisives correlate positively (r = .16**) with the answer that none of these aspects applies to their food companies. This finding supports the assessment of their minor socio-ecological product quality.[52]

Noticeable, there are correlations between certain SuM strategy types and almost all selected sustainability marketing aspects. This can be interpreted on the basis of each sustainability marketing aspect being more or less applied by a certain SuM strategy type. Only in terms of eco-friendly packaging are no significant correlations with the one or the other SuM strategy types found. This result can be explained by the fact that the SuM strategy types use eco-friendly packaging to a similar degree. It seems that due to legal regulations being passed over the last decades, ecological aspects in packaging no longer make up a distinctive characteristic in marketing (Belz 2001, p. 148).

The means and correlation coefficients indicate that the SuM Strategy Performers and Followers apply certain sustainability marketing aspects to a greater extent than the SuM Strategy Indecisives and Passives. This dominance of specific sustainability marketing aspects within the groups of SuM Strategy Performers and Followers can also be interpreted as an additional indicator of the quality of the cluster proceeding.

[52] An additional Mann-Whitney-U-test confirms these findings by showing a number of significant differences between the means of the SuM strategy types (Appendix II, 23).

5.4 Sustainability marketing strategy types in the German food market

After the identification and description of the four SuM strategy types, the following questions arise as a consequence: How do these SuM strategy types fit into the present German food market? Can they be arranged according to a specific logic? In order to answer these questions, the global market development in general and development of the German food market in particular with regard to product quality and pricing behaviour is firstly outlined. Alongside Porter's (2004) three generic competitive strategies are briefly introduced (section 5.4.1). This section is then followed by the discussion on how the four SuM strategy types can be classified within the German food market (section 5.4.2).

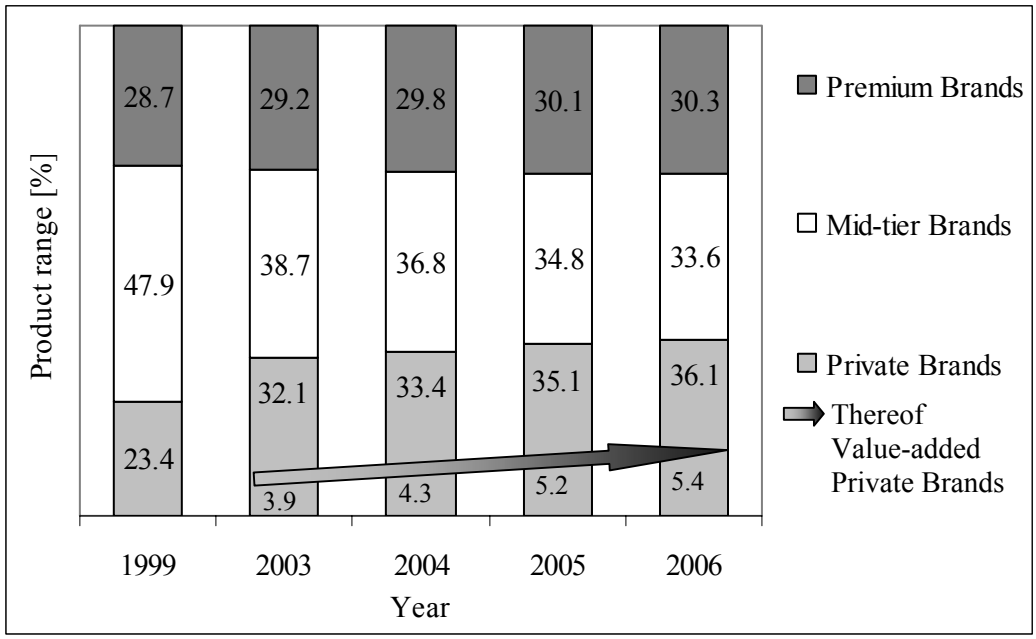
5.4.1 Market polarisation and competitive strategies

In principle, it can be observed that 'premium and no-frills offerings are squeezing middle-of-the-road products and services in many industries' (Riiber Knudsen et al. 2005, p. 6). This *market polarisation* – i.e. market growth on both ends of the market at the middle's expense – is a phenomenon of the last decades and is caused amongst other things by hybrid consumer behaviour (Belz 2005a, pp. 14-15; Becker 2006, p. 535). This behaviour describes consumers who on the one hand buy low-priced products for daily needs and on the other hand have a desire for high value, deluxe products (Meffert 2005, p. 107). From 1999 to 2004 Riiber Knudsen et al. analysed growth rates of 25 industries or product categories in Europe, North America, and at a global level and compared them to the market average. What they have discovered is that whereas the tiers of 'high end' products (+8.7%) and 'no frills/value' products (+4.2%) have increased above average, 'mid-tier' products and services (-5.7%) have lagged behind the market average by nearly 6% a year (Riiber Knudsen et al. 2005, p. 6). This market polarisation however, varies across industries and 'occurs at significantly different speeds in different parts of the world'. With regard to the German grocery industry, they found a market polarisation with a noticeable shift towards the low-cost segment (Riiber Knudsen et al. 2005, p. 8).

These findings are supported by a GfK study which also finds that the German food industry is significantly characterised by increasing market polarisation. The high quality segment and the low-price segment are growing whereas the middle segment is eroding (Twardawa 2007, p. 62). During the 1960s, this middle segment made up the

largest and most important segment (Meffert 2005, p. 107), but more recently food companies or food products within this segment seem to be 'stuck-in-the-middle'. For mid-tier brands – wedged between premium and private brands – the situation tightens visibly (figure 5.17). A clear strategic orientation – either high quality or low-priced – positively influences the profitability and thereby comprises a requirement for successful business (Becker 2006, p. 358).

Figure 5.17: Market polarisation in the German food industry (1999-2006)



(Source: Twardawa 2007, p. 62)

Over the last seven years the mid-tier segment lost almost 15% in the German food industry. Their difficulty is that they neither offer superior product quality nor do they sell their products with a particular price advantage. In contrast, food processing companies belonging to the premium market segment clearly offer value food products which have a superior product quality. Even though they charge a premium price, their market share has increased by 1.6% in the last seven years. The consumers are willing to pay this higher price since they elicit an added value. On the low end of the food market there are food processing companies which sell their products without a certain value added but for a low price. For the consumers the price advantage constitutes the sales rationale. Therefore, they accept a lower food product quality. The market share of this segment has even increased by 12.7%. However, what is noticeable is that 'value-added' private brands contribute significantly (5.4%) to the increasing growth of the private brand tier. Value-added private brands are higher-value food products sold by

discounters and full-line distributors. On the basis of these products, discounters and full-line distributors can distinguish themselves and at the same time profit from the increasing trend towards higher food value (Twardawa 2007, p. 62)

This kind of ongoing market development – to the benefit of both the high quality segment and the low-price segment – can be explained by means of Michael E. Porter's concept of competitive strategies which was originally published in 1980. In order to cope with the five competitive forces in a certain industry (Porter 2004, p. 4) – i.e. potential new competitors, existing old competitors within the industry, substitution products, suppliers, and consumers – Porter introduces three distinctive corporate strategies: (1) differentiation, (2) overall cost leadership, and (3) focus (Porter 2004, pp. 34-44). By means of these generic competitive strategies the companies can outperform competitors within a certain industry.

Differentiation as the first competitive strategy means creating and marketing a product with a certain unique value proposition. A company can differentiate itself, for example, by means of a particular technology, design, brand image, after-sales services, distribution network, features, or product quality. This strategy requires an excellent company reputation, which is often accompanied by a smaller market share due to its exclusiveness. The consumers who buy these products are not particularly price-sensitive. The company pursues a price leadership and can therefore achieve above average earnings. However, that does not mean that the costs can be ignored. Rather, it means that they simply do not form the primarily strategic goal.

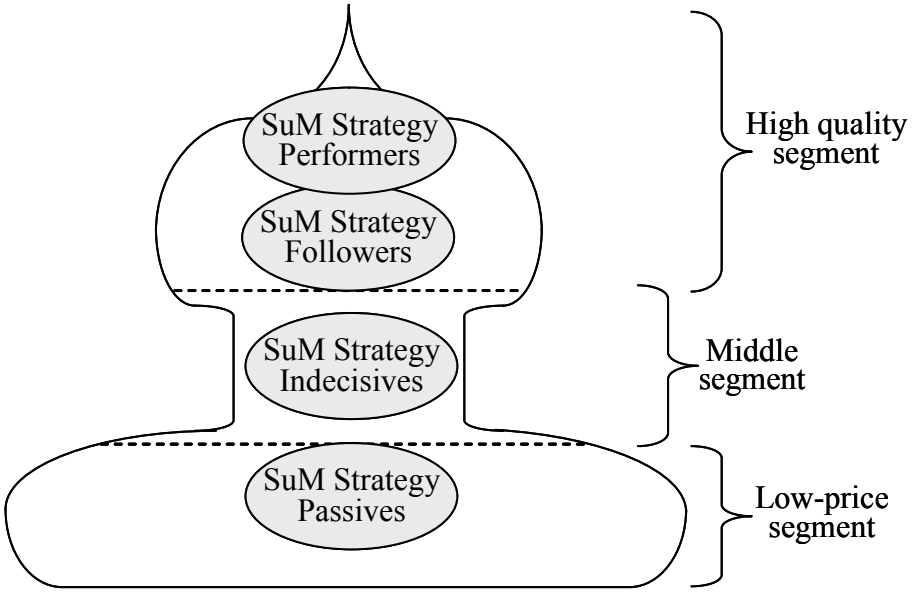
By contrast, the strategic goal of the second competitive strategy is to achieve *overall cost leadership*. This can be realised with the help of a number of cost-saving methods such as tight control of variable costs and overheads, minimisation of research and development as well as advertising costs, and taking advantage of economies of scales. This strategy often requires a higher market share in order to gain significant cost advantages by means of purchasing and selling larger quantities.

As the third competitive strategy, Porter introduces *focus*, i.e. the concentration of a certain market niche. This selected niche is either determined by a certain consumer group, a specific geographic region, or a particular product assortment. However, within the niche the company uses differentiation or cost leadership again.

5.4.2 Classification of sustainability marketing strategy types

Bearing the developments in terms of market polarisation in the German food market in mind as well as Porter's three competitive strategies, the four SuM strategy types can be classified within the German food market as follows (figure 5.18):

Figure 5.18: Classification of SuM strategy types within the German food market



(Adapted from Becker 2006, p. 359; basis: market volume)

The *SuM Strategy Performers* offer the *highest food quality* with regard to the socio-ecological quality aspects of all strategy types. They sell their *premium food products* in niche markets to 'sustainable actives' and dominantly position the socio-ecological product quality in comparison to price and performance. For these superior food products they charge *premium prices* and market them through a high number of rather smaller distribution channels. The SuM Strategy Performers use motive alliances to a very high extent to communicate their sustainable food products. Compared to the other SuM strategy types, they mostly apply communication instruments such as the corporate and product brand, the owner's personality, websites, information leaflets, product package, self-declared claims, and third-party labels in order to signal their superior socio-ecological product quality. Most of these communication tools are even used to a high extent. Keeping these strategic and operational sustainability marketing characteristics in mind, the SuM Strategy Performer can be positioned at the top of the high quality segment in the German food market.

The *SuM Strategy Followers* also process food products with a *high socio-ecological product quality* but to a somewhat lesser extent than the SuM Strategy Performers. They offer these value food products in niche markets or selected market segments to consumers that can be socio-ecologically activated ('sustainable approachables'). Compared to price and performance their socio-ecological product quality is positioned equally or flanking. The SuM Strategy Followers 'follow' the SuM Strategy Performers also in terms of the sustainability marketing mix. They pursue all analysed sustainability marketing mix activities to a somewhat lower extent than the SuM Strategy Performer but still on a noticeably high level. They charge *higher prices* for their sustainable food products as well, distribute them through a fairly high number of rather small distribution channels, and also use motive alliances as a communication tool to a high extent. Regarding the appliance of certain communication instruments to signal credibility, the SuM Strategy Followers particularly use corporate and product brand as well as websites and the owner's personality. To a certain extent they apply self-declared claims, information leaflets, and product package. The only communication tool which is used more by the SuM Strategy Followers than by the SuM Strategy Performers is conventional advertising which can be attributed to the less limited strategy of the SuM Strategy Followers, for example with regard to their target group. Consequently, the SuM Strategy Followers can be classified right below the SuM Strategy Performers in the German food market, but still, however, in the high quality segment.

Both previously classified SuM strategy types – Performers and Followers – pursue differentiation strategies by means of high socio-ecological product quality. These differentiation strategies primarily focus on certain market niches or selected market segments. This is rather typical for high quality strategies since they do not lead to economies of scales. Unlike these two SuM strategy types, a closer look at the SuM Strategy Passives reveals that they rather practice an overall cost leadership strategy and thereby operate at the 'opposite' end of the food market.

Their food products are of comparatively *low socio-ecological quality*. The *SuM Strategy Passives* aim at consumers who have no particular socio-ecological consciousness within the mass market ('sustainable passives'). The product quality is only used as a flanking attribute to price and performance. Compared to the sustainable food products of the other SuM strategy types, the products of the SuM Strategy

Passives are marketed at a *lower price*. Logically, the price is therefore dominantly positioned. Two-thirds of their food products are distributed through three main channels: supermarkets, wholesalers, and discounters. Due to their low socio-ecological product quality and their rather socio-ecological uninterested target group, they do not make hardly any use of motive alliances. Additionally, the SuM Strategy Passives also apply most communication tools to a comparably low extent since they predominantly do not market credence qualities but rather one particular search quality – the lower price. With regard to the German food market, the SuM Strategy Passives can therefore be classified to the low-price segment.

The previous analysis of the SuM Strategy Indecisives has already shown that this cluster seems to be 'stuck-in-the-middle' to a certain extent. Their strategic and operational sustainability marketing characteristics seem to be inconsistent. This strategy type cannot be immediately assigned to the one or the other of Porter's strategies: the SuM Strategy Indecisives do not sell food products which have a superior product quality to follow a differentiation strategy in the high quality segment nor do they offer a price advantage in the mass market to pursue a cost leadership strategy in the low-price segment. These insights lead to two possible conclusions: Firstly, it can be assumed that the SuM Strategy Indecisives which market their food products predominatly in market niches pursue a specific focus strategy. Or secondly, and this assumption is more likely, particularly against the background of the increasing market polarisation and their 'indecisive' and inconclusive sustainability marketing, the SuM Strategy Indecisives have not managed to position themselves at the one or other end of the German food market:

The *SuM Strategy Indecisives* offer the *lowest socio-ecological product quality* of all four strategy clusters. Thus, it is also not used as particular positioning attribute besides price and performance. However, they aim at consumers who have a certain socio-ecological consciousness ('sustainable approachables') in market niches. This already inconsistent strategy is continued by a similarly unsuited sustainability marketing mix. The SuM Strategy Indecisives charge a *premium price* for their (low quality) food products which is even higher than the price demanded by the SuM Strategy Followers. 44.8% of their food products are sold via three main channels (wholesalers, supermarkets, and discounters) which contradicts their niche market strategy to a certain extent. Almost 80% of the food companies belonging to the SuM Strategy Indecisives

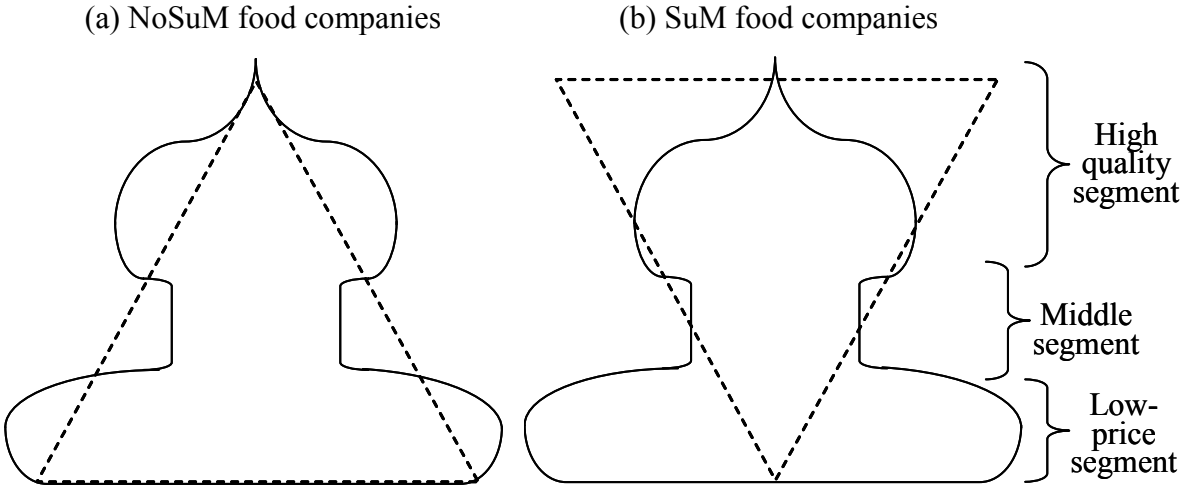
also claim that they use motive alliances to a high or certain extent which is not in accordance with their low socio-ecological product quality. However, the aspect that is fitting in view of their low product quality is their use of the communication tools to a comparatively low extent in order to signal credibility. Bearing this disarrangement of strategic and operational sustainability marketing characteristics in mind and at the same time the 'perfect fit' of the strategic and operational aspects of the other three SuM strategy types, it can be assumed that the SuM Strategy Indecisives belong to the struggling middle segment of the German food market.

By means of this classification, a precise picture of the position of the *four SuM strategy types* within the German food market is drawn. However, alongside the four SuM strategy types there is also the group of the *NoSuM food companies* within the German food processing industry. Even though this group has been previously excluded from the analysis of sustainability marketing due to its lack of socio-ecological commitment, it needs to be reconsidered when the situation of the entire German food industry is being discussed.

Classifying the NoSuM food companies in accordance with figure 5.18, a detailed analysis of their strategic and operational marketing would be necessary. However, no further information is available on their product quality or pricing – besides their missing socio-ecological product quality. Therefore, the following reasonable assumption can be made according the classification of the NoSuM and SuM food companies: the higher the general product quality, the higher the socio-ecological product quality.

Aware of the fact that there are exceptions that prove the rule, the NoSuM food companies are entered in figure 5.19 (a) according to this assumption in the shape of a triangle. It is assumed that the majority of the NoSuM food companies can be found within the low-price segment due to their lower (socio-ecological) product quality. In contrast, as shown by the SuM research study, the majority of the SuM food companies can be found within the high quality segment (SuM Strategy Performers and Followers: 66.9%) whereas the minority of the SuM food companies is located within the low-price segment (SuM Strategy Passives: 10.1%). This circumstance is indicated by the inverted triangle in figure 5.19 (b).

Figure 5.19: General classification of NoSuM and SuM food companies within the German food market



In terms of their particular share, figure 5.20 shows the five detected company groups which determine the German food processing industry. The food company clusters which are marked in black in figure 5.20 reflect the four SuM strategy types. They are shown in correct proportion to one another. However, in order to be able to evaluate their share within the entire German food processing industry it is necessary to know the share of the NoSuM food companies (marked in grey in figure 5.20).

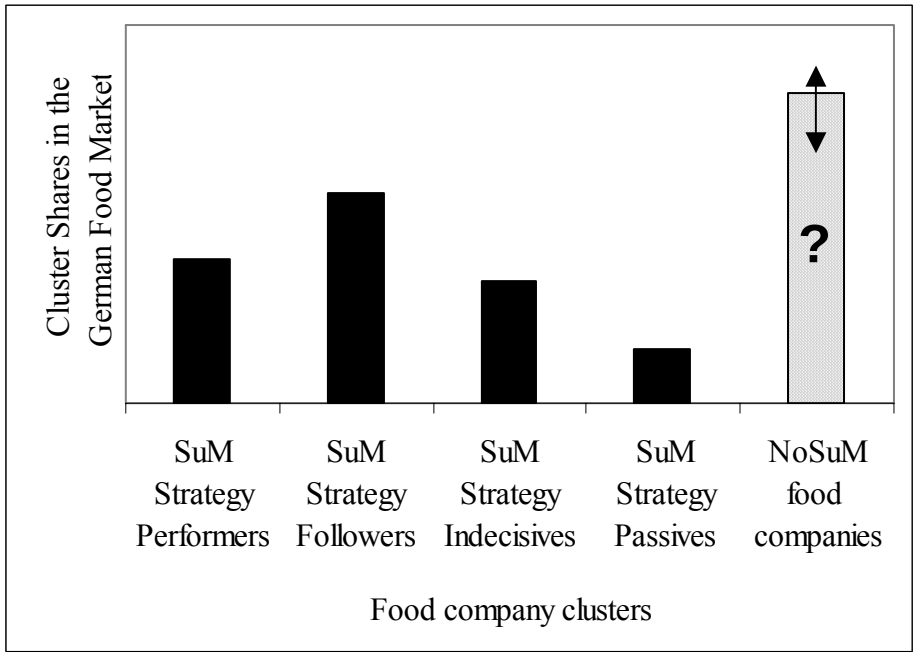
Based on the 22 NoSuM food companies of this study their percentage within the German food industry would amount to about 6%. What supports this quite low share of NoSuM food companies is the broad definition of a sustainable food product applied as a basic requirement for food processing companies to be regarded in the SuM research study. Even firms which consider social or ecological aspects only to a minimum extent have been taken into account as SuM food companies. Moreover, the low share of NoSuM food companies can be explained by the increasing role which socio-ecological product aspects play within the German food processing industry.

However, the high non-response rate of almost 90% is an argument against this 6% share of NoSuM food companies within the German food processing industry. This high non-response rate increases the probability of a non-response bias (Israel 2003, pp. 1-2), which in turn supports the assumption that the share of NoSuM food companies is represented as a lot larger in the total sample[53] than is reflected by the sample of the

[53] Total sample refers to the food processing companies which presumably were contacted – in this case 3,584 food processing companies.

research study. In general, the non-response bias which is difficult to evaluate (Armstrong/Overton 1977, pp. 396-402) assumes that companies which have not answered the survey differ from those which have answered. Consequently, the conclusion is reached that a large part of the non-respondent firms belong to the group of the NoSuM food companies. Therefore, it can be assumed that the share of NoSuM food companies within the German food industry is larger than shown by the SuM reserach study.

Figure 5.20: Synopsis: company clusters in the German food market



Yet on the basis of the study's objectives and research questions, it has been the inherent necessity of the SuM research study to focus exclusively on those food processing companies which process and market sustainable food products, and thus pursue a particular sustainability marketing approach. To disregard those food processing companies which do not take up sustainability marketing was accepted a priori. Investigating NoSuM food companies marketing behaviour and motivation would have made for a different research study. In this way, the SuM research study accomplishes its objective to reflect the characteristics of different sustainability marketing approaches within the German food processing industry and to determine the shares of the four SuM strategy types. At the same time the findings of the SuM research study do not allow for an immediate assessment of the relative importance of sustainability marketing approaches within the German food processing industry. This aspect is left to further research.

5.5 Synopsis of sustainability marketing characteristics by SuM strategy type

In this section the strategic and operational sustainability marketing characteristics are summarised, distinguished by SuM strategy type (table 5.6, pp. 156-157). Particularly those aspects are outlined which form specific distinctions.

A synopsis of the hypotheses tested up to now (H_1 and H_2) is provided in Appendix II, 24. In general, it can be stated that *all* but the *second part of hypothesis* $H_{2/4}$ can be *tentatively accepted*. This paves the way for the further analysis of the sustainability marketing drivers and outcome.

Table 5.6: Synopsis of the results regarding sustainability marketing characteristics

Sustainability marketing characteristics		SuM Strategy Performers	SuM Strategy Followers	SuM Strategy Indecisives	SuM Strategy Passives
Strategic SuM characteristics	Social product quality	High	High	Low	Middle/ low
	Ecological product quality	Very High	High	Middle	Middle/ low
	Market segmentation	Niche	Niche/certain market segments	Niche/certain market segments	Mass market
	Targeting	Sustainable actives	Sustainable approachables	Sustainable approachables	Sustainable passives
	Positioning	Dominant	Equal/ flanking	Flanking	Flanking

Table 5.6: Synopsis of the results regarding sustainability marketing characteristics (Continuation)

Sustainability marketing characteristics		SuM Strategy Performers	SuM Strategy Followers	SuM Strategy Indecisives	SuM Strategy Passives
Operational SuM characteristics	Pricing	Higher pricing	Higher/ similar pricing	Higher/ similar pricing	Similar/ lower pricing
	Distribution channels	Small wholefood shops (+) Wholefood supermarkets (+) Health food stores (+) Drugstores (+) Pharmacies (+) Supermarkets (-)	Direct Sale (+) Supermarkets (+) Small wholefood shops (-)	Direct Sale (-) Wholefood supermarkets (-) Small wholefood shops (-) Drugstores (-)	Supermarkets (+) Discounters (+) Small wholefood shops (-) Wholefood supermarkets (-) Mail order (-)
	(Average number of applied distribution channels)	(3.4)	(3.1)	(2.5)	(2.7)
	Communication I: signalling credibility	Very high extent Owner's personality (+) Corporate brand (+) Information leaflets (+) Self-declared claims (+) Product package (+) Websites (+) Public relations (+) Third-party labels (+) Product brand (+)	High extent	Certain/ low extent Corporate brand (-) Product brand (-) Self-declared claims (-) Owner's personality (-) Third-party labels (-) Websites (-)	Certain extent Self-declared claims (-)
	Communication II: information vs. emotion	Not significant	Not significant	Not significant	Not significant
	Communication III: motive alliances	Very high extent	High extent	Certain extent	Certain/ low extent
Selected SuM aspects	Correlation between selected SuM aspects and SuM strategy types	Self-declared claims (+) Organic farming (+) Third-party labels (+)	Regional production (+) Fair trade (+) Third-party labels (-)	Regional production (-) Fair trade (-) Socially acceptable production (-) Self-declared claims (-) No statement applies (+)	Organic farming (-) Seasonal production (-) Self-declared claims (-) Third-party labels (-)
	(Average number of selected SuM aspects)	(4.2)	(3.6)	(2.9)	(2.4)

6. Analysis of Sustainability Marketing Drivers

The characteristics of sustainability marketing are to a certain extent the results of different influencing factors. These 'drivers of sustainability marketing' can be used to explain *why* German food processing companies take up sustainability marketing. In section 3.2 these influencing factors were identified from the literature. In the questionnaire, the food processing companies were asked to state the extent to which their marketing orientation has been influenced by each stakeholder in terms of socio-ecological aspects. This chapter presents the results of the data analysis.

Firstly, the findings for the internal sustainability marketing drivers – i.e. company-specific factors and internal stakeholders – are outlined (section 6.1), followed by the analysis of the external sustainability marketing drivers, i.e. market stakeholders and public stakeholders (section 6.2). In addition, the third section of this chapter provides a comparative evaluation of the influence of all considered stakeholders (section 6.3). Fourthly, the results concerning the primary strategic orientation are presented (section 6.4). The fifth section examines the sustainability marketing drivers in terms of their relative importance by means of a binary logistic regression (section 6.5).

6.1 Influence of internal sustainability marketing drivers

6.1.1 Company-specific factors

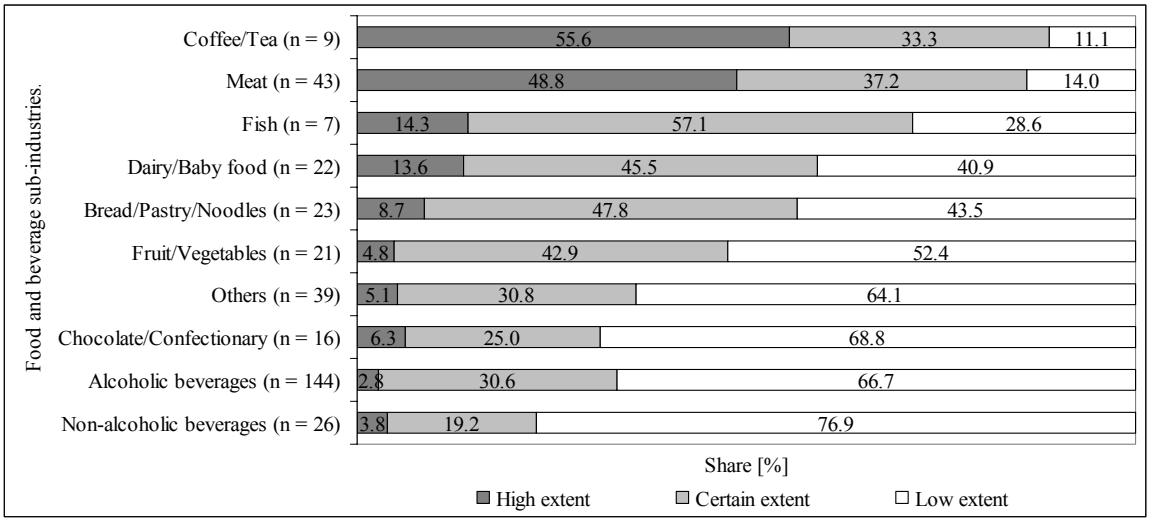
Prior to the analysis of the food sub-industries' influence on sustainability marketing characteristics, the perceived socio-ecological problems by food sub-industry will be looked at. The underlying assumption is that if the *sub-industry membership* influences the characteristics of sustainability marketing it might be due to the perceived socio-ecological problems within a certain food sub-industry. Therefore, the following questions arise: Which food sub-industries are perceived as particularly affected by socio-ecological problems? Which seem to be less affected?

Figure 6.1 shows the extent of perceived socio-ecological problems distinguished by sub-industry memberships. The food sub-industries are ranked according to their means. Two food sub-industries – coffee/tea and meat – seem to be particularly affected by socio-ecological problems. 55.6% and 48.8% respectively of the participating food processing companies from these food sub-industries state that their food sub-industry is highly affected by socio-ecological problems. The food sub-industries of fish (57.1%), bread/pastry/noodles (47.8%), and dairy/baby food (45.5%) are mostly perceived as

affected by socio-ecological problems to a certain extent. The remaining food sub-industries are mainly perceived as affected by socio-ecological problems to a low extent. The sub-industries belonging to this latter group are non-alcoholic beverages (76.9%), chocolate/confectionary (68.8%), alcoholic beverages (66.7%), and fruit/vegetables (52.4%). It can be stated that socio-ecological problems seem to play a more important role within food sub-industries compared to beverage sub-industries.

Compared to other food sub-industries, coffee already turned into a 'political beverage' (Koch 2008, p. 2) twenty years ago (cf. also Hockerts 2003, pp. 112-118). Therefore, the awareness within this food sub-industry concerning socio-ecological issues is comparatively higher than in food sub-industries such as the chocolate sub-industry, for instance, which has rather neglected its responsibility with regard to these problems in the past (Koch 2008, pp. 1-2). Therefore – alongside the actual socio-ecological problems – this might explain the different perception of the socio-ecological problems within the various food sub-industries.

Figure 6.1: Perceived socio-ecological problems by food sub-industry (N = 350)



With the help of a mean comparison (Mann-Whitney-U-test), the prominent positions of the coffee/tea and meat sub-industries are tested statistically. With exception of the fish sub-industry ($\bar{x}$ = 1.86), the means of the food sub-industries perceived as highly affected – coffee/tea ($\bar{x}$ = 2.44) and meat ($\bar{x}$ = 2.35) – differ significantly from the remaining food and beverage sub-industries, i.e. dairy/baby food ($\bar{x}$ = 1.73*/**)[54], bread/pastry/noodles ($\bar{x}$ = 1.65**/***), fruit/vegetables ($\bar{x}$ = 1.52**/***), chocolate/

[54] The first * in brackets indicates the significance level in relation to the coffee/tea sub-industry and the second * the significance level regarding the meat sub-industry.

confectionary ($\bar{x}$ = 1.38**/***), alcoholic beverages ($\bar{x}$ = 1.36***/***), and non-alcoholic beverages ($\bar{x}$ = 1.27***/***). Moreover, the food sub-industries of fish, dairy/baby food, and bread/pastry/noodles vary significantly from the beverage sub-industries of alcoholic (*/**/*)[55] and non-alcoholic beverages (*/*/*).

These findings provoke further questions: Do highly perceived socio-ecological problems in particular lead to specific sustainability marketing characteristics within certain food sub-industries? Can the SuM Strategy Performers, for example, be especially found within the coffee/tea or meat sub-industry? And is the non-alcoholic beverage industry in turn dominated by SuM Strategy Passives?

Figure 6.2: SuM strategy types by food sub-industry (N = 308)

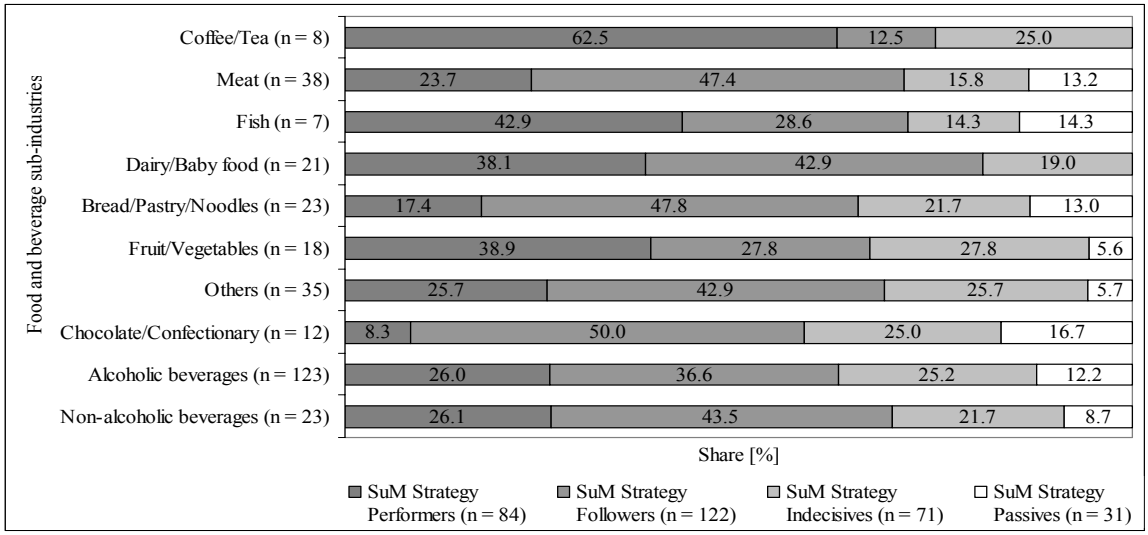


Figure 6.2 shows the distribution of the SuM strategy types differentiated by food sub-industry. In contrast to most figures in this study, this type of illustration – SuM strategy types differentiated by food and beverage sub-industry and not vice versa – has been chosen to provide more clarity due to the high number of different sub-industries. The SuM Strategy Performers are overrepresented within the coffee/tea (62.5%), fish (42.9%), fruit/vegetables (38.9%), and dairy/baby food (38.1%) sub-industries. Within the chocolate/confectionary (50.0%), bread/pastry/noodles (47.8%), meat (47.4%), non-alcoholic beverages (43.5%), and dairy/baby food (42.9%) sub-industries, the SuM Strategy Followers appear comparatively often. Some food sub-industries are also overrepresented by the SuM Strategy Indecisives – for instance the fruit/vegetables

[55] The first * indicates the significance level in relation to the fish sub-industry, the second * regarding the dairy/baby food sub-industry, and the third * regarding the bread/pastry/noodles sub-industry.

(27.8%), alcoholic beverages (25.2%), chocolate/confectionary (25.0%), and coffee/tea (25.0%) sub-industries. The group of the SuM Strategy Passives can be found relatively often within the food sub-industries of chocolate/confectionary (16.7%), fish (14.3%), meat (13.2%), bread/pastry/noodles (13.0%), and alcoholic beverages (12.2%).

Despite the predominance of certain SuM strategy types within the one or the other food sub-industry, the only food sub-industry in Germany which leads to a significant correlation with a SuM strategy type is the coffee/tea sub-industry. It positively correlates with the SuM Strategy Performers ($r = .13^*$). Moreover, a Mann-Whitney-U-test reveals significant distinctions between different food sub-industries and their SuM strategy type distribution. Noticeable differences can be found between the chocolate/ confectionary sub-industry on the one hand and the dairy/baby food ($\alpha = .038^*$) and coffee/tea ($\alpha = .048^*$) sub-industries respectively on the other hand (Appendix III, 1).

These results confirm the important status of the German coffee/tea and dairy/baby food sub-industries in terms of their sustainability marketing commitment. In these two sub-industries there are significantly more food processing companies which adopt a specific kind of sustainability marketing compared to the chocolate/confectionary sub-industry for example. This can be further validated if the consumer's demand is taken into account (e.g. BMELV 2007, p. 11): in these food sub-industries whose sustainable food products are demanded more often (i.e. fruit/vegetables, dairy products) the SuM Strategy Performers can be particularly found. In contrast, the SuM Strategy Passives appear predominantly in these food sub-industries whose sustainable products are bought less often (i.e. chocolate/confectionary, alcoholic beverages). However, a significant correlation between the extent of perceived socio-ecological problems and particular SuM strategy types could not be statistically detected.

Regarding the statistical testing of means and correlation coefficients, *hypothesis H_3* – that the sub-industry membership constitutes a driver for the sustainability marketing commitment of food processing companies – can only be *tentatively accepted* for the *coffee/tea* and *dairy/baby food* sub-industries. These two food sub-industries can be associated with those SuM strategy types that attach more importance to a higher socio-ecological product quality. However, for the other food sub-industries hypothesis H_3 cannot be accepted.[56]

[56] A synopsis of all hypotheses concerning the sustainability marketing drivers can be found in Appendix III, 8.

The second company-specific factor besides sub-industry membership – i.e. *public exposure* – has been operationalised with the help of five different aspects. The factor is composed of sales volume p.a., number of employees, market share, brand awareness, and the mandatory disclosure of company data. In the following, the results of the five different aspects of public exposure are outlined and analysed with regard to their influence on sustainability marketing characteristics.

Figure 6.3 and 6.4 show that the sample is similarly distributed in terms of *sales volume p.a.* and *number of employees*. The majority (70.9% and 76.2% respectively) of the sampled food processing companies belong to the category of *small-sized enterprises* (< €10m sales volume p.a. and < 50 employees). 18.5% and 23.3% respectively of the food processing companies can be categorised as *medium-sized companies* (≥ €10m to < €50m sales volume p.a. and ≥ 50 to < 250 employees). Only about 10% of the questioned food processing companies can be attributed to the category of *large enterprises* (≥ €50m sales volume p.a. and ≥ 250 employees) (European Commission 2003, p. 14).

Figure 6.3: Distribution of the number of food processing companies with regard to sales volume (n = 351)

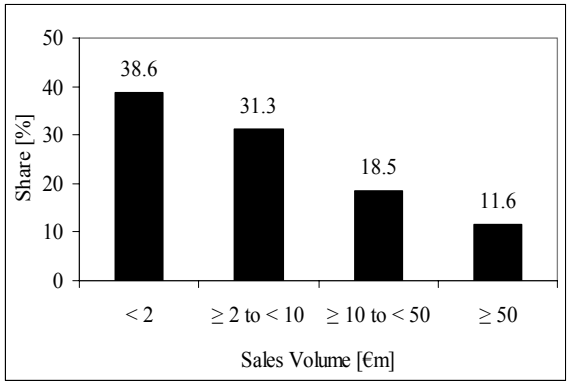
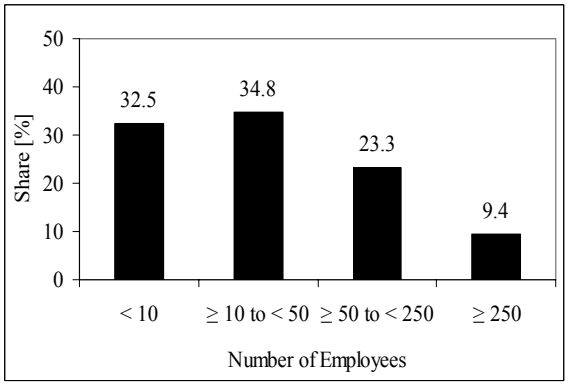


Figure 6.4: Distribution of the number of food processing companies with regard to number of employees (n = 360)



The next two aspects of the public exposure factor are made up of the *market share* and the *brand awareness* of the most successful sustainable food product (figure 6.5 and 6.6). Regarding the market share, 46% of the sustainable food products have a market share of less than 5%; and 28.2% have a market share of between 5% and 25%. Only a small proportion has a market share of 25% to 50% (14.8%) and over 50% (11.0%). Similar findings can be made concerning the brand awareness. The better part (43.4%) of the food processing companies markets sustainable food products with less than 25%

brand awareness. 26.6% of the food companies sell sustainable food products with a brand awareness that lies between 25% and 50%; and 17.1% with an awareness of 50% to 75%. A brand awareness that is higher than 75% is only achieved by 12.9% of the food processing companies.

Figure 6.5: Distribution of the number of food processing companies with regard to market share (n = 326)

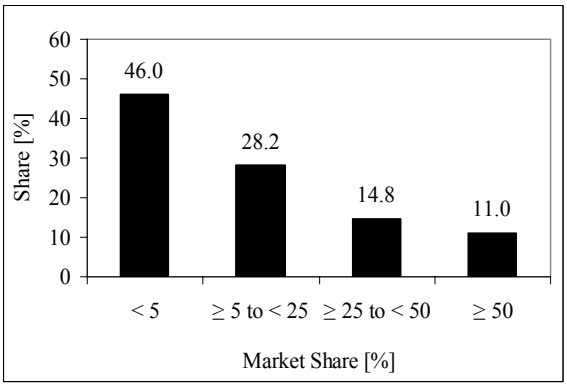
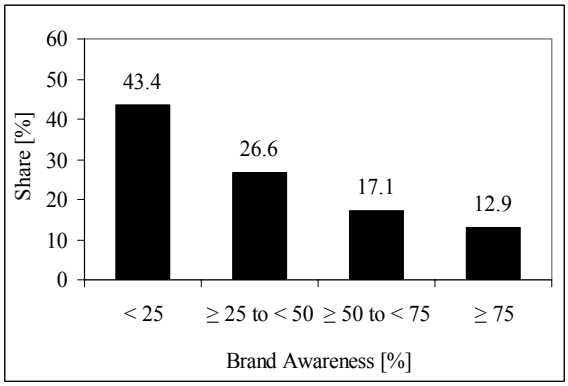


Figure 6.6: Distribution of the number of food processing companies with regard to brand awareness (n = 334)



Besides these four aspects the food processing companies were also asked whether they have to publish their company data or not. It can be stated that almost 74% of the SuM food companies do not have to mandatorily disclose their company data, meaning that only 26% are legally bounded to do so. Clearly, this result is connected to the large number of small food companies within the sample.

Subsequent to this descriptive analysis of the company-specific factor of public exposure, it is necessary in a next step to evaluate which of these aspects have a significant positive or negative influence on the sustainability marketing characteristics; that is on the different SuM strategy types.

The influence of the *sales volume p.a.* and the *number of employees* is assessed by the Spearman-rank-correlation-test (table 6.1). It can be observed that the SuM Strategy Performers particularly correlate with smaller food processing companies, i.e. food companies with a lower sales volume p.a. (r = -.11*) and fewer employees (r = -.17*). In contrast, the SuM Strategy Passives refer especially to larger food processing companies, i.e. food companies with a larger sales volume p.a. (r = .15**) and more employees (r = .14*).

Table 6.1: Means and correlation coefficients between aspects of public exposure and SuM strategy types (Spearman-rank-correlation-test) (N = 308)

	SuM strategy types							
	SuM Strategy Performers		SuM Strategy Followers		SuM Strategy Indecisives		SuM Strategy Passives	
Aspects of public exposure[57]	$\bar{x}$	r	$\bar{x}$	r	$\bar{x}$	r	$\bar{x}$	r
Sales volume p.a. (n = 301) (1: < €2m; 4: ≥ €50m)	1.88	**-.11***	1.98	-.06	2.22	.07	2.52	**.15****
Number of employees (n = 307) (1: < 10; 4: ≥ 250)	1.86	**-.17****	2.20	.06	2.19	.02	2.55	**.14***
Market share (n = 280) (1: < 5%; 4: ≥ 50%)	1.90	.02	1.76	-.04	1.92	.03	1.79	-.01
Brand awareness (n = 288) (1: < 25%; 4: ≥ 75%)	2.05	.05	1.98	.04	1.82	-.09	2.06	-.01
Mandatory disclosure (n = 302) (0: No; 1: Yes)	.27	.00	.27	.01	.23	-.05	.35	.07

A Mann-Whitney-U-test confirms these correlations and identifies a number of significant differences between the SuM strategy types and the sales volume p.a. and the number of employees respectively (Appendix III, 2). Significant differences in terms of sales volume p.a. can be detected between the SuM Strategy Performers and SuM Strategy Indecisives (α = .055) and Passives (α = .003**) as well as between the SuM Strategy Followers and Passives (α = .011*). Regarding the number of employees, the SuM Strategy Performers differ significantly from all the remaining SuM strategy types: the Followers (α = .012*), the Indecisives (α = .045*), and the Passives (α = .001***).

As a consequence of these findings, *hypothesis $H_{4/1}$* – the larger a food processing company is, the more it can be expected to undertake sustainability marketing – *cannot be accepted*. However, what can be *tentatively accepted* is the *opposite hypothesis $OH_{4/1}$*, which states an exact inversion of the relationship: smaller food processing companies in terms of sales volume p.a. and the number of employees are more likely to take up sustainability marketing than larger ones.

These results contradict the findings of Belz (2003b) who found a significant correlation between larger and 'eco-marketing active' firms in Europe (Belz 2003b, p. 176). An explanation for this finding might be that Belz looked at twelve different industries and

[57] For the arithmetic mean and the Spearman-rank-correlation-test, the scales are transferred in comparable entities from 1 to 4 for ordinal scales (sales volume p.a., number of employees, market share, and brand awareness) and from 0 to 1 for nominal scales (mandatory disclosure).

not just the food processing industry. It can be assumed that in industries such as metal or mechanical engineering, public exposure by company size plays a different role in terms of sustainability marketing than in the food processing industry, the socio-ecological commitment of which has its origin in small niche market players.

By contrast, a recent study by Hahn and his colleague (2006) supports the present findings of the SuM research study (Hahn/Scheermesser 2006, pp. 158-161). Their study analyses approaches of German companies to corporate sustainability in different industries by means of a cluster analysis. It shows that the 'sustainability leaders' (Hahn/Scheermesser 2006, p. 158) – a cluster which can be compared to the SuM Strategy Performers – are rather characterised by SMEs and small firms. They explain their findings with the fact that particularly in small- and medium-sized companies, the personal motives of managers might have a more direct influence on the strategic direction of the company. This is why in their study smaller companies are more committed to corporate sustainability than larger ones. Regarding the SuM research study this correlation still needs to be explored further.

In conclusion, the findings of the study at hand are reasonable if the structure of the German food industry as well as the historical emergence of the organic food sector is borne in mind. The 'organic movement' particularly originated in smaller food processors and distributors (Walter 2004, pp. 1-4). This evolutionary relation between small- and medium-sized food processing companies and a sustainability marketing commitment is reflected in the present results. However, it can be assumed that if sustainable food products escape the market niche, the size of the food company becomes less important as a driver for sustainability marketing.

The remaining three aspects of the company-specific factor of public exposure – *market share*, *brand awareness*, and the *mandatory disclosure of company data* – do not correlate with the SuM strategy types, as shown by table 6.1. The Mann-Whitney-U-test also reveals no differences between these aspects and the four SuM strategy types (Appendix III, 2).

In terms of market share and brand awareness, the SuM Strategy Performers have comparatively high means. This kind of public exposure through larger market share and higher brand awareness can therefore be interpreted as an influencing factor for sustainability marketing. However, there are no significant correlations between the SuM strategy types on the one hand and the market share or the brand awareness on the

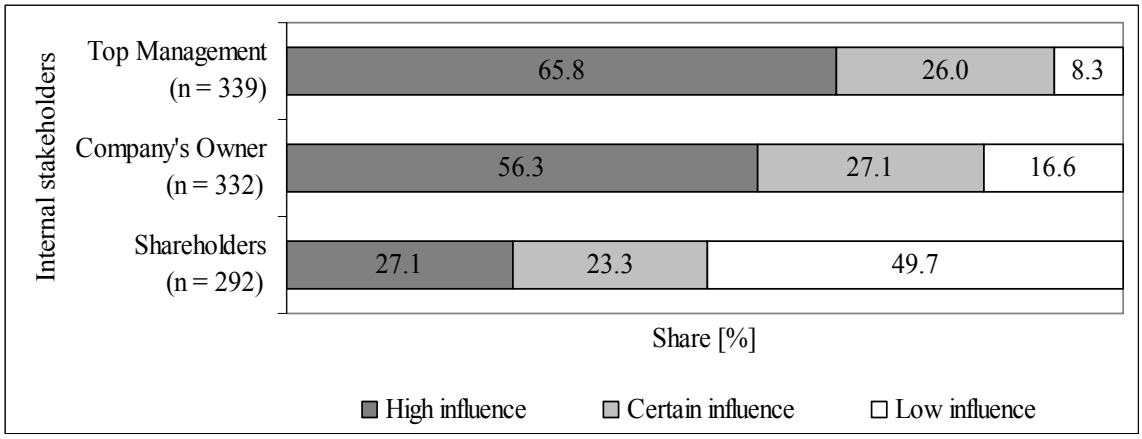
other hand. Regarding the publication of company data, the SuM Strategy Passives have to disclose their data to the highest extent, as indicated by the means. This result can be attributed to the fact that SuM Strategy Passives consist of comparatively larger food processing companies which generally have to disclose their company data more often than smaller food companies due to the legal form of the enterprise. However, these food companies account for only 35% of all SuM Strategy Passives.

Therefore, *hypotheses* $H_{4/2\text{-}4/4}$ – i.e. that higher market share, higher brand awareness, and mandatory disclosure lead to a greater commitment to sustainability marketing – *cannot be accepted*.

6.1.2 Internal stakeholders[58]

The three stakeholders (the company's owner, the top management, and the shareholders) represent the company-internal drivers towards sustainability marketing. Figure 6.7 reflects their influence as perceived by the responding food processing companies.

Figure 6.7: Influence of internal stakeholders regarding sustainability marketing (N = 362)



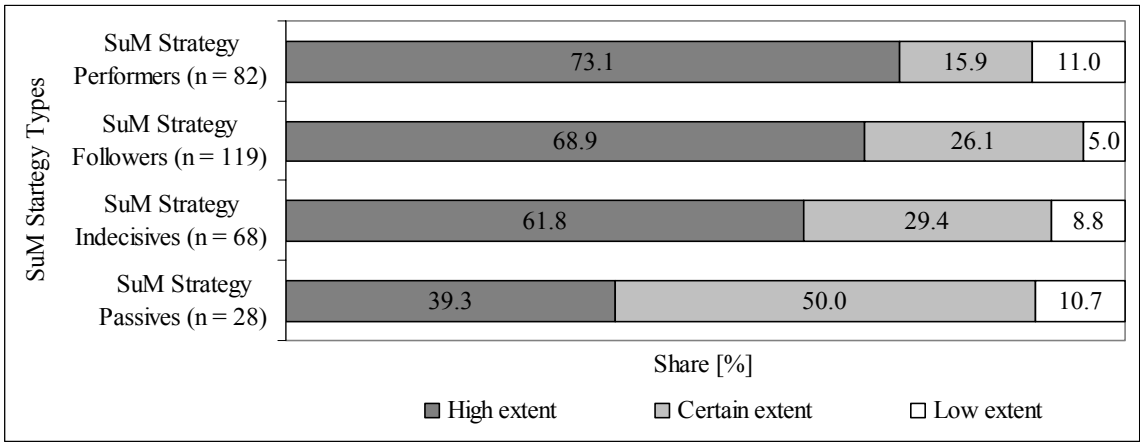
The top management represents the most influential internal stakeholder. 65.8% of the SuM food companies ascribe a high influence to the top management with regard to their sustainability marketing commitment. The company's owner as internal driver influences 56.3% of the food processing companies to a high extent in terms of their socio-ecological marketing orientation. In contrast, the shareholders are the least

[58] In order to validate the stakeholder classification an additional factor analysis (three-factor solution) was conducted. It leads to the so far pursued classification of the three stakeholder groups: internal stakeholders, market stakeholders, and public stakeholders (Appendix III, 3).

influential internal stakeholders. Only 27.1% of the food processing companies state a strong influence in this regard. In turn, almost 50% of the food processing companies hardly perceive any pressure from their shareholders. This high share of low perceived influence by shareholders can be explained amongst other things by the fact that the last answering category ('low influence') also contains the responses of food processing companies which do not have shareholders. It can be assumed that this share is quite large, particularly if the high number of small- and medium-sized companies is considered. How do these internal influences distribute themselves among the different SuM strategy types? Are there significant differences which can be interpreted as 'drivers for specific characteristics of sustainability marketing'?

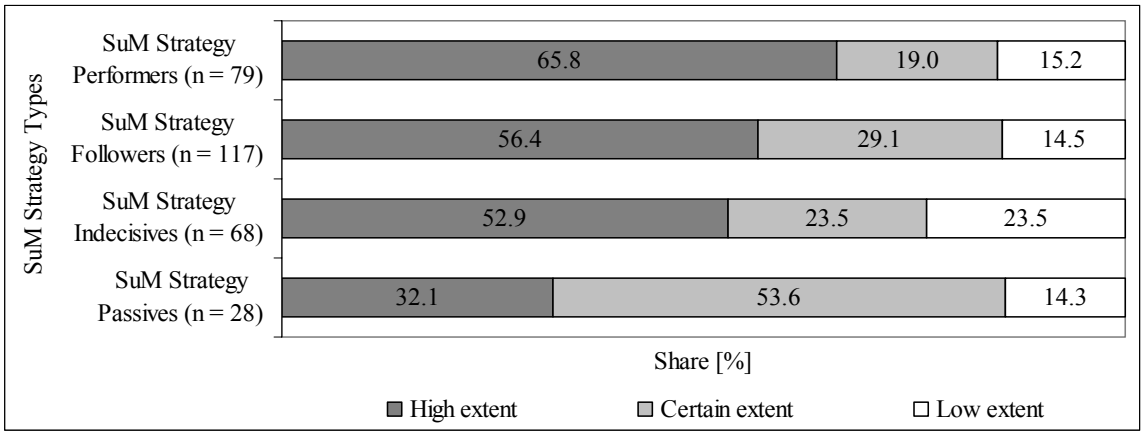
As outlined above, the *top management* is the most influential internal driver. However, with regard to the four SuM strategy types there are key differences (figure 6.8). 73.1% of all food processing companies defined as SuM Strategy Performers perceive the top management as a highly influential driver towards sustainability marketing. A similar high assessment of the driver top management is made by the SuM Strategy Followers (68.9%). Within both SuM strategy types the high pressure from the top management is perceived above average. In terms of the SuM Strategy Indecisives it can be observed that they perceive pressure comparatively often by the top management to a certain extent (29.4%). However, in comparison to the previously mentioned three SuM strategy types, the SuM Strategy Passives feel the least influence by this internal stakeholder. The majority (50.0%) of the SuM Strategy Passives attribute only a certain influential pressure regarding the sustainability marketing commitment to the top management.

Figure 6.8: Influence of top management by SuM strategy type (N = 297)



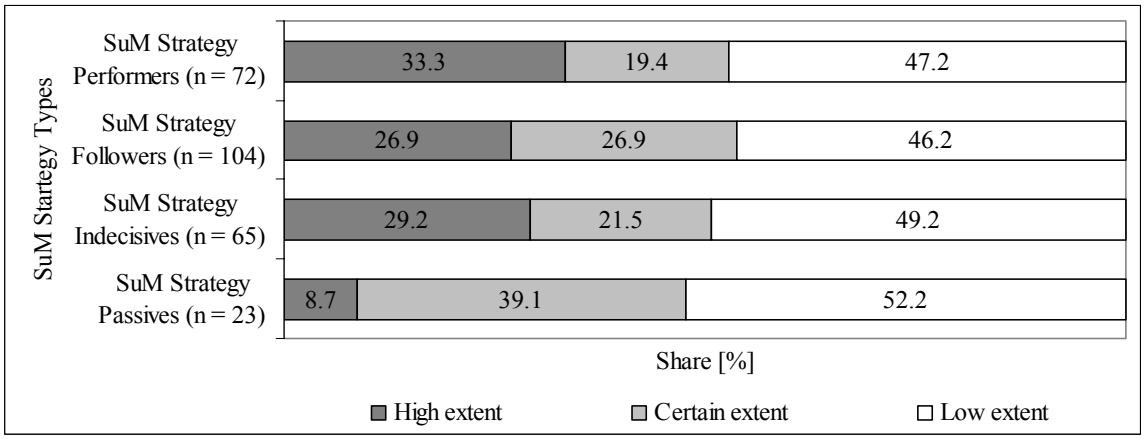
The *company's owner* is the second most influential internal driver behind the top management (figure 6.9). 65.8% of the SuM Strategy Performers perceive a high influence from the company's owner in terms of the sustainability marketing. In turn, only 32.1% of the SuM Strategy Passives see a highly influential driver in this internal stakeholder. They perceive the influence by the company's owner to be above average only to a certain extent (53.6%). The SuM Strategy Followers and Indecisives can be classified between the two SuM strategy types that have already been described. However, more than 50% of their food processing companies still perceive the owner as a highly influential driver towards sustainability marketing (56.4% and 52.9% respectively).

Figure 6.9: Influence of company's owner by SuM strategy type (N = 292)



The *shareholders* form the third internal stakeholder (figure 6.10). However, compared to the two previously described internal drivers (i.e. top management and the company's owner) the shareholders are perceived as less influential in terms of the socio-ecological marketing orientation. The most pressure from this stakeholder is perceived by the SuM Strategy Performers (33.3%), followed by the SuM Strategy Indecisives (29.2%) and Followers (26.9%). Additionally, it is noticeable that for every SuM strategy type, about 50% of the food processing companies do not associate a particular pressure with the shareholders. The least influence by the shareholders is stated by the SuM Strategy Passives. They perceive above average pressure to a certain (39.1%) or low extent (52.2%). Even though it can be assumed that due to its larger size the SuM Strategy Passives have to deal more often with shareholders, it seems that in terms of sustainability marketing the shareholders are not perceived as especially applying pressure.

Figure 6.10: Influence of shareholders by SuM strategy type (N = 264)



If the means and correlation coefficients between perceived internal stakeholder pressure and SuM strategy types are tested statistically, it can be observed that the SuM Strategy Performers and Followers feel more influenced by internal stakeholders concerning their sustainability marketing commitment than the SuM Strategy Indecisives and Passives (table 6.2). With regard to the top management (r = -.17**) and the company's owner (r = -.12*), the SuM Strategy Passives perceive significantly less pressure than the other SuM strategy types. For the shareholders, no significant correlation is found.

Table 6.2: Means and correlation coefficients between perceived influence from internal stakeholders and SuM strategy types (Spearman-rank-correlation-test) (N = 308)

	SuM strategy types							
	SuM Strategy Performers		SuM Strategy Followers		SuM Strategy Indecisives		SuM Strategy Passives	
Internal stakeholders[59]	$\bar{x}$	r	$\bar{x}$	r	$\bar{x}$	r	$\bar{x}$	r
Top management (n = 297)	2.62	.08	2.64	.07	2.53	-.04	2.29	**-.17****
Company's owner (n = 292)	2.51	.11	2.42	.02	2.29	-.06	2.18	**-.12***
Shareholders (n = 264)	1.86	.04	1.81	.01	1.80	-.01	1.57	-.08

The additional Mann-Whitney-U-test supports these findings. In terms of the perceived pressure from the top management (α = .005**) and the company's owner (α = .013*), it shows significant differences between the SuM Strategy Performers and Passives.

[59] For all internal stakeholders the following coding is used: 1: low extent; 3: high extent.

Moreover, there are significant differences between the SuM Strategy Followers and SuM Strategy Passives regarding the top management ($\alpha = .004^{**}$) (Appendix III, 4).

These findings can be interpreted as one reason why the SuM Strategy Passives do not feel a strong social and ecological responsibility to undertake sustainability marketing; namely because of the missing pressure by their top management or their owner. This is different in the case of the SuM Strategy Performers. They feel a comparatively strong responsibility to engage in sustainability marketing, pushed by their top management or their owner. It can be assumed that this results from their pursued competitive strategy. The SuM Strategy Performers follow a differentiation strategy in the high quality segment. Such a strategy necessarily claims the socio-ecological attention and commitment of the management and/or the owner. In contrast, the SuM Strategy Passives pursue a low-price strategy. Here, the focus is rather put on achieving overall cost leadership. As a result, the socio-ecological commitment of their management and/or owner is comparatively less distinctive.

Therefore, *hypothesis* H_5 – that the internal stakeholders constitute drivers for the sustainability marketing commitment of food processing companies – can be *tentatively accepted* for the *top management* and the *company's owner*, but not for the shareholders. The two first-mentioned have a significant influence on the characteristics of sustainability marketing. However, whether their influence is sound and has a relative importance compared to the other drivers in terms of sustainability marketing needs to be tested further.[60]

[60] A triangulation with other empirical studies concerning all nine stakeholders under analysis and an interpretation of the present findings take place in section 6.3.

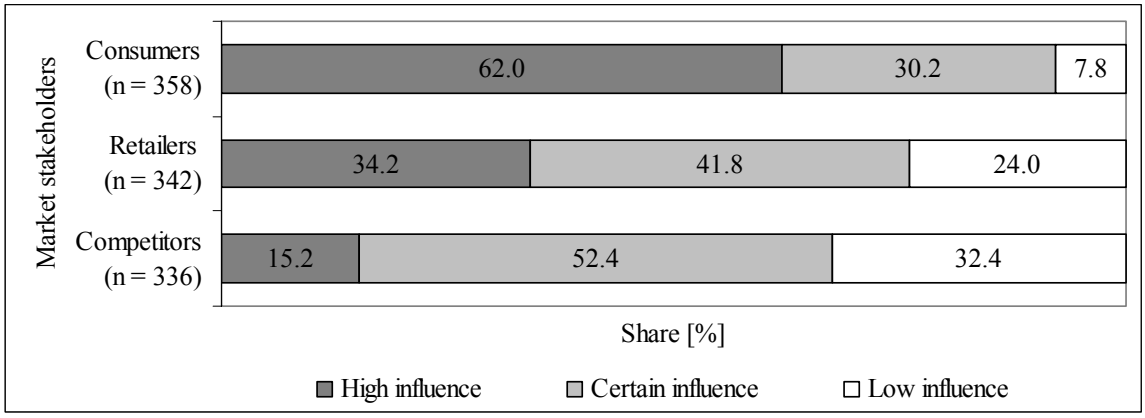
6.2 Influence of external sustainability marketing drivers

Following the analysis of the internal drivers for the commitment to sustainability marketing, the external drivers will be evaluated. They can be divided into market stakeholders (section 6.2.1) and public stakeholders (section 6.2.2). The results are presented in the following.

6.2.1 Market stakeholders

Similar to the internal stakeholders, the questioned food processing companies assign the highest influence regarding sustainability marketing to one market stakeholder in particular. This driver is the consumer (figure 6.11). 62.0% of the SuM food companies perceive a high degree of influence from the consumers. Only a small share (7.8%) of the food processing companies attribute a low influence to the consumer. The second most influential market stakeholder is the retailer (34.2%). However, most food processing companies perceive only a certain pressure from this external stakeholder (41.8%). The competitors do not highly influence the socio-ecological marketing orientation of the SuM food companies. Their pressure is perceived as being lower than that of the others. Almost one-third (32.4%) of the food processing companies perceive a low and 52.4% a certain influence from the competitors. In the following the question is answered as to whether there are any significant differences in terms of perceived pressure distinguished by SuM strategy type.

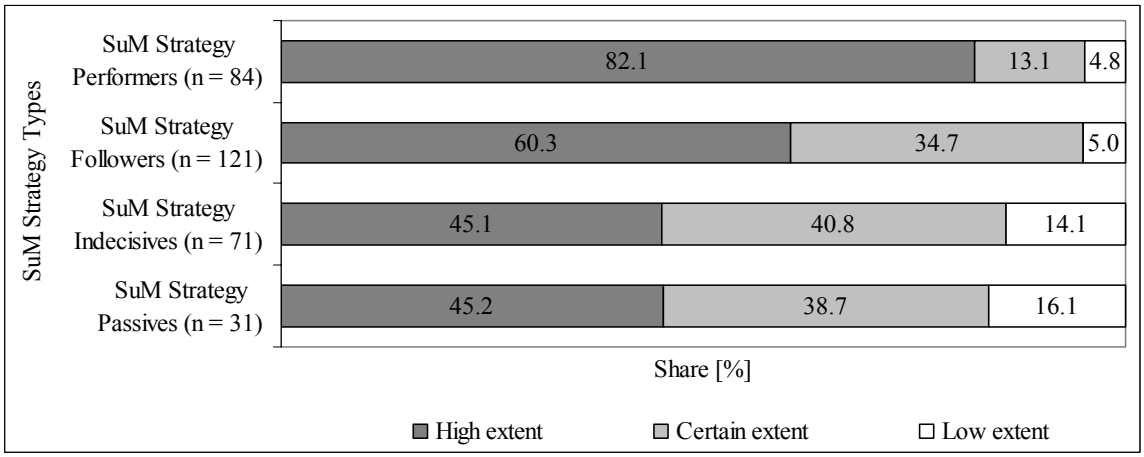
Figure 6.11: Influence of market stakeholders regarding sustainability marketing (N = 362)



The first external driver under analysis in terms of its distribution among the SuM strategy types is the *consumer*. The comparison shows that the consumer seems to play

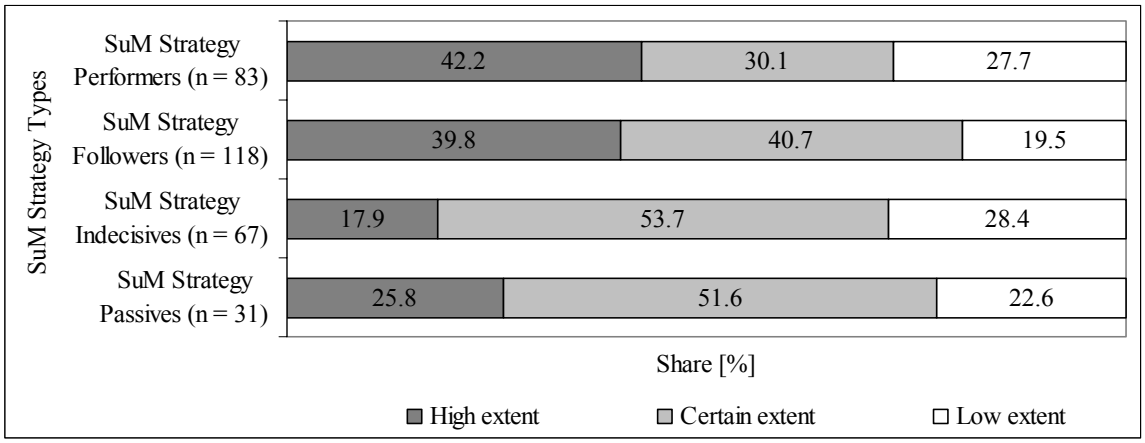
a decisive role in terms of the implementation of sustainability marketing (figure 6.12). 82.1% of the SuM Strategy Performers state that this driver influences their sustainability marketing orientation to a high extent. Concerning the SuM Strategy Followers, only 60.3% of the food processing companies perceive the consumer as a driver which has a high influential impact. In addition, 34.7% of the SuM Strategy Followers perceive influence by the consumer only to a certain extent. The SuM Strategy Indecisives and Passives also see the consumers as a main driver – however, to a much lesser extent (45.1% and 45.2% respectively). These two SuM strategy types perceive an above average influence to a certain (40.8% and 38.7% respectively) as well as to lower extent (14.1% and 16.1% respectively).

Figure 6.12: Influence of consumers by SuM strategy type (N = 307)



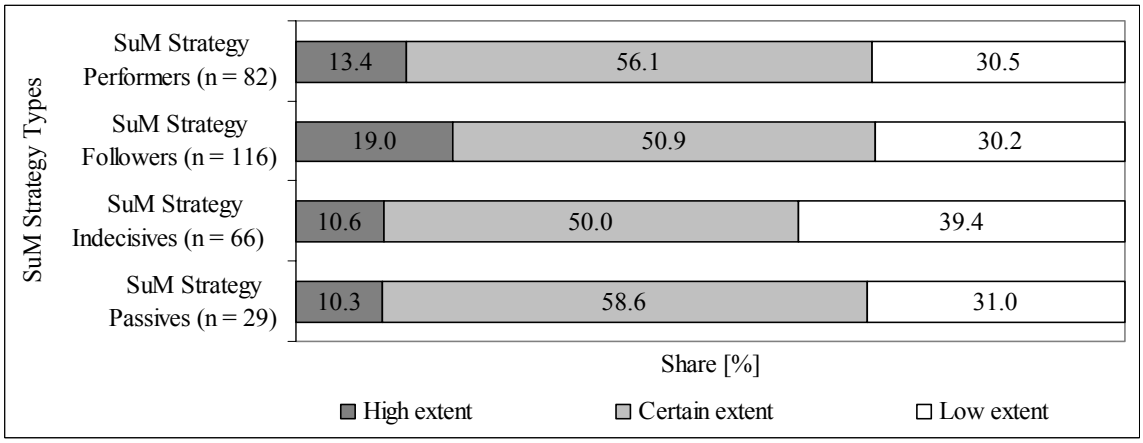
The second most influential driver from the market side is the *retailer*. Compared to the previously discussed driver of the consumer, however, the retailer is as such perceived as less pressurising (figure 6.13). The highest influence is observed by the SuM Strategy Performers (42.2%) and Followers (39.8%). The food processing companies within the SuM Strategy Passives (51.6%) and Indecisives (53.7%) primarily assign pressure to the retailer to a certain extent. An explanation for the perceived higher pressure from the retailer by the SuM Strategy Performers and Followers might be their niche or selected market segment strategy on the one hand and their multi-channel distribution on the other hand. They market their sustainable food products through a number of specialised distribution channels which place great importance on socio-ecological aspects. This might enlarge the perceived pressure in terms of their commitment to sustainability marketing.

Figure 6.13: Influence of retailers by SuM strategy type (N = 299)



The third driver of the market pull that is to be analysed is the *competitor*. Generally, it can be observed that the influence emanating from the competitor is lower than the influence from the previous two market drivers (figure 6.14). What is interesting about this driver is that the SuM Strategy Followers (19.0%) feel the most pressure from the competitors – which might be the SuM Strategy Performers in this case. The SuM Strategy Performers (56.1%) and Passives (58.6%) tend to perceive influence from the competitors to a certain extent. The SuM Strategy Indecisives (39.4%) consider the competitors to have a lower influence than the other SuM strategy types.

Figure 6.14: Influence of competitors by SuM strategy type (N = 293)



Looking at the means and the correlation coefficients between these three market drivers and the SuM strategy types, significant relationships can be observed in terms of the consumers (table 6.3). The Spearman-rank-correlation-test states a positive correlation between consumer influence and the SuM Strategy Performer (r = .25**) as well as a negative correlation between consumer pressure and the SuM Strategy

Indecisives (r = -.19**) and Passives (r = -.12*) respectively. This means that the SuM Strategy Performers perceives significantly more often high pressure from the consumers whereas the SuM Strategy Indecisives and Passives perceive significantly less often demands from the consumers in terms of commitment to sustainability marketing. Additionally, a significant correlation is found in terms of retailers. The SuM Strategy Indecisives correlate negatively with the perceived retailer influence (r = -.15**) which implies that they do not seem to perceive much influence by the retailer in terms of sustainability marketing commitment. No significant correlation is detected for the competitor as the third market pull driver.

Table 6.3: Means and correlation coefficients between perceived influence from market stakeholders and SuM strategy types (Spearman-rank-correlation-test) (N = 308)

External drivers: market stakeholders[61]	SuM strategy types							
	SuM Strategy Performers		SuM Strategy Followers		SuM Strategy Indecisives		SuM Strategy Passives	
	$\bar{x}$	r	$\bar{x}$	r	$\bar{x}$	r	$\bar{x}$	r
Consumers (n = 307)	2.77	**.25****	2.55	.01	2.31	**-.19****	2.29	**-.12***
Retailers (n = 299)	2.14	.04	2.20	.11	1.90	**-.15****	2.03	-.03
Competitors (n = 293)	1.83	.01	1.89	.08	1.71	-.09	1.79	-.01

Similar results are also found by means of the Mann-Whitney-U-test (Appendix III, 4). There are no differences between the SuM strategy types in terms of the perceived pressure from the competitors. In contrast, the consumers' pressure is observed differently by the SuM strategy types. The SuM Strategy Performers vary significantly from all three other SuM strategy types, i.e. the Followers (α = .002**), the Indecisives (α = .000***), and the Passives (α = .000***). Moreover, the SuM Strategy Followers differ noticeably from the Indecisives with regard to the consumers' influence (α = .018*). Regarding the perceived pressure from the retailer, distinctions can be made between the SuM Strategy Indecisives on the one hand and the SuM Strategy Performers (α = .045*) and Followers (α = .005**) on the other hand.

[61] For all market stakeholders the following coding is used: 1: low extent; 3: high extent.

Therefore, the following assumptions can be made with regard to the *'market' control system* and its institutional representatives. There are in particular the consumers which make demands on the SuM Strategy Performers to pursue sustainability marketing. They require from the SuM Strategy Performers high quality, sustainable food products and a kind a marketing which allows transparency and traceability. In contrast, the SuM Strategy Indecisives and Passives perceive comparatively less influence by the consumers to undertake sustainability marketing, and consequently also to offer sustainable food products. For them, other aspects make up their focus. It can be assumed, for example, that the SuM Strategy Passives offer comparatively low-price food products because that is what is demanded from them by the consumers. In addition, the SuM Strategy Indecisives also perceive less pressure from the retailers to pursue sustainability marketing. It seems that because of their 'stuck-in-the-middle' positioning no particular socio-ecological demands are being laid on the SuM Strategy Indecisives by either the consumers or the retailers. In total, it can be concluded that the 'market' control system (i.e. consumers and retailers) seem to have a high influence on whether food processing companies offer high quality, sustainable food products or not.

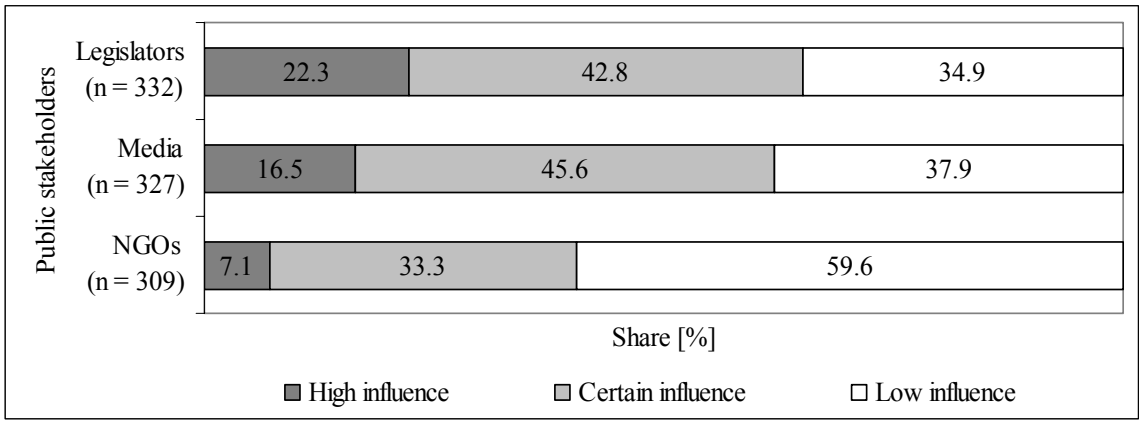
With regard to the significant correlations and differences, *hypothesis* H_6 – that the market stakeholders make up drivers for the sustainability marketing commitment of food processing companies – can only be *tentatively accepted* for two of the three market stakeholders: *consumers* and *retailers*. They both have a significant influence on the characteristics of sustainability marketing. Yet their relative influence compared to the other drivers in terms of sustainability marketing needs to be tested further.

6.2.2 Public stakeholders

In general, it can be stated that the influence of the public stakeholders is perceived as somewhat lower compared to the market stakeholders and the internal stakeholders (figure 6.15). Especially the NGOs are perceived as not being particularly influential. 59.6% of the SuM food processing companies state that NGOs only have a low level of influence on their sustainability marketing commitment. A mere 7.1% perceive NGOs as exerting a high degree of pressure. In terms of the media 45.6% of the questioned food companies observe a certain amount of influence. The highest influence regarding the public stakeholders is assigned to the legislators. 22.3% of the food processing companies perceive a high pressure from the legislators, but 42.8% and 34.9%

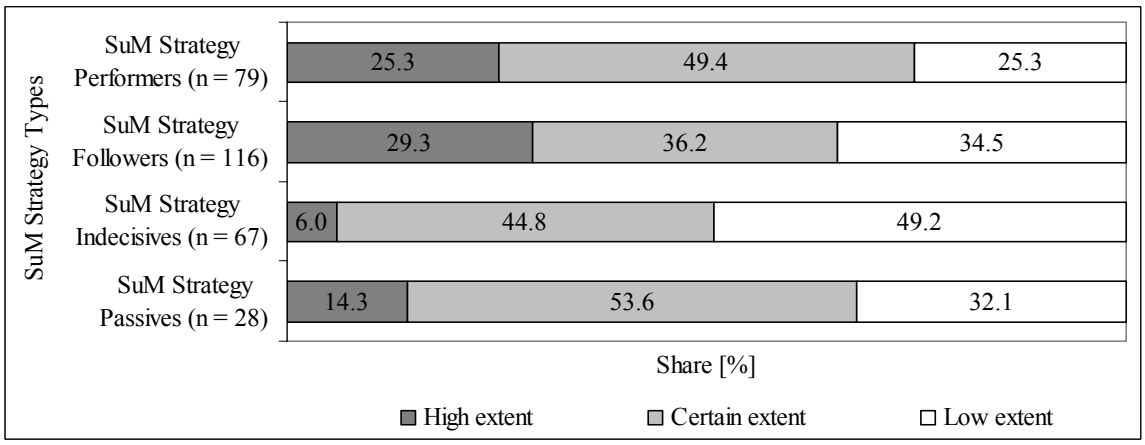
respectively only feel a certain or low influence from this public stakeholder. So, how are the different public push drivers distributed among the SuM strategy types? Are there any significant correlations or differences which might serve as an explanation for a certain sustainability marketing commitment?

Figure 6.15: Influence of public stakeholders regarding sustainability marketing (N = 362)



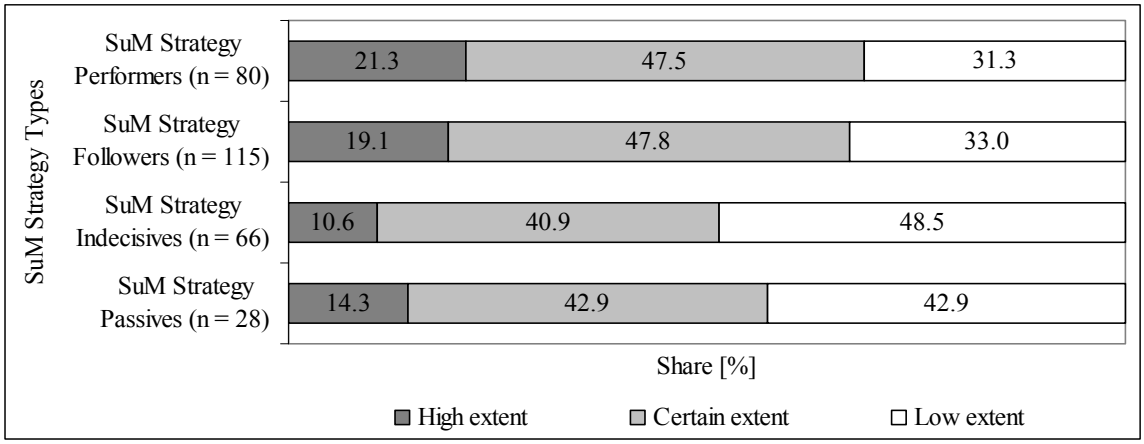
The first public stakeholder to be analysed according to the different SuM strategy types is the *legislator* (figure 6.16). By far the least influence from the legislators is perceived by the SuM Strategy Indecisives. 94% of the food processing companies within this SuM strategy type ascribe only a certain or low influence to the policy-makers and merely 6.0% perceive a high degree of influential pressure coming from this stakeholder. Again the most pressure is stated by the SuM Strategy Performers (25.3%) and Followers (29.3%). Regarding the SuM Strategy Passives, the majority of the food companies (53.6%) ascribe a certain influence to the legislator.

Figure 6.16: Influence of legislators by SuM strategy type (N = 290)



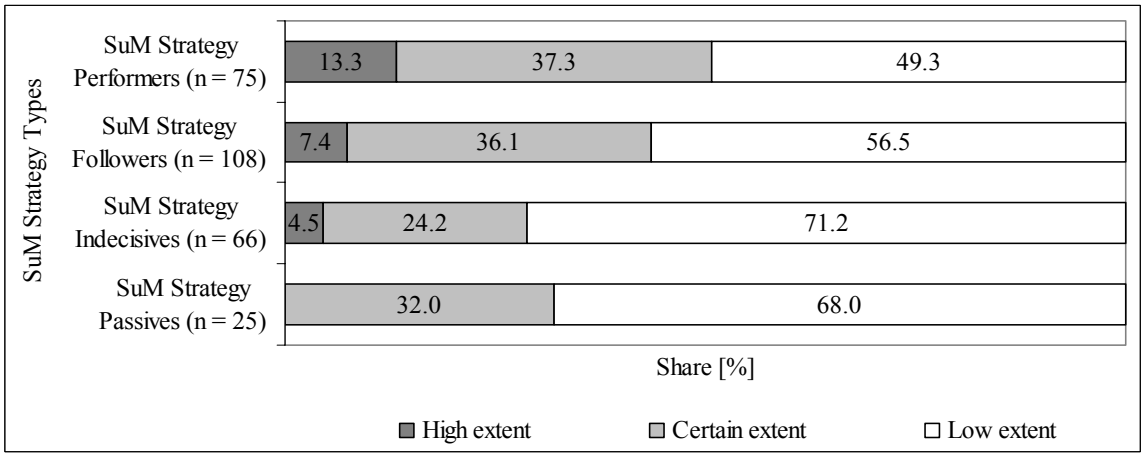
Regarding the *media*, the second most influential public stakeholder, the differences between the SuM strategy types are comparatively small (figure 6.17). Indeed, the SuM Strategy Performers (21.3%) and Followers (19.1%) perceive the highest pressure from the media but, notably, most food processing companies (40.9% to 47.8%) within all SuM strategy types assign only a certain degree of influence to the media. Again, the SuM Strategy Indecisives attribute the least pressure to the media with 48.5% of the food processing companies perceiving pressure only to a low extent.

Figure 6.17: Influence of media by SuM strategy type (N = 289)



Non-governmental organisations (NGOs) form the third public stakeholder and at the same time constitute the driver with the lowest level of perceived influence with regard to sustainability marketing. Whereas more than 50% of the SuM Strategy Performers perceive NGOs as applying pressure to a high or certain extent, the majority of the other three SuM strategy types feel only influenced by this driver to a low degree (figure 6.18). Regarding the SuM Strategy Passives there is no food processing company at all which states that it is influenced to a high extent by NGOs.

Figure 6.18: Influence of NGOs by SuM strategy type (N = 274)



Evaluating the means and the correlation coefficients between the public push and the SuM strategy types, significant relationships can be observed in terms of all three public push drivers (table 6.4). The SuM Strategy Performers positively correlate with the perceived pressure from the legislators (r = .12*) as well as from NGOs (r = .14*). That means that they tend to perceive themselves as being highly influenced by these two public stakeholders in terms of their sustainability marketing commitment. In contrast, the SuM Strategy Indecisives correlate negatively with the perceived influence by the legislators (r = -.22**), the media (r = -.14*), and NGOs (r = -.14*). Consequently, they do not feel particularly pressured by these public stakeholders to take up sustainability marketing.

Table 6.4: Means and correlation coefficients between perceived influence from public stakeholders and SuM strategy types (Spearman-rank-correlation-test) (N = 308)

External drivers: public stakeholders[62]	SuM strategy types							
	SuM Strategy Performers		SuM Strategy Followers		SuM Strategy Indecisives		SuM Strategy Passives	
	$\bar{x}$	r	$\bar{x}$	r	$\bar{x}$	r	$\bar{x}$	r
Legislators (n = 290)	2.00	**.12***	1.95	.09	1.57	**-.22****	1.82	-.01
Media (n = 289)	1.90	.08	1.86	.07	1.62	**-.14***	1.71	-.04
NGOs (n = 274)	1.64	**.14***	1.51	.04	1.33	**-.14***	1.32	-.07

In addition, the Mann-Whitney-U-test indicates significant differences between the SuM strategy types and their perceived pressure (Appendix III, 4). The SuM Strategy Performers and Indecisives differ significantly regarding all three public stakeholders i.e. legislators (α = .000***), the media (α = .019*), and NGOs (α = .006**). Similar findings are made regarding the divergences between the SuM Strategy Followers and Indecisives. They also significantly vary in terms of perceived pressure from the legislators (α = .002**), the media (α = .027*), and NGOs (α = .054). Moreover, a noticeable difference is detected between the SuM Strategy Performers and Passives regarding their perception of pressure exerted by NGOs (α = .055).

The following assumptions can be made with respect to the *'politics' control system* and its key institutional representative. The SuM Strategy Performers perceive

[62] For all public stakeholders the following coding is used: 1: low extent; 3: high extent.

comparatively high influence from the legislators to pursue sustainability marketing. This higher perceived influence might be explained by the legislators' increasing intervention in the market for sustainable food products (e.g. EG-Öko-Verordnung, numerous information campaigns). The SuM Strategy Performers feel governed in their market behaviour predominantly because they process sustainable food products. In contrast, those food processing companies (i.e. SuM Strategy Indecisives) which offer food products with a rather low socio-ecological product quality perceive comparatively less pressure from the legislator to undertake sustainability marketing. Therefore, it can be assumed that there are particular political instruments (e.g. the national 'Bio-Siegel') which for the most part address those food processing companies which are comparatively more socio-ecological responsible (Teriete 2007, pp. 33-34).

With regard to the *'public' control system* and its relevant institutional representative, it can be stated that the SuM Strategy Performers perceive comparatively higher influence from the NGOs to take up sustainability marketing. The perceived pressure by the NGOs is in total smaller than, for example, by the consumers and the legislators. However, the relationship between NGOs and (food processing) companies is fragile, and therefore it needs to be taken seriously (Ebinger 2007, pp. 1-2). More and more food processing companies of high quality, sustainable food products proceed to inform NGOs a priori about particular (critical) circumstances to avoid negative headlines and PR campaigns (e.g. Krost 2007, p. 2). In contrast, the SuM Strategy Indecisives feel relatively low pressure by the NGOs as well as by the media to pursue sustainability marketing. It seems that they do not fear social ostracism if they do not commit to sustainability marketing. It can be assumed that due to their unfavourable – and at the same time inconspicuous – situation in the market, these food processing companies are subjected to less public pressure compared to food processing companies which are at the high quality end of the food market.

Due to these findings, *hypothesis H_7* – the public stakeholders form drivers for the sustainability marketing commitment of food processing companies – can be *tentatively accepted* for all three public stakeholders. The characteristics of sustainability marketing are significantly influenced by these public stakeholders. However, whether their influence has a relative importance compared to the other drivers in terms of sustainability marketing needs to be examined further.

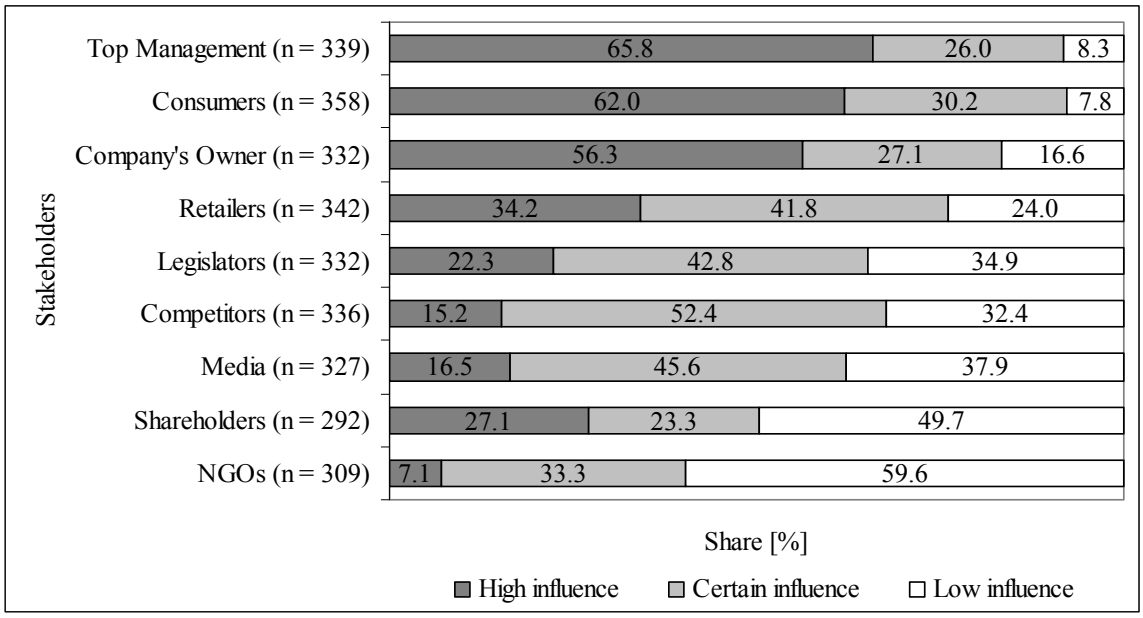
6.3 Comparative evaluation of the stakeholder influence

Overall stakeholder influence

Following the separate analysis of the internal, market, and public stakeholders, figure 6.19 summarises the findings and ranks the three internal and the six external stakeholders according to their means. By far the highest influence emanates from the top management ($\bar{x}$ = 2.58), the consumers ($\bar{x}$ = 2.54), and the company's owner ($\bar{x}$ = 2.40), followed by the retailers ($\bar{x}$ = 2.10), the legislators ($\bar{x}$ = 1.87), the competitors ($\bar{x}$ = 1.83), and the media ($\bar{x}$ = 1.79). The lowest influences come from the shareholders ($\bar{x}$ = 1.77) and NGOs ($\bar{x}$ = 1.48).

A statistical comparison (t-test) of the stakeholders' means shows significant differences. All means of the stakeholders except the consumers are significantly smaller ($\alpha \leq .000$***) than the reference stakeholder of the top management (Appendix III, 5).

Figure 6.19: Synopsis of the perceived stakeholders' influence (N = 362)



In terms of the three stakeholder categories – i.e. internal, market, and public – the synopsis shows as well that the internal stakeholders are perceived as the drivers applying the most pressure in terms of sustainability marketing with an average mean of $\bar{x}$ = 2.25. Also the market stakeholders are perceived as crucial drivers for socio-ecological marketing orientation ($\bar{x}$ = 2.16). In comparison to the previous two groups of stakeholders, the influence of the public stakeholders is assessed as being lower ($\bar{x}$ = 1.71). It can be stated that the public push plays only an inferior role. In general,

sustainability marketing in the food industry seems to be an *internal* and *market-driven initiative* rather than a behaviour dictated by politics or the public (NGOs and media).

In the following these findings regarding the stakeholders' influence on sustainability marketing are compared to other studies which also evaluate the pressure exerted by stakeholders in terms of corporate socio-ecological (marketing) commitment. However, similarities and differences between these empirical studies should not be overinterpreted because the studies all refer to different countries and industries and do not always relate to the specific field of sustainability marketing. Nevertheless, the comparison of the results of the SuM research study with related empirical studies puts them into a sound perspective.

In an empirical study conducted in 1997/98, *Belz (2003b)* evaluates the impact of various stakeholders in terms of firms' *eco-marketing activities*. This study which comprises *ten European countries* and *twelve different industries* outlines a ranking of perceived pressure from stakeholders. The most pressure emanates from (1) the national legislators and (2) the management, followed by (3) consumers, (4) NGOs, (5) media, (6) competitors, and (7) retailers (Belz 2003b, p. 175). In comparison to the SuM research study, it can be stated that in the study by Belz (2003b) the pressure from authorities (i.e. legislators and NGOs) is perceived as more insistent whereas the influence of the retailer is perceived as being lower. These findings can be ascribed amongst others to the fact of the *different country* and *industry foci* of the two studies. In industries such as leather and metal, environmental authorities play a more important role than in the food industry (Belz 2003b, pp. 176-177). Additionally, increasing experiences in dealing with NGOs and a growing willingness to cooperate on both sides can be assumed as reasons why NGOs are perceived as being less influencing in the SuM research study compared to other stakeholders (Nick et al. 2007, p. 11). In turn, retailers exert much more influence in the food industry compared the other industries (Belz 2003b, p. 177). The retailers in particular seem to play a decisive role in the German food industry. Following the top management, the consumers, and the company's owner, the retailers make up the fourth greatest perceived pressure. Instead of perceiving competitive influence from other firms, food processing companies tend to feel rather pressured by retailers. This fact reflects the strong power that retailers have within the German food market. In addition, the study by Belz (2003b) reveals that in German-speaking countries the majority of the companies belong to the two clusters

which perceive less pressure from the legislators and more pressure from market stakeholders compared to other European countries (Belz 2003b, pp. 177-178). These findings support again the results of the SuM research study. It can be concluded that compared to the broad research focus of the study by Belz (2003b) in terms of country and industry focus, the findings of the SuM research study reflect the characteristics of the *German food processing industry*.

In another empirical survey conducted in *Switzerland* 2003 by *Belz (2005b)*, the questioned companies of *different industries* state that their perceived main drivers for *sustainability marketing commitment* are (1) the consumers and (2) the management followed by (3) the general public, (4) the legislators, and (5) the competitors (Belz 2005b, p. 30). These findings are comparatively similar to the ones of the SuM research study. Despite the broader industry focus of the Swiss study, the main drivers for sustainability marketing are in both studies the top management and the consumers. Noticeably, the legislator is perceived as applying less pressure in the study by Belz (2005b) compared to the study by Belz (2003b). This result further supports the differentiated finding of the previous study (2003b) that firms in German-speaking countries perceive less pressure from public stakeholders and more pressure from market stakeholders.

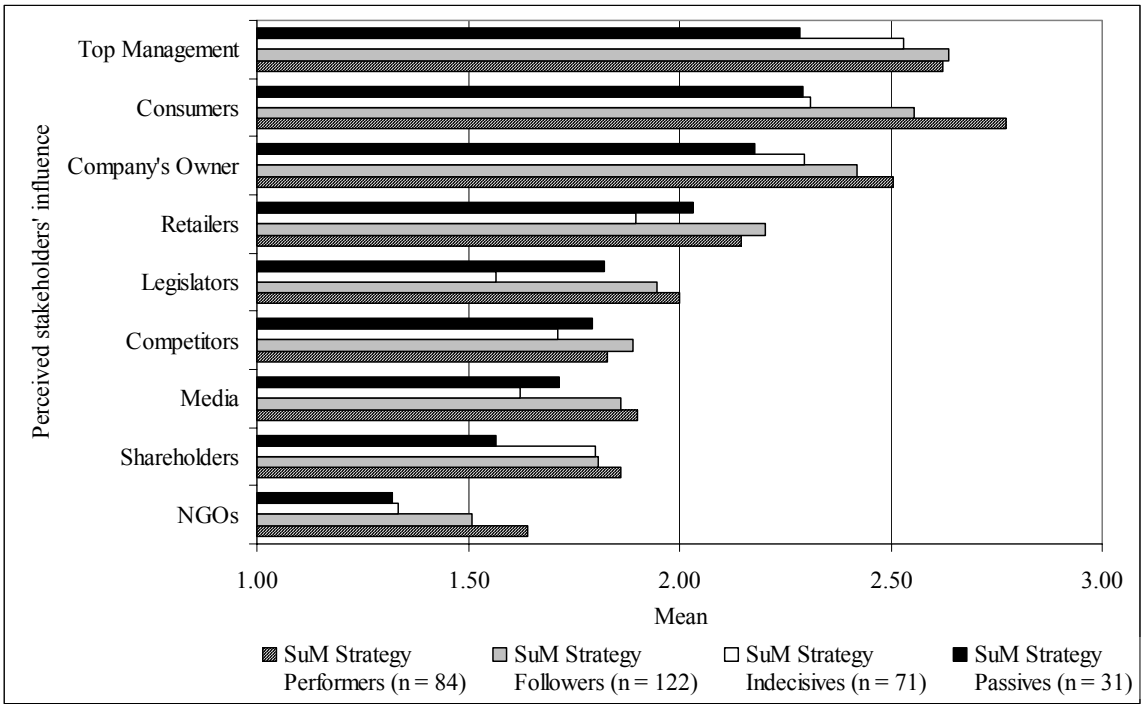
A third empirical study which is alluded to in order to compare the present findings of the SuM research study is conducted in *Germany* by *Hahn/Scheermesser (2006)*. They analyse a number of reasons for corporate sustainability activities in *different industries*. If the stakeholders are separately considered, the strongest degree of influence stems from (1) the management and (2) the consumers. Less influence derives from (3) the shareholders, (4) NGOs, and (5) the legislators. In spite of small disparities it can be stated that this study also further supports the findings of the SuM research study.

The comparison of the different empirical studies dealing with the influence of stakeholders on corporate sustainability commitment in general and on sustainability marketing commitment in particular validates the findings of the SuM research study that the *top management* and the *consumers* are the main drivers for sustainability marketing. Moreover, the *company's owner* and the *retailers* form additional stakeholders exerting pressure, which can be interpreted as characteristic to the German food processing industry.

Stakeholder influence differentiated by SuM strategy type

Figure 6.20 presents the synopsis of the mean comparison of all analysed stakeholders by SuM strategy type. In general, it can be seen that the SuM Strategy Performers and Followers perceive per se more pressure from all stakeholders compared to the SuM Strategy Indecisives and Passives. Regarding all but three stakeholders (top management, retailers, and competitors), the SuM Strategy Performers identify the most pressure. In turn, these three stakeholders are perceived as sources of particular pressure by the SuM Strategy Followers. As a consequence, it can be inferred that food processing companies which perceive more pressure from all stakeholders than other food processing firms implement sustainability marketing to a greater extent. Hence, this higher perceived pressure might be a key reason as to why they pursue specific sustainability marketing.

Figure 6.20: Perceived stakeholders' influence by SuM strategy type



Except for the stakeholders, competitors and shareholders, there are significant differences between the SuM strategy types in terms of their perceived pressure to take up sustainability marketing (Mann-Whitney-U-test) (Appendix III, 4). Particularly the drivers of the consumers, legislators, top management, NGOs, and retailers exert significantly ($\alpha \leq .01$**) more pressure on the SuM Strategy Performers and Followers respectively to pursue sustainability marketing. It is noticeable that these significant

stakeholders belong to all three groups of stakeholders, i.e. internal, market, and public stakeholders. Even though the most pressure in total is perceived from internal and market stakeholders (see figure 6.19), a differentiated consideration of the perceived pressure by SuM strategy type does not reveal an especially strong influence from the one or the other stakeholder group. These findings are opposed to the ones made by Belz (2003b). He showed that eco-marketing activities are particularly induced by market stakeholders (Belz 2003b, p. 176).

These findings lead to the following assumption which has already been indicated during the consideration of the single stakeholders: with regard to the German food processing industry there seems to be a change in the effectiveness of the 'politics' and 'public' control systems. Qualitative studies have shown that (socio-) ecological demands are expressed in public before they take effect – in a direct or indirect way over politics – in the market (Dyllick et al. 1997, pp. 39-45). Market demands such as the increasing request for sustainable food products by consumers are therefore transformed public and political demands. Thus, eco-marketing has been particularly induced by market stakeholders such as consumers, retailers, and competitors. At most, political and public stakeholders exert indirect influence on the characteristics and the extent of eco-marketing (cf. Belz 2003b, p. 176).
However, the SuM research study shows that besides the market stakeholders (i.e. consumers and retailers) there are further political and public stakeholders (i.e. legislators and NGOs) which seem to directly influence food processing companies so that they increasingly commit to sustainability marketing:

- Alongside enacting laws and regulation and, in doing so, exerting indirect influence on food processing companies to act in a socio-ecologically responsible manner, the *'politics' control system* also makes use of market instruments which exercise direct influence on food companies' commitment to sustainability marketing. One market instrument of the German legislator is of particular interest: the national 'Bio-Siegel' which was introduced in September 2001. The 'Bio-Siegel' is a third-party label which reduces information asymmetries between producers and consumers of sustainable food products and which accomplishes clarity, homogeneity, and orientation with regard to sustainable food products. It is the only national quality label for food products. With the introduction of a national third-party label the legislator gives the consumers a tool which makes it possible to differentiate

sustainable from conventional food products at a glance – particularly with respect to the high number of different third-party labels (BLE 2005, p. 3). In doing so, the legislator intervenes directly in the market for sustainable food products and aims at transforming it in favour of sustainable food products.

- In general, the *'public' control system* with its stakeholders applies as well indirect influence on food processing companies to act in a socio-ecologically responsible manner: for instance, NGOs address the general public with demands such as the requirement for a clear declaration of the different ingredients ('traffic light labelling'). If favoured, the consumers than pass this pressure on to the food processing companies. However, the SuM research study comes to the conclusion that the NGOs also exert direct influence on the food processing companies. The relation between NGOs and food processing companies which was dominated by confrontation and public disputes seems to have changed: on the one hand the food processing companies have gained experience with NGOs over the years (Nick et al. 2007, p. 11), and yet are still aware of the NGOs' strong influence on the general public; on the other hand the NGOs have headed less for direct confrontation but rather have developed a tendency to also communicate and cooperate with the food processing companies. Therefore, besides exerting public pressure, NGOs show an increasing readiness to engage in dialogue directly with food processing companies (Bauske 2007, pp. 26-30; Nick et al. 2007, pp. 7-12). The NGOs' direct market pressure in terms of sustainability marketing is expressed by the findings in the SuM research study.

Therefore, those food processing companies which are particularly committed to sustainability marketing (i.e. SuM Strategy Performers and Followers) perceive not only pressure from the consumers but also from the legislators and NGOs. These stakeholders seem all to exert direct influence on the market for sustainable food products. However, to evaluate these findings, further research is needed.

6.4 Primary strategic sustainability marketing orientation

In addition to the perceived stakeholder influence, the food processing companies have been asked to state what strategic orientation they primarily pursue: (1) proactive in terms of market development and differentiation, (2) reactive with regard to raising reputation and keeping a good image or (3) both strategies with the same intensity.

Figure 6.21: Pursued primary strategic orientation (n = 329)

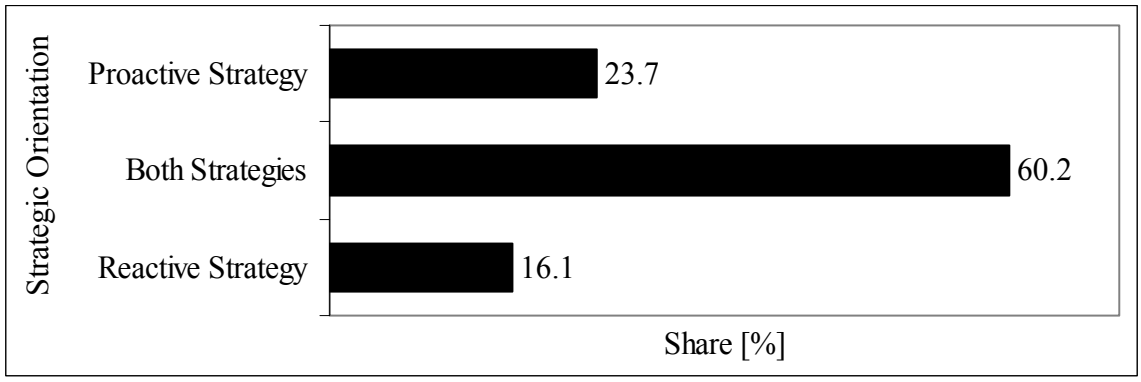
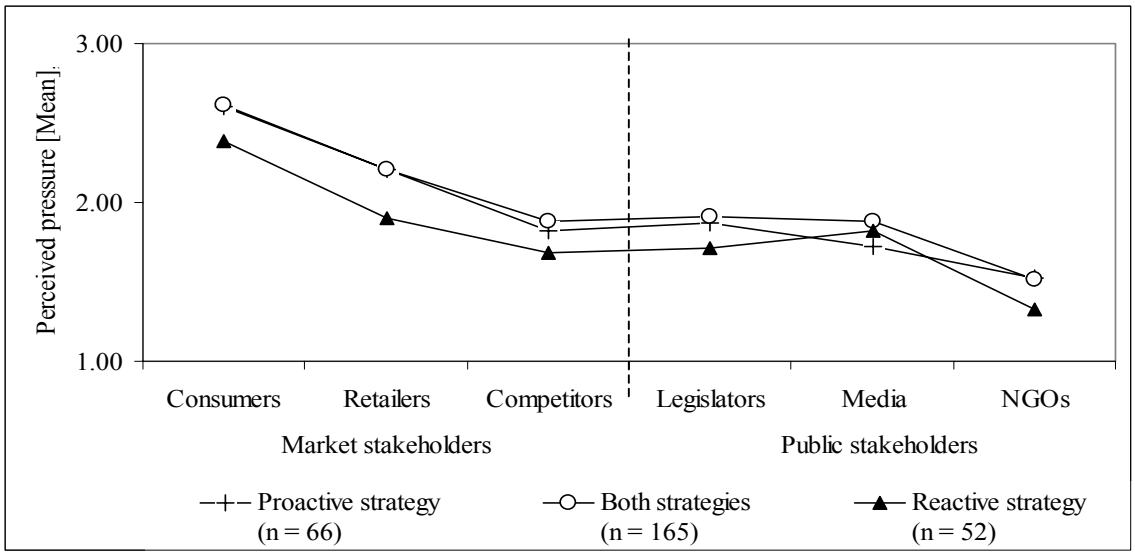


Figure 6.21 summarises the answers to this question. It can be stated that the majority of the food processing companies (60.2%) do not pursue either a proactive or a reactive strategy. They rather follow both strategic goals: market development and differentiation as well as raising reputation and maintaining a good image. However, the answers indicate that – if only one of the two strategies is followed – the proactive strategy (23.7%) overbalances the reactive strategy (16.1%). An explanation could lie in the growing market segment of sustainable food products. Instead of just being less vulnerable to public demands, the food processing companies see market opportunities to earn money with sustainable food products within the generally saturated German food market. However, in general the food processing companies do not particularly distinguish between these two strategic orientations but rather follow both strategies with the same intensity.

If the pursued strategic orientation is differentiated by the perceived pressure of the external stakeholders (i.e. either market stakeholders or public stakeholders), two findings can be observed (figure 6.22). Firstly, food processing companies which pursue either a proactive strategy or both strategies generally perceive greater pressure from all stakeholders than food processing companies which follow a reactive strategy. This applies particularly to market stakeholders. That means that those food processing

companies which rather deal with the market circumstances of sustainable food products perceive comparatively more pressure form the stakeholders in general and from the market stakeholders in particular than those food processing companies which rather defer and pursue a reactive strategy. Secondly, as already mentioned above, the market pressure is perceived to a higher extent than the public pressure.

Figure 6.22: Primary strategic orientation by perceived pressure from external stakeholders (N = 283) (for corresponding 'n's of stakeholders see table 6.5)



To evaluate hypothesis H_8, the relation between the perceived external pressure (i.e. market pull or public push) and the primary strategic orientation of the firms (i.e. proactive, reactive or both) is analysed (table 6.5). A significant correlation is only found for the perceived pressure from the consumers, retailers, and competitors. Here, the statistical test (Spearman-rank-correlation-test) shows significant negative relationships between reactive strategy orientation and the perceived pressure from the retailers (r = -.15*), the consumers (r = -.12*), and the competitors (r = -.11*).

This finding can be interpreted as follows: food processing companies which pursue a reactive strategy perceive a comparatively lower influence from the market side. This result validates the previous statement. However, no significant findings are found which support the assumption that food processing companies pursuing a proactive strategy perceive comparatively higher (lower) pressure from the market (public) stakeholders.

Table 6.5: Means and correlation coefficients between perceived influence from external stakeholders and primary strategic orientation (Spearman-rank-correlation-test) (N = 308)

Perceived influence from external stakeholders[63]		Primary strategic orientation					
		Proactive strategy		Both strategies		Reactive strategy	
		$\bar{x}$	r	$\bar{x}$	r	$\bar{x}$	r
Market pull	Consumers (n = 282)	2.60	.03	2.61	.07	2.38	**-.12***
	Retailers (n = 274)	2.20	.04	2.21	.09	1.90	**-.15***
	Competitors (n = 269)	1.82	-.01	1.89	.10	1.69	**-.11***
Public push	Legislators (n = 267)	1.87	-.01	1.91	.08	1.71	-.10
	Media (n = 266)	1.72	-.09	1.88	.08	1.82	-.01
	NGOs (n = 252)	1.53	.06	1.51	.04	1.33	-.11

These findings are supported by a mean comparison (Mann-Whitney-U-test). The test identifies significant differences in terms of perceived stakeholder pressure between the three strategic sustainability marketing orientations (Appendix III, 6). Particular distinctions can be found between those food processing companies which pursue a reactive strategy and those which pursue both strategies. As already indicated by the means above, the food processing companies which state that they follow a reactive sustainability marketing strategy perceive less pressure from the market side, i.e. retailers (α = .014**), consumers (α = .043*), and competitors (α = .054) compared to those food companies which pursue both strategic orientations. A further difference can also be found between those food processing companies which pursue a proactive strategy and those which pursue a reactive strategy. They vary with regard to the perceived pressure from the retailers (α = .040*) in the way that the former feel more pressure from the retailers than the latter. However, no significant differences can be observed in terms of the remaining public stakeholders (i.e. the legislators, the media, and NGOs).

By means of these findings, *hypothesis* $H_{8/1}$ can be *tentatively accepted*. There is a correlation between the less perceived pressure from the market stakeholders and a pursued reactive sustainability marketing strategy. However, there are no significant

[63] For all external stakeholders the following coding is used: 1: low extent; 3: high extent.

findings that indicate a correlation between a strong (less) perceived public push and a corresponding reactive (proactive) strategic behaviour. *Hypothesis $H_{8/2}$* can therefore *not be tentatively accepted*. As a result, *hypothesis H_8* can only be *partially tentatively accepted*.

6.5 Relative importance of sustainability marketing drivers

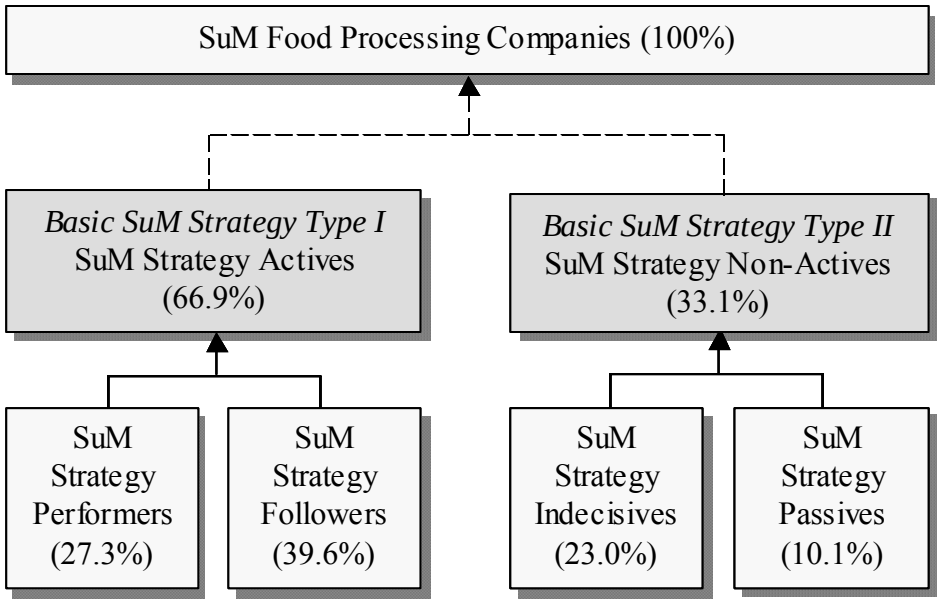
The detailed analysis of the four different SuM strategy types in the context of their strategic and operational sustainability marketing as well as their perception of the internal and external stakeholders shows clearly that the SuM Strategy Performers and Followers do particularly differ from the SuM Strategy Indecisives and Passives. Most of the significant differences within this study can be found between the first two and the latter two SuM strategy types.

This fact is in favour of a dichotomous classification: the food processing companies belonging to the SuM Strategy Performers and Followers make up the group of the *SuM Strategy Actives* (Basic SuM Strategy Type I) whereas the food processing companies belonging to the SuM Strategy Indecisives and Passives can be seen as the group of *SuM Strategy Non-Actives* (Basic SuM Strategy Type II) (figure 6.23)[64]. This dichotomous distinction can be used in order to answer the question as to which sustainability marketing drivers are relatively more important than others in terms of pushing food processing companies towards sustainability marketing. These two Basic SuM Strategy Types constitute the basis of the binary logistic regression.

The dependent variable y is the Basic SuM Strategy Type. The Basic SuM Strategy Type I (i.e. the SuM Strategy Actives) is coded 1 whereas the Basis SuM Strategy Type II (i.e. the SuM Strategy Non-Actives) is coded 0. The binary logistic regression identifies those drivers which have a significant influence on the probability that a food company belongs to either the SuM Strategy Actives or the SuM Strategy Non-Actives (see section 4.3, equation 3). Firstly, the relative importance of sustainability marketing drivers is analysed by means of a binary logistic regression (section 6.5.1). Secondly, these findings are interpreted (section 6.5.2).

[64] Besides the content-related considerations which lead to these two Basic SuM Strategy Types, a two-cluster solution of the cluster analysis conducted in chapter 5 also results in these two Basic SuM Strategy Types. It therefore empirically validates the chosen dichotomous classification.

Figure 6.23: Creation of Basic SuM Strategy Types for the binary logistic regression (n = 308)



6.5.1 Analysis of the relative importance of sustainability marketing drivers

As a start all 24 independent variables – ten food sub-industries, five aspects reflecting the factor public exposure, and nine internal and external stakeholders – are tested for multicollinearity because the independent variables should largely be free from it (Backhaus et al. 2006, p. 480). Significantly high collinearity is found between sales volume p.a. and number of employees (r = .817**) as well as between the two internal stakeholder company's owner and top management (r = .652**). With regard to the former the number of employees is left out because the sample is representative in terms of sales volume p.a.. In terms of the internal drivers, content-related considerations lead to the decision to omit the company's owner. The assumption behind this assessment is that the company's owner and the top management are often the same person, particularly in small enterprises. In these cases, the owner has the same influence on the sustainability marketing commitment as the top management. In all other cases, it can be further assumed that the owner and the top management synchronise and that the top management speaks with the owner's voice. Bearing these arguments in mind, the top management instead of the owner is incorporated in the binary logistic regression model.

Hence, 22 independent variables are used in the end in order to explain the group membership. *Simultaneous estimation* was deployed as the method (Hair et al. 2006, p. 273). Table 6.6 shows the results of the binary logistic regression on (perceived) sustainability marketing drivers.

Table 6.6: Binary logistic regression on sustainability marketing drivers (n = 212)

Driver categories	j	Independent variables x_j	Regression coefficient $ß_j$	Standard error	Wald statistic	Sig. α	Exp ($ß_j$)
	0	Constant	-.854	.932	.840	.359	.426
Sub-industry membership (Alcoholic beverages)	1	Dairy/baby food	2.393	.840	8.118	*.004***	10.947
	2	Meat	1.150	.618	3.460	*.063*	3.158
	3	Fish	1.045	1.252	.697	.404	2.842
	4	Non-alcoholic bev.	.690	.688	1.006	.316	1.994
	5	Others	.609	.558	1.192	.275	1.839
	6	Fruit/vegetables	.573	.779	.540	.462	1.773
	7	Choc./confectionary	.302	.874	.120	.729	1.353
	8	Bread/pastry/noodles	.191	.694	.076	.783	1.211
	9	Coffee/tea	.052	.959	.003	.957	1.053
Public exposure	10	Brand awareness	.387	.195	3.920	*.048**	1.472
	11	Mand. disclosure (n.a.)	.015	.409	.001	.972	1.015
	12	Market share	-.300	.198	2.293	.130	.741
	13	Sales volume p.a.	-.761	.219	12.058	*.001****	.467
Market stakeholders	14	Consumers	.415	.147	8.022	*.005***	1.515
	15	Retailers	.161	.136	1.409	.235	1.175
	16	Competitors	-.318	.160	3.968	*.046**	.727
Public stakeholders	17	Legislators	.252	.138	3.331	*.068*	1.286
	18	NGOs	.140	.153	.830	.362	1.150
	19	Media	.048	.140	.118	.731	1.049
Internal stakeholders	20	Shareholders	-.011	.096	.014	.907	.989
	21	Top management	-.061	.140	.189	.663	.941

Nagelkerkes-R^2 = .270 Predicted group membership = 75.5%

The grey shaded characteristic values enter the intercept as reference. In terms of polytomous characteristics it is one of the characteristics. With regard to dichotomous characteristics, it is the not applicable one (n.a.).

As a result, it can be stated that five independent variables turn out to be significant ($\alpha \leq .05$*) regarding the explanation of the group membership. Compared to all remaining independent variables two additional independent variables are still considerably important ($\alpha = .063$ and $\alpha = .068$ respectively), and therefore are included in the further discussion.

The odds ratios in the right column reflect the direction and the strength of the drivers' influence. With regard to the influencing direction, the industry membership in *dairy/baby food* and *meat products*, the *brand awareness* as a public exposure factor as well as the *consumers* and *legislators* as external stakeholders have a positive impact on the group membership of the SuM Strategy Actives. In contrast, the public exposure factor of *sales volume p.a.* and the *competitors* as external stakeholder have a negative influence on the dependent variable. In comparison to the other independent variables these seven variables are relatively more important to predict whether a food processing company belongs to the group of the SuM Strategy Actives or not. If the regression coefficients $ß_j$ of table 6.6 are entered in the model, the following equation results:

$$P\,(y = \text{SuM Strategy Actives}) = \frac{1}{1 + e^{-z}}$$

with z $= ß_0 + ß_1 \cdot$ dairy/baby food $+ ß_2 \cdot$ meat $+ ß_3 \cdot$ fish $+ ß_4 \cdot$ non-alcoholic beverages $+ ß_5 \cdot$ others $+ ß_6 \cdot$ fruit/vegetables $+ ß_7 \cdot$ chocolate/confectionary $+ ß_8 \cdot$ bread/pastry/noodles $+ ß_9 \cdot$ coffee/tea $+ ß_{10} \cdot$ brand awareness $+ ß_{11} \cdot$ mandatory disclosure $+ ß_{12} \cdot$ market share $+ ß_{13} \cdot$ sales volume $+ ß_{14} \cdot$ consumers $+ ß_{15} \cdot$ retailers $+ ß_{16} \cdot$ competitors $+ ß_{17} \cdot$ legislators $+ ß_{18} \cdot$ NGOs $+ ß_{19} \cdot$ media $+ ß_{20} \cdot$ shareholders $+ ß_{21} \cdot$ top management

The following example illustrates the relative importance of certain sustainability marketing drivers in terms of predicting the group membership: A *meat* processing company with €45m *sales volume p.a.*, a *market share* of 50%, and a *brand awareness* of 70% feels *highly* pressured by its *consumers*, *retailers*, *legislators*, *NGOs*, and the *media* to adopt sustainability marketing. In turn, the company only perceives a *little* amount of pressure from its *competitors*, *shareholders*, and *top management*. Moreover, it has to disclose its company data.

z_{meat} $= -.854 + 1.150 \cdot 1$ (meat sub-industry) $+ (-.761) \cdot 3$ (sales volume) $+ (-.300) \cdot 3$ (market share) $+ .387 \cdot 3$ (brand awareness) $+ .415 \cdot 6$ (consumers) $+ .161 \cdot 6$ (retailers) $+ .252 \cdot 6$ (legislators) $+ .140 \cdot 6$ (NGOs) $+ .048 \cdot 6$ (media) $+ (-.318) \cdot 2$ (competitors) $+ (-.011) \cdot 2$ (shareholders) $+ (-.061) \cdot 2$ (top management) $+ .015 \cdot 1$ (mandatory disclosure)

z_{meat} $= 3.605$

P_{meat} (y = SuM Strategy Actives) = .9735 = 97.35%

The probability that this meat processing company belongs to the SuM Strategy Actives is 97.35%. Consequently, the complementary probability that this company belongs to the group of the SuM Strategy Non-Actives amounts to 2.65%.

Goodness of Fit

With the aid of the binary logistic regression and the calculated regression coefficients $ß_j$ 75.5% of all cases can be classified correctly (Appendix III, 7). This hit ratio lies beyond the maximal random distribution probability (66.5%) of the included cases in terms of group membership. Therefore, it can be interpreted as an indicator of the soundness of this model. In addition to this quality factor, the pseudo-R^2-statistic (Nagelkerke-R^2 = .270) as a goodness-of-fit criterion also lies in an acceptable range (Backhaus et al. 2006, p. 456). This measure reflects the amount of variation explained by the logistic regression model, with 1.0 indicating a perfect model fit (Hair et al. 2006, p. 362).

6.5.2 Interpretation of the relative importance of sustainability marketing drivers

Sub-industry membership

Concerning the sub-industry membership, the result shows that the particular food sub-industry does not notably serve as a driver for sustainability marketing. The *dairy/baby food* sub-industry is the only food sub-industry which has a significant (α = .004**) positive influence on the group membership of the SuM Strategy Actives. However, compared to all the other significant independent variables the dairy/baby food industry membership has the most positive effect on the group membership (odds ratio: $e^{ß1}$ = 10.947). Alongside the dairy/baby food sub-industry, the *meat* sub-industry also positively influences the group membership of the SuM Strategy Actives but not as significantly (α = .063). However, it still accounts for a comparatively large positive effect on the group membership (odds ratio: $e^{ß2}$ = 3.158).

The results regarding the influence of these two food sub-industries on the group membership of the SuM Strategy Actives can be explained by the fact that the dairy/ baby food and the meat sub-industries are on the one hand currently highly affected by sustainability issues (e.g. species-appropriate husbandry, fair milk pricing, and humane working conditions in the slaughterhouse) and are therefore highly visible to the public. However, on the other hand they have already reacted to these problems and introduced

a number of initiatives and sustainable food products so as to counteract these issues.[65] Particularly the meat industry is under scrutiny. Wage and social dumping, illegal employment, and rotten meat scandals have commanded the press and unsettled the consumers' faith in meat products (Rohwetter 2004, pp. 1-3). For example, 89% of the consumers state species-appropriate animal breeding as the most important reason to buy organic meat products (BMELV 2007, p. 9). As a consequence, already a number of farms and meat processing companies have switched to a kind of animal breeding and processing which is appropriate to the species and in accordance with organic guidelines.

Sustainability issues in the dairy and baby food industry are – besides the ecological consequences of dairy farming – especially the fair compensation of the dairy farmers (Zeit Online 2007, pp. 1-2). Organic dairy products such as organic milk, cheese, and yoghurts are sustainable food products of the first moment and are particularly demanded by the consumers, amongst other reasons because of the relatively low organic milk price premium (BMELV 2007, pp. 10-11; Bodenstein/Spiller 2001, p. 196).

In general, it can be stated that food processing companies of the dairy/baby food and meat sub-industries are inclined to process and market sustainable food products because their sustainable food products are mostly favoured and bought by the consumers and therefore constitute promising market opportunities (BMELV 2007, p. 10). Thus, it is not surprising that both food sub-industries positively contribute to the group membership of the SuM Strategy Actives.

With regard to the reference sub-industry – the *alcoholic beverage* sub-industry – it can be remarked that since all the other regression coefficients of the food sub-industries are positive, it is comparatively less likely that members of the alcoholic industry are SuM Strategy Actives. This is also indicated by the negative constant ($ß_0$ = -.854). The alcoholic beverage sub-industry therefore forms a counterpart to the dairy/baby food sub-industry. In the study by the BMELV, organic alcoholic beverages are the least bought by the consumers in comparison to all the remaining food sub-industries (BMELV 2007, pp. 10-11). For most of the processing companies belonging to the alcoholic beverage sub-industry, sustainability marketing activities seem to be rather unimportant.

[65] The results of the self-assessment regarding the perceived socio-ecological problems within each food sub-industry support these findings. The meat and dairy/baby food sub-industries belong to the four most (perceived) affected ones (see section 6.1.1).

In terms of the *coffee/tea* sub-industry it needs to be mentioned that even though this food sub-industry is perceived as highly affected by social and ecological problems and even though it is – in addition – significantly related to the SuM Strategy Actives, it does not indicate any significant influence on the group membership of the SuM Strategy Actives. This finding can be ascribed to the fact that the distribution of the coffee/tea processing firms into SuM Strategy Actives and Non-Actives does not particularly differ from the maximum random distribution probability of 66.5%. Overall there are seven coffee/tea processing companies, five belonging to the SuM Strategy Actives (71.4%) and two to the SuM Strategy Non-Actives. In addition, the sample size of the coffee/tea industry is too small to make the differences significantly visible.
Similar observations can to be made concerning the *fish* sub-industry. This highly affected food sub-industry accounts for the third highest positive influence on the group membership of the SuM Strategy Actives. However, this finding is not significant. The reason for this can again be found in the sample size. In the case of this sub-industry, 80% of the fish processing companies belong to the SuM Strategy Actives but the sample is too small (n = 5) to lead to significant findings. In the cases of these two food sub-industries, further research in needed.

Regarding *hypothesis H_3* it can be stated that only the *dairy/baby food* and *meat sub-industry* constitute influencing factors which significantly increase the probability of the group membership of the SuM Strategy Actives.

Public exposure

The results pertaining to the factor of public exposure are varied. Whereas *brand awareness* has a significant positive effect (α = .048*) regarding the group membership of the SuM Strategy Actives, the *sales volume p.a.* has a significant negative influence (α = .001***) on the probability that a food processing company belongs to the SuM Strategy Actives if the observation value increases. In other words, with an increasing sales volume p.a. the probability decreases that a food processing company belongs to the SuM Strategy Actives. The sales volume p.a. (odds ratio: $e^{ß13}$ = .467) has the highest negative influence on the probability compared to all other independent variables. In contrast to sales volume p.a., with an increasing brand awareness the probability increases that a food processing company is categorised as a SuM Strategy Active (odds ratio: $e^{ß10}$ = 1.472).

These findings show that the factor of public exposure needs to be analysed in a differentiated manner. However, a conclusion that can be already drawn from this study is that there is no such thing as *one public exposure factor*. At least two aspects – i.e. sales volume p.a. and brand awareness – have a contrary significant impact on the sustainability marketing commitment of food processing companies. Public exposure through high sales volume p.a. does not inherently lead to sustainability marketing whereas public exposure through high brand awareness does induce sustainability marketing as observed within the sample.

An explanation for this non-uniform behaviour in terms of public exposure could be that food processing companies tend to try to protect their brands from scandals and damage to their reputation by means of a responsible kind of sustainability marketing, especially if they have high brand awareness (Spar/La Mure 2003, p. 95). A well-known, successful brand seems to be in need of protection since it is an interminable process which is hard to establish and even harder to maintain.[66] In turn, the mere fact of a high sales volume p.a. does not necessarily provoke sustainability marketing. Even though larger food processing companies in terms of sales volume p.a. might be more exposed to the public, they do not automatically pursue sustainability marketing. These contrary findings can be again explained by means of the evolution of organic food products in Germany. The socio-ecological movement originated in small processing companies and distribution channels. The recent findings can therefore be interpreted as a heritage of the evolution of sustainable food production in Germany. It seems that sustainability marketing is still predominantly pursued by smaller food processing companies.

The other aspects of the factor public exposure – i.e. *market share* and *mandatory disclosure of company data* – have no significant influence on the group membership. These aspects are of no particular importance in terms of predicting sustainability marketing commitment. However, it can be generally observed that the market share has a negative influence on the group membership of the SuM Strategy Actives whereas the publication of company data has a positive influence.

[66] These findings further support the results and the assumptions made in section 5.1. There, NoSuM food companies and SuM food companies are distinguished, amongst others, by means of the factor brand awareness.

In terms of *hypothesis H_4* it can therefore be inferred that the factor of public exposure cannot be considered as one influencing factor. Whereas the market share and the need to publish financial data do not have a significant influence on the group membership, the remaining two have a contrary influence: the company's *sales volume p.a.* has a negative and the *brand awareness* has a positive influence on the probability that a food company belongs to the SuM Strategy Actives.

Market stakeholders

A similar, differentiated discussion as in the case of the public exposure factor needs to be held in terms of the market stakeholders. The *consumers* have a highly significant (α = .005**) and comparatively high positive influence on the group membership (odds ratio: $e^{\beta 14}$ = 1.515). They constitute the most influential stakeholder of all. After a period of consumer disinterest and frugality at the beginning of the 1990s, they are demanding more and more sustainable food products nowadays. It can be assumed that this rethinking has been provoked and accelerated by several factors such as food scandals and increasing health problems (e.g. allergies, food incompatibilities, and obesity). As a reaction, the consumers want to know more and more about the ingredients of food products, where these food products come from, and how they are processed. The consumer pressure for sustainable food products seems to be taken into account by the food companies. Therefore, with an increasing perceived consumer pressure, the probability increases that a food processing company belongs to the SuM Strategy Actives.

In turn, the *competitor* has a significant (α = .046*) negative influence on the probability that a food processing company belongs to the SuM Strategy Actives (odds ratio: $e^{\beta 16}$ = .727). The high pressure of prices within the food sector could be a reason why high competitor pressure has a negative influence on sustainability marketing characteristics. The low-price sector with its private brands is growing and therefore exerts pressure on the other market participants. The low prices of some competing food products might force certain food processing companies to change their sustainability marketing commitment because they can no longer compete. In addition, cheap competitors from EU accession countries put economic pressure on local producers (Brand 2007, p. 248). Hence, high competitor pressure has a general, negative influence on the group membership of the SuM Strategy Actives.

The *retailer* as the third stakeholder of the market pull does not exert a significant influence on the group membership. However, its influence on food processing companies to take up sustainability marketing is positive (odds ratio: $e^{\beta 15} = 1.175$). The retailers can be interpreted as gatekeepers who pass the consumers' demands on to the food processing companies (Brand 2007, p. 246).

Regarding *hypothesis* H_6 it can be stated that the *consumers* and *competitors* significantly influence the group membership of the SuM Strategy Actives. The market stakeholders therefore are important factors in terms of sustainability marketing. However, the positive influence of the consumers' pressure and the negative influence of the competitors' pressure needs to be differentiated.

Public stakeholders

Penultimately, the public stakeholders are examined in view of their power to influence food processing companies to take up sustainability marketing. Of the three stakeholders under analysis only the *legislators* seem to have a noticeable and positive but not very high influence on the probability that a food processing company belongs to the SuM Strategy Actives (odds ratio: $e^{\beta 17} = 1.286$). This means that with an increasing perceived influence of the legislators, the probability increases that the food company belongs to the SuM Strategy Actives. However, this influence is not as significant ($\alpha = .068$) as the influence of the consumers and competitors. Whereas the legislator is only ranked fifth in the consideration of the absolute importance of sustainability marketing stakeholders, it is particularly influential if the relative importance is evaluated. This fact might be explained by the legislators' increasing intervention in the market for sustainable food products through regulations (e.g. EG-Öko-Verordnung), public funding, communications tools (e.g. the national 'Bio-Siegel'), and information campaigns for healthier nutrition (e.g. '5-a-day'). These and other initiatives of the legislator have positively influenced the market for organic, fair traded and regional food products (Teriete 2007, pp. 33-34). As a result, particularly these food processing companies which are already committed to sustainability marketing tend to feel comparatively influenced by the legislators.

In contrast, the pressure of *NGOs* does not significantly influence the group membership of the SuM Strategy Actives. However, their influences on food processing companies to take up sustainability marketing is positive (odds ratio:

$e^{\beta 18} = 1.150$). In spite of their significant correlations with regard to the one or the other of the four SuM strategy types, NGOs are relatively less important than the consumers, competitors, and legislators to predict the group membership of the SuM Strategy Actives.

Despite the growing media awareness regarding the impact of the food industry, the *media* does not contribute to significantly determine the group membership of the SuM Strategy Actives. However, as third stakeholder of the public push, its influence on food processing companies to take up sustainability marketing is positive (odds ratio: $e^{\beta 19} = 1.049$).

With regard to *hypothesis H_7* it can be stated that only the *legislator* amongst the public stakeholders has a (significant) positive influence on the group membership of the SuM Strategy Actives.

Internal stakeholders

The final drivers to be discussed are the internal stakeholders which are represented by the *top management* and the *shareholders*. As table 6.6 shows, none of these two stakeholders exerts a significant influence on the probability that a food processing company belongs to the SuM Strategy Actives. Compared to the other external drivers, the influence of the decision makers or capital providers does not play a decisive role with regard to predicting the group membership. This result is quite surprising, bearing in mind the highly perceived pressure from the top management (figure 6.19). However, this fact can be explained by a missing relative difference between the SuM Strategy Actives and Non-Actives in terms of perceived top management and shareholder pressure.

In terms of *hypothesis H_5* it can be concluded that the *internal stakeholders do not contribute* to the substantiation of the group membership of the SuM Strategy Actives.

7. Analysis of the Sustainability Marketing Outcome

Following the assessment of what kind of sustainability marketing German food processing companies pursue and why they take it up at all, this chapter places its focus on the sustainability marketing outcome measured by means of six selected sustainability marketing objectives and the overall sustainability marketing satisfaction. The research questions to be answered are the following: Which sustainability marketing objectives are perceived as being achieved and which are not? What is the perceived sustainability marketing outcome of the different SuM strategy types? And are there any differences between the SuM strategy types and their perception of sustainability marketing outcome? This chapter presents the results to these questions.
In a first section, the evaluation of the six sustainability marketing objectives is presented (section 7.1), followed by an outline of the perceived overall satisfaction with the particular sustainability marketing outcome (section 7.2). In each section the results are presented – first of all based on all SuM food companies (n = 362), and secondly by an analysis distinguished by the four SuM strategy types (n = 308).

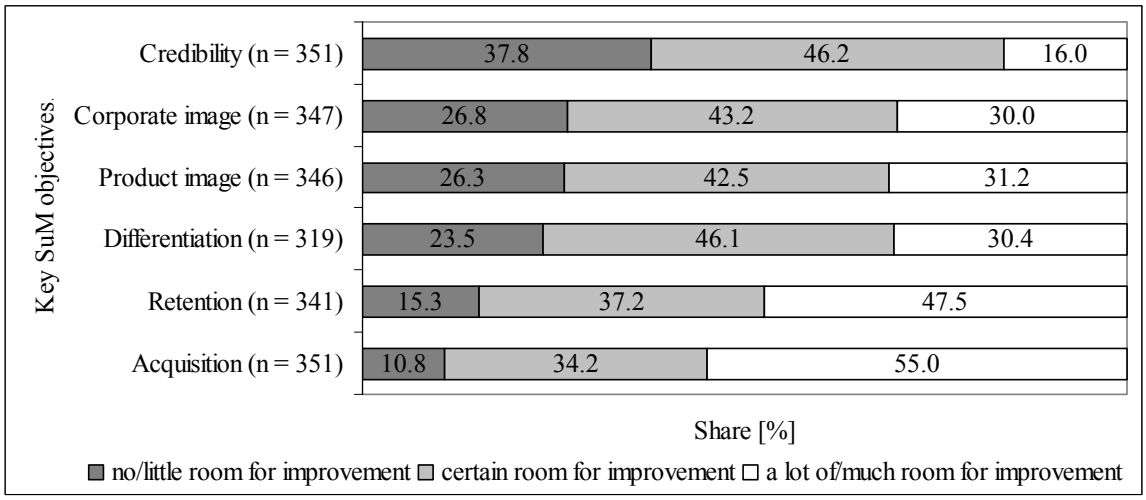
7.1 Achieving the key sustainability marketing objectives

The sustainability marketing outcome is measured by means of six selected sustainability marketing objectives: credibility/building up trust, enhancement of corporate image, enhancement of product image, competitive advantage/differentiation, customer acquisition, and customer retention. It is not the goal to separately evaluate the social, ecological, and economic results of sustainability marketing. This cannot be accomplished with this approach. Rather, the aim is to evaluate whether the specific sustainability marketing objectives are met. The simplified rationale behind this is that the more the objectives are fulfilled and perceived as 'not to be improvable', the more successful the sustainability marketing is, i.e. the more sustainable food products are sold. It is further assumed that if the objectives are perceived as being fulfilled, the number of sold sustainable food products leads to *economic market success* and (in the long run) also to *positive social* and *ecological impacts*.

Figure 7.1 shows which sustainability marketing objectives have little or much room for improvement according to the perception of the participating food processing companies. It can be stated that there are considerable differences between the

sustainability marketing objectives in this regard[67]. 37.8% of all SuM food companies claim that they see no or only a little room for improvement regarding their credibility. That means that almost 40% of the food processing companies think that they perform credible sustainability marketing. However, 46.2% still see a certain degree of room for improvement in terms of credibility. Nevertheless, the objective of credibility is perceived as being the most accomplished by the SuM food companies in comparison to the other sustainability marketing objectives. In terms of corporate image (43.2%), product image (42.5%) as well as differentiation (46.1%), the greater part of the SuM food companies state that they perceive a certain degree of room for improvement. Noticeably, about one third of the food processing companies perceive these three objectives as not being achieved and state that they see a lot of room for improvement in terms of corporate image, product image, and differentiation. The most room for improvement can be found in the aspects of consumer retention (47.5%) and particularly consumer acquisition (55.0%). Here, about half of all participating food processing companies have difficulties and seem to be struggling.

Figure 7.1: Perceived room for improvement regarding key sustainability marketing objectives (N = 362)



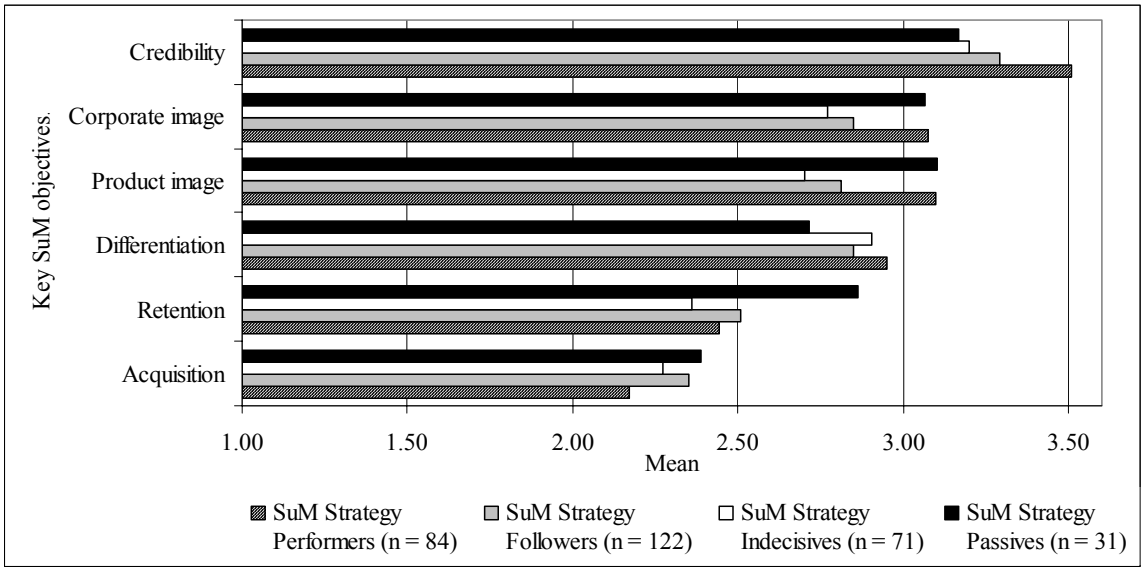
The statistical mean[68] comparison of the six key sustainability marketing objectives (t-test) shows significant differences. All sustainability marketing objectives – corporate image ($\bar{x}$ = 2.92), product image ($\bar{x}$ = 2.87), differentiation ($\bar{x}$ = 2.87), customer retention ($\bar{x}$ = 2.48), and customer acquisition ($\bar{x}$ = 2.27) – are significantly smaller

[67] For reasons of simplicity the first two (no room/little room for improvement) and the last two (a lot of room/much room for improvement) answering categories have been pooled.
[68] Item means based on five-point scales (1: a lot of room for improvement; 5: no room for improvement).

($\alpha \leq .000$***) than the reference objective of sustainability marketing, namely credibility ($\bar{x} = 3.32$) (Appendix IV, 1).

Furthermore, it can be observed that with an increasing consumer orientation of the sustainability marketing objectives, the perceived room for improvement increases, too. It seems that the SuM food companies are quite satisfied with their credibility, their corporate and product image as well as their differentiation but that they have difficulties retaining existing consumers and in particular acquiring new ones. It can be concluded that sustainability marketing objectives which focus intensively on the consumer reveal certain deficiencies. A reason for this finding might lie within the SuM food companies' original focus and scope. It can be assumed that food processing companies generally committed to sustainability marketing have been particularly more concerned with their suppliers and their internal corporate processes than with their consumers (Pobisch/Belz 2007, pp. 195-197). As a consequence of this behaviour, they are less satisfied with their customer acquisition and retention than with their other objectives.

Figure 7.2: Key sustainability marketing objectives by SuM strategy type



The comparison of the sustainability marketing objectives by SuM strategy type shows some significant differences as well (figure 7.2). It can be inferred that the SuM Strategy Performers lead – or lie level with the SuM Strategy Passives – in terms of the first four sustainability marketing objectives, i.e. credibility, product and corporate image as well as differentiation. Particularly in terms of credibility, the SuM Strategy Performers see only a little room for improvement in the context of their sustainability

marketing. They seem to be quite satisfied with their reliability. In contrast, the last two sustainability marketing objectives – i.e. customer retention and acquisition – are headed by the SuM Strategy Passives. This lead is especially noticeable with regard to customer retention.

This comparatively positive self-assessment of the SuM Strategy Performers and Passives with regard to all sustainability marketing objectives might be explained by their definite and clear strategy. Their distinctive corporate orientation (clear differentiation or low-price strategy) might be the reason why the SuM Strategy Performers and Passives are comparatively more satisfied with their particular corporate and product image than the SuM Strategy Followers and Indecisives. Additionally, it can be assumed that these two clear competitive strategies lead to the fact that the SuM Strategy Performers are particularly satisfied with their credibility and differentiation performance whilst the SuM Strategy Passives are especially content with the way they acquire and retain customers.

In contrast, the SuM Strategy Followers and Indecisives do not lead one of the six key sustainability marketing objectives. They see a comparatively great room for improvement in terms of each objective. Particularly the SuM Strategy Indecisives seem to be less satisfied with their sustainability marketing objectives. Compared to the other SuM strategy types, this rather poor self-assessment can be explained by their 'stuck-in-the-middle' strategy with no particular direction, e.g. neither differentiation nor overall cost leadership. This kind of 'blurred corporate culture' (Porter 2004, p. 42) can be explained, for instance, by means of the discontent the SuM Strategy Indecisives perceive in terms of their corporate and product image. This lack of a positive and trustful image is probably also one reason why they do not use their corporate brand or product brand to signal credibility in terms of communication (cf. table 5.4).

Analysing the means and the correlation coefficients between these six sustainability marketing objectives and the four SuM strategy types, significant relationships can be observed in terms of credibility and customer retention, as assumed above. The Spearman-rank-correlation-test states a significant correlation between credibility and the SuM Strategy Performer ($r = .11^*$) (table 7.1). Moreover, a significant correlation is found between customer retention and the SuM Strategy Passives ($r = .11^*$). Concerning the other key sustainability marketing objectives and SuM strategy types, no significant correlations are detected.

Table 7.1: Means and correlation coefficients between key sustainability marketing objectives and SuM strategy types (Spearman-rank-correlation-test) (N = 308)

Key sustainability marketing objectives[69]	SuM strategy types							
	SuM Strategy Performers		SuM Strategy Followers		SuM Strategy Indecisives		SuM Strategy Passives	
	$\bar{x}$	r	$\bar{x}$	r	$\bar{x}$	r	$\bar{x}$	r
Credibility (n = 303)	3.51	**.11***	3.29	-.02	3.20	-.06	3.17	-.04
Corporate image (n = 302)	3.07	.09	2.85	-.05	2.77	-.06	3.06	.03
Product image (n = 297)	3.10	.10	2.81	-.05	2.70	-.09	3.10	.05
Differentiation (n = 281)	2.95	.04	2.85	-.01	2.90	.01	2.71	-.05
Customer retention (n = 295)	2.44	-.03	2.51	.02	2.36	-.06	2.86	**.11***
Customer acquisition (n = 303)	2.17	-.06	2.35	.06	2.27	-.02	2.39	.02

Similar results are also found with the aid of the Mann-Whitney-U-test (Appendix IV, 2). There are no significant differences between the SuM strategy types in terms of their perceived room for improvement regarding the key objectives of product image, differentiation, and customer acquisition. However, the other sustainability marketing objectives are evaluated differently by the SuM strategy types. The SuM Strategy Performers vary noticeably from the SuM Strategy Indecisives with regard to credibility (α = .068) and corporate image (α = .054). Additionally, the SuM Strategy Passives differ significantly from the SuM Strategy Indecisives with regard to the customer retention (α = .039*).

If the findings are analysed in a next step with regard to the particular consumer orientation of the sustainability marketing objectives, it can be seen that the SuM Strategy Passives positively evaluate the objective which is more consumer-oriented and thereby also more market-oriented, i.e. customer retention. By contrast, the SuM Strategy Performers are particularly satisfied with a sustainability marketing objective which is less consumer-oriented, i.e. credibility. It can therefore be assumed that the SuM Strategy Performers and Passives each have a particular strength regarding the one

[69] For all key sustainability marketing objectives the following coding is applied: 1: a lot of room for improvement; 5: no room for improvement.

or the other sustainability marketing objective. For the SuM Strategy Passives, which pursue a low-price strategy, their primary focus is the customer. Consequently, their strength can be seen rather on the market side. In turn, the SuM Strategy Performers, which practice a differentiation strategy in the high quality segment, rather focus on the supplier side because their key aim is to be credible with regard to their above average socio-ecological product quality.

Similar findings which support these results have already been made by Pobisch/Belz (2007). By means of a qualitative document analysis, they show that the larger 'market leaders' in the European food processing industry focus comparatively more on the sales market whereas the smaller 'organic pioneers' tend to concentrate on the procurement market (Pobisch/Belz 2007, pp. 165-207). It can be assumed that a transparent and retraceable procurement of organic and fair-traded supplies might lead amongst other things to a higher credibility. By contrast, a strong focus on the sales market might be associated with a stronger relationship to the consumers. Therefore, it can be inferred that the strength of the SuM Strategy Performers is their above average credibility whereas the strength of the SuM Strategy Passives is their ability to retain customers by means of the low price. With regard to the remaining two SuM strategy types, no similar statements can be made.

7.2 Evaluation of overall sustainability marketing satisfaction

Concerning the overall satisfaction of their sustainability marketing outcome, it can be observed that the majority of the food processing companies are generally satisfied (43.9%) or are neither satisfied nor dissatisfied (40.5%) with their sustainability marketing outcome. Only 15.6% of the questioned food companies are dissatisfied. However, this rather positive result needs to be carefully interpreted due to the self-assessment of the SuM food companies.

Analysing the overall sustainability marketing outcome distinguished by SuM strategy type, it can be seen that the SuM Strategy Performers (51.3%) and Followers (49.6%) are comparatively more satisfied than the SuM Strategy Indecisives (35.8%) and Passives (35.5%) (figure 7.3). The SuM Strategy Passives predominantly adopt a neutral position (51.6%) whereas the SuM Strategy Indecisives are most often dissatisfied (19.4%) with their sustainability marketing.

Figure 7.3: Overall sustainability marketing satisfaction by SuM strategy type (N = 299)

The Spearman-rank-correlation-test confirms this assumption and shows a significant negative correlation between the SuM Strategy Indecisives and the overall sustainability marketing satisfaction (r = -.13*) (Appendix IV, 3). No other significant correlation can be found. Additionally, the Mann-Whitney-U-test shows significant differences (Appendix IV, 4). The SuM Strategy Performers (α = .020*) and Followers (α = .044*) both differ significantly from the SuM Strategy Indecisives regarding the self-assessment of the overall sustainability marketing satisfaction. These findings support the assumption that a non-distinctive competitive strategy like the one practised by the SuM Strategy Indecisives is comparatively less satisfying and therefore also perceived as being less successful.

Consequently, *hypothesis* H_9 – that the sustainability marketing outcome is influenced by the different SuM strategy types – can be *tentatively accepted* for the key sustainability marketing objectives of credibility, corporate image, and customer retention as well as for the overall sustainability marketing satisfaction. Those SuM strategy types which pursue a decisive corporate strategy seem to be more satisfied and as a consequence are also probably more successful – economically and hence socially and environmentally.

D SYNOPSIS AND IMPLICATIONS

8. MEETING THE KEY CHALLENGES OF SUSTAINABILITY ISSUES? THE CASE OF THE GERMAN FOOD PROCESSING INDUSTRY

Sustainability issues constitute key challenges for industries in general and for the German food processing industry in particular. The overriding questions of the SuM research study are therefore *whether*, *to what extent*, *how* and *why* German food processing companies meet these key challenges of sustainability issues. Do they accept their corporate social, ecological, and economic responsibility?

By means of the concept of sustainability marketing, the stakeholder concept, and selected aspects of the theory of information economics, the SuM research study analyses the German food processing industry with regard to its sustainability marketing characteristics, drivers, and outcome. Overall 384 German food processing companies completed the email questionnaire which forms the basis for the data analysis. In the following, the main research results are summarised in the form of five key statements (section 8.1) and implications for theory and practice are drawn (section 8.2).

8.1 Synopsis of the main research results

1. The German food processing industry can be characterised by four distinctive sustainability marketing strategy types, i.e. the SuM Strategy Performers, the SuM Strategy Followers, the SuM Strategy Indecisives and the SuM Strategy Passives.

By means of a cluster analysis, four specific SuM strategy types are identified within the German food processing industry. They all differ significantly from each other with regard to their strategic and operational sustainability marketing characteristics. Each SuM strategy type shows a different approach to sustainability marketing within the German food market.

In short, the *SuM Strategy Performers* can be interpreted as small sustainability pioneers who market their high quality sustainable food products for comparatively higher prices in niche markets to consumers who are ‘sustainable active’. Regarding their food product quality the SuM Strategy Performers are pursued by the *SuM Strategy Followers* which accomplish a somewhat lower but still comparatively high food

product quality. These SMEs sell their sustainable products in market niches and selected market segments to consumers with a certain degree of socio-ecological consciousness (‘sustainable approachables’). In turn, the *SuM Strategy Passives* can be taken as large, rather conventional food processors operating in the mass market. They aim their sustainable food products, which consider socio-ecological product aspects only to a small extent, at the ‘sustainable passive’ consumers – marketing them for a comparatively lower price.

In terms of the SuM Strategy Performers, Followers, and Passives there is an ‘internal fit’ between the sustainability marketing strategy and the corresponding sustainability marketing mix. Compared to these three SuM strategy types, the *SuM Strategy Indecisives* are rather difficult to classify. They market their low-quality sustainable food products with a comparatively high pricing in market niches to consumers with a particular socio-ecological consciousness. Their strategic and operational sustainability marketing does not reflect a clear and decisive strategy. It rather seems that the SuM Strategy Indecisives are ‘stuck-in-the-middle’ between the SuM Strategy Performers and Followers which operate in the high quality segment and the SuM Strategy Passives which perform in the low-price segment.

The result of the cluster analysis shows the share of each SuM strategy type. The SuM Strategy Performers and SuM Strategy Followers account for 27.3% and 39.6% of the SuM food companies respectively whereas the SuM Strategy Indecisives and SuM Strategy Passives amount to 23.0% and 10.1% respectively. However, no inferences are possible concerning the share of *all SuM food companies* within the entire German food processing industry due to the indeterminate share of *NoSuM food companies*, i.e. food companies which do not process and market sustainable food products. Accounting for only 6% in the sample, the high non-response rate supports the conclusion that the share of the NoSuM food companies far exceeds the 6% share of the sample. Yet its extent cannot be predicted or estimated on this basis.

2. Market stakeholders and internal decision makers are perceived as the most pressing drivers which push German food processing companies towards sustainability marketing.

The analysis of the sustainability marketing stakeholders shows that the *top management* and the *consumers* are – from an *absolute perspective* – the most important drivers in terms of the sustainability marketing commitment of German food processing

companies. They are followed by two further (internal and market) stakeholders – the *company's owner* and the *retailers* – who are in fact characteristic for the German food processing industry. Whereas comparable empirical studies reveal a similar, highly perceived pressure by the top management and the consumers in terms of corporate socio-ecological commitment, the powerful influence of the company's owner and the retailers is a particularity of the German food processing industry. The latter is characterised by owner-managed small enterprises and a high concentration of strong influential retailers (BVE 2007e, pp. 4-5).

If these findings are evaluated with regard to stakeholder groups (i.e. internal, market, and public stakeholders), it can be stated that on the one hand there are the market stakeholders, i.e. consumers and retailers who demand these kinds of sustainable food products. On the other hand the intra-corporate stakeholders – the top management and the company's owner - are located, who either realise their own sustainability marketing commitment within the firm or implement the perceived market pressure. In comparison, the public stakeholders are perceived as exerting less pressure in terms of sustainability marketing activities.

It seems that the retailers and the food processing companies have realised by now the (economic) *opportunities* which accompany sustainable food products as well as the (reputation-related) *risks* of underestimating sustainability issues. The sustainable demands of the market stakeholders form 'current areas of competition' (Dyllick et al. 1997, pp. 5-7), and thereby a strong competitive advantage for food processing companies operating in the fiercely competitive and largely saturated German food market (BVE 2007e, p. 4). Although still only accounting for a small market share of 3-4% in 2007 (Baranek 2007, p. 58), these kinds of food products constitute a promising and fast growing market segment.

3. German food processing companies which market sustainable food products with a particularly high socio-ecological product quality perceive comparatively more pressure from stakeholders.

If the stakeholders' pressure is considered in relation to the four SuM strategy types, it is noticeable that the SuM Strategy Performers and Followers perceive significantly more pressure from all stakeholders except from the shareholders and competitors. In contrast, the SuM Strategy Passives and particularly the SuM Strategy Indecisives feel generally less pressured by their stakeholders. This higher perceived *stakeholder*

salience (Mitchell et al. 1997, p. 878) of almost all stakeholders can therefore be interpreted as one reason why the SuM Strategy Performers and Followers adopt a particular approach to sustainability marketing.

4. *The probability that a German food processing company markets specific sustainable food products is significantly influenced by highly perceived consumer and legislator pressure, low perceived competitor pressure, membership in the dairy/baby food and meat sub-industries, and factors such as high brand awareness and low sales volume.*

The significant differences between the SuM Strategy Performers and Followers on the one hand and the SuM Strategy Indecisives and Passives on the other hand support an evaluation of the *relative importance* of sustainability marketing drivers using a binary logistic regression. With the aid of this method the probability that a food processing company either belongs to the SuM Strategy Actives (i.e. the Performers and Followers) or the SuM Strategy Non-Actives (i.e. the Indecisives and Passives) can be predicted.
As *key findings* it can be stated that the *consumers,* the *legislators,* and the *competitors* are of relative importance to predicting the group membership of the SuM Strategy Actives. However, whereas the consumers and the legislators have a positive impact on the probability that a food company belongs to the SuM Strategy Actives, the competitors have a negative impact. In other words, if the perceived (pricing) pressure by the competitors increases, the probability that a food processing company assumes a decisive approach to sustainability marketing decreases. These detected correlations might serve as a basis for further research.
Besides the three stakeholders who are of relative importance to foretelling the group membership, there are additional factors which influence the probability. These factors are the *two food sub-industries of dairy/baby food and meat* on the one hand. If companies belong to one of these two food sub-industries, it increases the probability that they belong to the group of the SuM Strategy Actives, i.e. that they have a particularly high socio-ecological food product quality.
On the other hand, the *company's size (sales volume p.a.)* and *its brand awareness* are of relative importance. However, positive and negative impacts need to be differentiated again. With an increasing brand awareness, the probability also increases that a food company belongs to the SuM Strategy Actives. In turn, the probability decreases that a food company belongs to the SuM Strategy Actives if the sales volume p.a. increases.

This means that small- and medium-sized food companies which have comparatively high brand awareness are therefore likely to belong to the group of the SuM Strategy Actives.

All the remaining sustainability marketing drivers do not significantly influence the probability that a food processing company belongs to the SuM Strategy Actives. Consequently, they are – from a relative perspective – less important to predicting the probable group membership.

5. *German food processing companies which pursue a decisive competitive strategy seem to be comparatively more satisfied with the achievement of key sustainability marketing objectives than food processing companies which follow an indecisive competitive strategy.*

The analysis of the sustainability marketing objectives shows that the SuM Strategy Performers and Passives are comparatively more satisfied with their sustainability marketing performance than the SuM Strategy Followers and Indecisives as measured by means of six key sustainability marketing objectives. This rather positive self-assessment with regard to the achievement of sustainability marketing objectives can be explained by the decisive competitive strategy that is pursued by these two SuM strategy types, i.e. either differentiation in the high quality segment or cost leadership in the low-price segment.

Moreover, the SuM Strategy Performers and Passives can be further distinguished with regard to the specific sustainability marketing objectives which they accomplish. Whereas the SuM Strategy Performers are significantly more satisfied with their credibility (an objective which is less customer-oriented), the SuM Strategy Passives evaluate an objective particularly positively which is more customer-oriented (customer retention). An explanation for this difference in accomplishment can be seen in their varied competitive strategies. The differentiation strategy in the high quality segment of the SuM Strategy Performers makes credibility their key objective; this is a result of their high socio-ecological product quality, which forms a particular credence quality. In contrast, the SuM Strategy Passives concentrate on the price and a mass market strategy. Thus, they achieve a certain customer retention with which they are comparatively satisfied.

How can the initial question raised in the headline of this chapter ultimately be answered? Do German food processing companies meet the key challenges of sustainability issues? Clearly this question cannot be answered with a simple yes or no. Yet what can be said and what has been shown by means of the SuM research study is that food processing companies are already assuming their corporate responsibility by processing and marketing sustainable food products. These firms meet this challenge within the scope of their competitive strategies and corporate objectives, i.e. as small sustainability pioneers and followers or as large, rather conventional food processors. They are aware of the opportunities and risks which are associated with sustainability issues and face these challenges. It can also be observed, however, that by increasingly demanding socio-ecological responsible food products, the consumers and retailers make it more and more economically attractive for the food processing companies in Germany to pursue sustainability marketing.

8.2 Implications for theory and practice

The results of the SuM research study lead to the following implications for theory and practice:

Theoretical contributions

By means of the SuM research study, the *concept of strategic and operational sustainability marketing is applied to an entire industry in a particular country*, i.e. to the food processing industry in Germany. Thus, the scientific contribution and the associated *added value of the SuM research study* can be seen in the *quantitative approach* to the sustainability marketing concept. It validates previous conceptual assumptions on sustainability marketing characteristics which have been conducted in recent years (e.g. Belz 2004b, pp. 15-20; Belz 2005b, pp. 24-27; Belz/Karstens 2005, pp. 1-22; Belz 2006a, p. 141). The quantitative findings of the SuM research study draw a detailed picture of the different sustainability marketing approaches pursued by German food processing companies. It puts the four identified approaches to sustainability marketing in relation, and additionally depicts significant characteristics of the German food processing industry, e.g. the important status of small sustainability pioneers. However, it is reserved for further research to apply the sustainability marketing concept to additional industries and countries. Only in doing so can the

situation of the sustainability marketing approaches in the German food processing industry be critically evaluated.

Moreover, the SuM research study contributes to the *theory of information economics* by ranking communication tools according to their usage to transform credence qualities into quasi-search qualities. In this way, the quantitative SuM research study pursues selected aspects of the qualitative preliminary study conducted in 2005 (Karstens/Belz 2006, pp. 189-211). Within the German food processing industry, credible communication of socio-ecological product qualities is particularly accomplished by means of the *corporate brand, websites, product brand, and the owner's personality*. The perception of the company's owner as a trustworthy person seems to be a particularity of the German food industry. In contrast, the application of self-declared claims and third-party labels – which has been discussed in detail in the preliminary study – plays a comparatively inferior role with regard to the German food processing industry. These signals seem to be beset with a number of disadvantages which lead to the result that they are applied less than other communication tools in the German food processing industry.

A consideration of the different SuM strategy types and the communication tools leads to the following, general correlation: *the higher the socio-ecological product quality, the higher the extent of used communication tools to transform credence qualities into quasi-search qualities, i.e. to signal credibility.* It can be stated that the SuM Strategy Performers use all communication tools to signal credibility but advertising to a higher extent than the remaining three SuM strategy types. This finding can be seen as related to their particularly high socio-ecological product quality and the inherent and associated necessity to convince the consumers of this credence quality due to the existing information asymmetry.

Finally, the study makes a contribution to the *stakeholder theory* and to the understanding of the three *external control systems* – '*market*', '*politics'*, and '*public'*. As mentioned above, the study reveals the individual influence of each stakeholder within the German food processing industry. Additionally, it shows which stakeholders have a positive or negative influence on the probability that a food processing company takes up a specific approach to sustainability marketing. Moreover, the findings of the study imply that besides the *'market' control system* also the *'politics'* and *'public' control systems* are directly influencing the market for sustainable food products. Belz

(2003b) showed that eco-marketing is particularly induced by market stakeholders and only indirectly influenced by political stakeholders (Belz 2003b, p. 176). However, the SuM research study reveals that those food processing companies which process high quality, sustainable food products perceive significant influence by the consumers, the legislators, and the NGOs to pursue sustainability marketing. These three stakeholders are institutional representatives of the three control systems of 'market', 'politics', and 'public'. Therefore, it can be assumed that the 'politics' and 'public' control systems increasingly use, besides their common control mechanisms, certain market instruments (i.e. the national 'Bio-Siegel' or forms of dialogue and cooperation) which are directly perceived by the food processing companies. Whether there is a change of paradigm with respect to the 'politics' and 'public' control systems and their way of 'controlling' the market of sustainable food products will have to be evaluated in further research.

Practical implications

The SuM research study clearly points out the *importance of a distinctive sustainability marketing strategy and of the compatibility between this strategy and its operational implementation.* Food processing companies which pursue a differentiation strategy in the high quality segment or an overall cost strategy in the low-price segment send clear signals to their customers and provide concrete directions for internal corporate processes at the same time. These food processing companies have a clear strategy in mind and therefore keep objectives in sight which are particularly important to them. Consequently, food processing companies which adopt a distinctive sustainability marketing strategy perceive certain sustainability marketing objectives as rather accomplished and are in general more satisfied with their sustainability marketing performance.

In contrast, food processing companies which are 'middle-of-the-roaders' (Kotler/ Armstrong 2004, p. 574) have difficulties surviving in the market of sustainable food products because they have no 'clear positioning in the perception of the consumer' (Belz 2005a, p. 14). This positioning is 'strategically dangerous' (Becker 2006, p. 227) because it neither convinces consumers which are brand-conscious nor consumers which are price-conscious (Porter 2004, pp. 41-42). In addition, it can be assumed that the pressure on the middle segment will further increase and that the trend towards a growing high quality and low-price segment will continue (Twardawa 2007, p. 62). This development is indicated in figure 8.1 by means of the two arrows. Consequently, these

'pressed' food companies (i.e. the SuM Strategy Indecisives) need to reposition themselves in the market for sustainable food products (Porter 2004, pp. 41-42). In total, this repositioning can be accomplished by three different strategies: (1) 'trading-up', (2) 'trading-down', and (3) 'focus'. In the following these three strategic options are further elaborated.

(1) *Entering the high quality segment ('trading-up') (Becker 2006, p. 360)*:

SuM Strategy Indecisives which decide to operate in the high quality segment need to focus initially on their socio-ecological product quality: along every step of the value creation chain they need to improve their sustainability performance in order to be competitive against the SuM Strategy Performers and Followers. Stepping into the market for organic food products, for example, means amongst other things that these food processing companies have to search for new suppliers which offer organic raw materials; they have to develop new, innovative product recipes; and they have to install further production facilities in order to produce their supplementary organic food products.

As a result of the increased socio-ecological product quality, the SuM Strategy Indecisives need to reconsider their communication tools and distribution channels. It can be assumed that the higher socio-ecological product quality implies a further need to transform the additional credence qualities into quasi-search qualities. Here, especially a high-value, credible, and attractive brand is of particular importance for a strategy in the high quality segment (Becker 2006, p. 182). For the SuM Strategy Indecisives developing such a brand image is probably one of the most challenging tasks because most brands in the middle segment have no particular fascination or reputation (Twardawa 2007, p. 62). Moreover, supplementary or alternative distribution channels need to be opened up in order to allocate the sustainable food products. Furthermore, the pricing needs to be reconsidered.

As a consequence, many SuM Strategy Indecisives find it difficult to enter the high quality segment and are reluctant to do so because these activities are labour- as well as cost-intensive, and they require a particular amount of sustainability attitude and endurance.

(2) *Entering the low-price segment ('trading-down') (Becker 2006, p. 401)*:

SuM Strategy Indecisives which decide to perform in the low-price segment need to focus most intensively on the price; the socio-ecological product quality does not play a

decisive role, however, a minimum socio-ecological product quality needs to be maintained (cf. Wüstenhagen et al. 2001, pp. 178-180). Due to the importance of - and dependence on – a low price, these food processing companies have to realise economies of scale. Consequently, they have to expand their scale of operation and need to target the mass market (Becker 2006, p. 233, 295). Therefore, they market their low-price food products through rather common distribution channels such as supermarkets, discounters, and wholesalers. As a result of this strategy, the SuM Strategy Indecisives also need to focus primarily on the price in their communication. They do not need to use to a high extent communication tools such as third-party labels and information leaflets in order to signal credibility due to their comparatively low socio-ecological product quality. However, the price risk is large and possible on top price alignments are hard to push through due to price barriers which break away (Twardawa 2007, p. 62).
As a consequence, entering the low-price segment is a challenging repositioning strategy which is not often successful for SuM Strategy Indecisives stepping out of the middle segment (Twardawa 2007, p. 62).

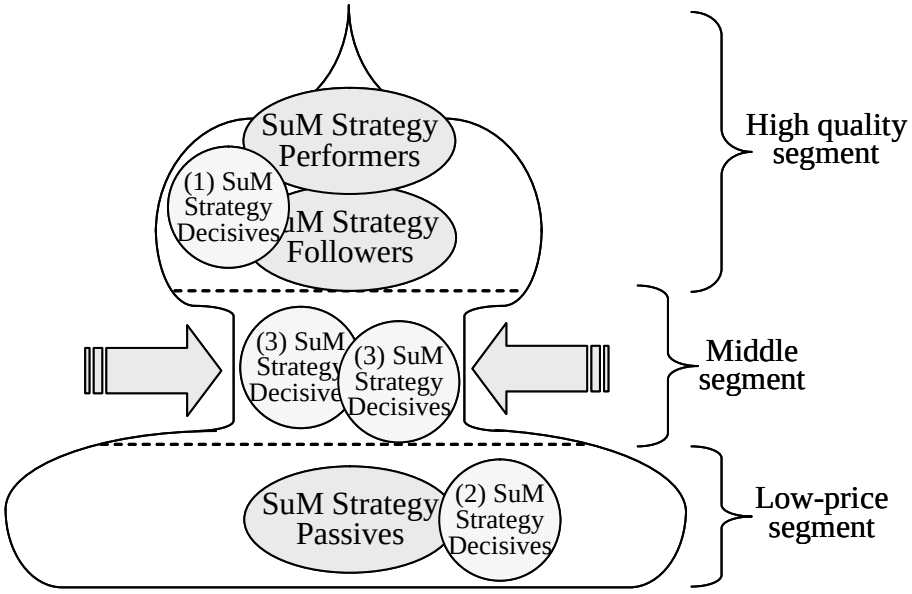
Both repositioning strategies that have been presented are demanding and do not inevitably lead to success because the SuM Strategy Indecisives do not always have all the requirements and the perseverance which the transition towards these two strategies need. Therefore, a third alternative for food processing companies which are ‘stuck-in-the-middle’ can be the middle itself. However, the middle segment is only strategically advisable if the food processing companies are able to concentrate their efforts ‘on serving a few market segments well’ (Kotler/Armstrong 2004, p. 574) with a unique value proposition:

(3) S*taying in the middle segment (‘focus’) (Twardawa 2007, p. 62)*:
It is crucial to the success in the middle segment that the SuM Strategy Indecisives decide on a few key market segments which they carefully selected: either a definite target group (e.g. elderly people or people with food incompatibilities), or a certain region (e.g. regional market Bavaria), or a selected distribution channels (e.g. through the internet or catering), or a unique value they want to offer, or a particular combination of these aspects.
The SuM Strategy Indecisives can be successful if they develop an independent positioning. This can be achieved by a niche market strategy with a distinct added

value. It is important that these food processing companies are perceived as stand-alone by the consumers and offer food products with a certain socio-ecological quality at a fair value-for-money. According to a GfK study the factors of success for companies such as the SuM Strategy Indecisives are limitations of the product range, selective innovations, and communication strategies which focus on the performance of the product and not on the price (Twardawa 2007, p. 62).

Figure 8.1 summarises – in accordance with figure 5.18 – the possible repositioning strategies of the SuM Strategy Indecisives: (1) 'trading-up', (2) 'trading-down', and (3) 'focus'. In the figure the SuM Strategy Indecisives are renamed into the SuM Strategy Decisives since they have – from an ideal point of view – now decided on a competitive and clear sustainability marketing strategy.

Figure 8.1: Repositioning strategies of the SuM Strategy (In)-Decisives



(Adapted from Becker 2006, p. 359; basis: market volume)

Besides the considerations concerning the distinctive sustainability marketing strategies, the assessment that consumers and retailers are perceived as the key external stakeholders for sustainability marketing activities has practical relevance as well for German food processing companies. On the one hand it illustrates the power, urgency, and legitimacy of these market stakeholders within the German food processing industry, thereby making them into 'definitive stakeholders' which should be taken

seriously by the firm's management in terms of sustainable food products (Mitchell et al. 1997, pp. 874-879).

On the other hand these findings provide an opportunity for food processing companies to escape saturated conventional market segments and to meet the consumers' and retailers' demands by processing and marketing sustainable food products. This does not mean that every food processing company has to follow a strategy with superior socio-ecological product quality and that the consumers do not consider pricing anymore. Rather it indicates that the consumers and retailers noticeably demand healthier food products which are processed under socially and ecologically sustainable conditions. This increasing demand for sustainable food products constitutes an opportunity for food processing companies to accept their corporate responsibility and thereby ultimately contribute to the concept of sustainable development.

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APPENDIX

APPENDIX I: ANNEX TO THE SURVEY DOCUMENTS

Appendix I, 1: Email questionnaire

Technische Universität München

Center of Life and Food Sciences Weihenstephan

TECHNISCHE UNIVERSITÄT MÜNCHEN

"Success factors in the food industry:

The case of value food products"

Comments:

- This is a scientific research study conducted by the Chair of Brewery and Food Industry Management of the Technische Universität München (TUM Business School). With the completion of this questionnaire you make an important scientific contribution.
- The questionnaire addresses General Managers or Marketing Managers and takes about 10 to 12 minutes.
- We guarantee that your answers and company data will be treated confidentially and only published anonymously.
- Please return the questionnaire by **Month XXth 2006**/7.
- If required, participants will receive the executive summary with the main findings of the study. As a reward 10 gift sets will be raffled among the participants of the questionnaire!

Contact

Univ.-Prof. Dr. Frank-Martin Belz | Birte Schmidt-Riediger* | Technische Universität München

Chair of Brewery and Food Industry Management | Alte Akademie 14 | 85354 Freising | Germany

Tel.: 08161 71 3096 | Fax: 08161 71 3209 | *corresponding editor: Birte.Schmidt-Riediger@wi.tum.de

"Success factors in the food industry: The case of value food products"

A Value qualities

1) In which food sub-industry does your company operate primarily? Mark one box only!

- ❒ Meat products
- ❒ Fruit/vegetables
- ❒ Baby food
- ❒ Macaroni/noodles/couscous
- ❒ Bread/pastry/cakes
- ❒ Alcoholic beverages
- ❒ Fish products
- ❒ Dairy products
- ❒ Chocolate/confectionary
- ❒ Coffee/tea
- ❒ Non-alcoholic beverages
- ❒ Other

2) Give your impression! To what extent is the food sub-industry named above affected by socio-ecological problems (e.g. intensive stock rearing or poor working conditions)?

to a very high extent		to a certain extent		to a very low extent	not at all	don't know
❒	❒	❒	❒	❒	❒	❒

3) Please mark those statement(s) which apply to your food company.

All/parts of our food products…

- ❒ are sourced from organic farming.
- ❒ are produced socially acceptably.
- ❒ are produced regionally.
- ❒ and produced seasonally.
- ❒ are less or environmentally friendly packed.
- ❒ are traded fair.
- ❒ are certified by third-party organisations such as Bioland, Demeter, Naturland, Fair Trade.
- ❒ are labelled with a self-claim assuring that our food products consider social and/or environmental aspects.
- ❒ None of the statements above apply to our food products.

Food products which consider social or ecological aspects along the value creation chain are called value food products. In the following questions, please refer to the **value food product of yours which is economically the most successful!**

"Success factors in the food industry: The case of value food products"

4) To what extent do you consider **ecological aspects** in your value food product compared to a competing conventional food product?

	to a very high extent		to a certain extent		to a very low extent	not at all	don't know
Agriculture	❒	❒	❒	❒	❒	❒	❒
Processing/production	❒	❒	❒	❒	❒	❒	❒
Transportation	❒	❒	❒	❒	❒	❒	❒
Consumption	❒	❒	❒	❒	❒	❒	❒
Packaging/recycling	❒	❒	❒	❒	❒	❒	❒

5) Indicate to what extent you consider **social aspects** in your value food product compared to a competing conventional food product.

	to a very high extent		to a certain extent		to a very low extent	not at all	don't know
Agriculture	❒	❒	❒	❒	❒	❒	❒
Processing/production	❒	❒	❒	❒	❒	❒	❒
Transportation	❒	❒	❒	❒	❒	❒	❒
Consumption	❒	❒	❒	❒	❒	❒	❒
Packaging/recycling	❒	❒	❒	❒	❒	❒	❒

If you exclusively marked "not at all" or "don't know" in question 4 and 5, please go to question 18.

B Marketing of value food products

6) What relevance do socio-ecological aspects have compared to price and performance in terms of your successful value food product?

❒ Dominant relevance
❒ Equal relevance
❒ Flanking relevance

7) Where is your successful value food product sold?

❒ In a niche
❒ In selected market segments
❒ In the mass market

8) Which target group do you address primarily with your value food product?

❒ Consumers with a high level of socio-ecological consciousness
❒ Consumers with a certain level of socio-ecological consciousness
❒ Consumers with no particular socio-ecological consciousness

"Success factors in the food industry: The case of value food products"

9) What kind of pricing do you pursue with your value food product in comparison to a competing conventional food product?

❒ Higher pricing ("market-skimming pricing")
❒ Similar pricing
❒ Lower pricing ("market-penetration pricing")

10) Which distribution channels do you use in order to sell your successful value food product? Multiple choice!

❒ Direct sale	❒ Health food stores	❒ Small wholefood shops
❒ Pharmacies	❒ Drugstores	❒ Wholefood supermarkets
❒ Mail order	❒ Internet	❒ Wholesalers
❒ Discounters	❒ Supermarkets	❒ Other

11) It is scarcely possible for consumers to verify the socio-ecological aspects of your value food product. To what extent do you use the following communication tools in order to signal credibility?

	to a very high extent		to a certain extent		to a very low extent	not at all	don't know
Conventional advertising	❒	❒	❒	❒	❒	❒	❒
Public relations	❒	❒	❒	❒	❒	❒	❒
Information leaflets	❒	❒	❒	❒	❒	❒	❒
Websites	❒	❒	❒	❒	❒	❒	❒
Product brand	❒	❒	❒	❒	❒	❒	❒
Corporate brand	❒	❒	❒	❒	❒	❒	❒
Third-party labels	❒	❒	❒	❒	❒	❒	❒
Self-declared claims	❒	❒	❒	❒	❒	❒	❒
Communication on the product package	❒	❒	❒	❒	❒	❒	❒
Communicating the owner's personality	❒	❒	❒	❒	❒	❒	❒

12) Communication in terms of value food products takes place between information and emotions. How do you use the following communication tools?

	information-based		balanced		emotion-based	not at all	don't know
Conventional advertising	❒	❒	❒	❒	❒	❒	❒
Public relations	❒	❒	❒	❒	❒	❒	❒
Information leaflets	❒	❒	❒	❒	❒	❒	❒
Websites	❒	❒	❒	❒	❒	❒	❒

"Success factors in the food industry: The case of value food products"

13) In your communication to what extent do you combine socio-ecological aspects with conventional aspects (e.g. taste, freshness)?

to a very high extent		to a certain extent		to a very low extent	not at all	don't know
❒	❒	❒	❒	❒	❒	❒

C Drivers of value food products

14) What influence do the following stakeholders have regarding the socio-ecological orientation of your marketing?

	a very high influence		a certain influence		a very low influence	no influence at all	don't know
Consumers	❒	❒	❒	❒	❒	❒	❒
Retailers	❒	❒	❒	❒	❒	❒	❒
Competitors	❒	❒	❒	❒	❒	❒	❒
Legislators	❒	❒	❒	❒	❒	❒	❒
NGOs	❒	❒	❒	❒	❒	❒	❒
Media	❒	❒	❒	❒	❒	❒	❒
Company's owner	❒	❒	❒	❒	❒	❒	❒
Top management	❒	❒	❒	❒	❒	❒	❒
Shareholders	❒	❒	❒	❒	❒	❒	❒

15) According to which strategic orientation do you pursue the marketing activities of your value food product?

❒ Strategic focus on market development and differentiation.
❒ Strategic focus on raising reputation and keeping a good image.
❒ Both strategies with the same intensity.
❒ Don't know.

D Success of value food products

16) In terms of the following aspects do you see any room for improvement through marketing-mix activities?

	no room for improvement		certain room for improvement		a lot of room for improvement	don't know
Credibility	❒	❒	❒	❒	❒	❒
Corporate image	❒	❒	❒	❒	❒	❒
Product image	❒	❒	❒	❒	❒	❒
Differentiation	❒	❒	❒	❒	❒	❒
Consumer acquisition	❒	❒	❒	❒	❒	❒
Consumer retention	❒	❒	❒	❒	❒	❒

"Success factors in the food industry: The case of value food products"

17) Between you and me! How satisfied are you with the marketing outcome of your value food product?

extremely satisfied			neither nor		extremely dissatisfied	don't know
❒	❒	❒	❒	❒	❒	❒

E Company Data

18) How many employees are engaged in your company (2005)?

- ❒ < 10
- ❒ ≥ 10 to < 50
- ❒ ≥ 50 to < 250
- ❒ ≥ 250 to < 1000
- ❒ ≥ 1000

19) How high are the total sales (m€) of your company (2005)?

- ❒ < 2
- ❒ ≥ 2 to < 10
- ❒ ≥ 10 to < 50
- ❒ ≥ 50 to < 100
- ❒ ≥ 100

20) Give the (estimated) sales proportion which has been achieved with…

I) all value food products your company processes (2005).
Ca. _____%

II) your most successful value food product (2005).
Ca. _____%

21) What market share does your company achieve with its…

I) most successful conventional food product?
- ❒ < 5%
- ❒ ≥ 5% to < 25%
- ❒ ≥ 25% to < 50%
- ❒ ≥ 50%
- ❒ There is no conventional food product offered.

II) most successful value food product?
- ❒ < 5%
- ❒ ≥ 5% to < 25%
- ❒ ≥ 25% to < 50%
- ❒ ≥ 50%
- ❒ There is no value food product offered.

"Success factors in the food industry: The case of value food products"

22) What brand awareness does your company accomplish with its strongest brand?

- ❒ < 25%
- ❒ ≥ 25% to < 50%
- ❒ ≥ 50% to < 75%
- ❒ ≥ 75%

23) Is your company obliged by law to publish its financial company data?

- ❒ Yes
- ❒ No

24) What position do you hold in your company? _____

Thank you for your support and co-operation!

Please give your e-mail address: _____,
if you want to receive the executive summary and to participate in the raffle!

Please send or fax the completed questionnaire to the following address:

Birte Schmidt-Riediger
Technische Universität München
Chair of Brewery and Food Industry Management
Alte Akademie 14
85354 Freising
Germany

Fax: 08161 71 3209

Appendix I, 2: First email request to participate in the survey

„LEBENSMITTELQUALITÄT ALS DIFFERENZIERUNGSMERKMAL ERFOLGREICH KOMMUNIZIEREN“ – EINE STUDIE DER TU MÜNCHEN

Wissenschaftliche Studie der Technischen Universität München

Sehr geehrte Frau Müller,

Warum vermarkten bestimmte Lebensmittelhersteller ihre Qualitätsprodukte erfolgreicher als andere?

Wie kommunizieren diese dem Konsumenten glaubwürdig den Mehrwert ihrer Qualitätsprodukte?

Insbesondere diesen Fragen geht die Untersuchung „Erfolgsfaktoren bei Qualitätsprodukten in der Lebensmittelindustrie“ nach, die zurzeit von der Professur für Betriebswirtschaftslehre Brau- und Lebensmittelindustrie am Wissenschaftszentrums Weihenstephan durchgeführt wird.

Bitte unterstützen Sie die Studie und beantworten den kurzen Fragebogen bis Wochentag, den TT.MM.JJ entweder

online: TUM Fragebogen

oder als PDF-Ausdruck: TUM Fragebogen (PDF)

Nach Abschluss der Untersuchung erhalten Sie, wenn gewünscht, eine Executive Summary der wichtigsten Ergebnisse. Darüber hinaus können Sie an der Verlosung von 10 Geschenkpaketen teilnehmen.

Vielen Dank für Ihre Mithilfe!

Univ.-Prof. Dr. Frank-Martin Belz
Dipl.-Kffr. Birte Schmidt-Riediger M.A.

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Appendix I, 3: Second email request to participate in the survey

FREUNDLICHE ERINNERUNG: STUDIE DER TU MÜNCHEN – „LEBENSMITTELQUALITÄT ALS DIFFERENZIERUNGSMERKMAL ERFOLGREICH KOMMUNIZIEREN“

Wissenschaftliche Studie der Technischen Universität München

Sehr geehrte Frau Müller,

In der letzten Woche haben wir Ihnen unseren Online-Fragebogen zugeschickt, der das Ziel hat, die Erfolgsfaktoren bei der Vermarktung von Qualitätsprodukten in der Lebensmittelindustrie zu erfassen.

Wir möchten Sie herzlich bitten, diese Erhebung durch Ihre Mitwirkung zu unterstützen, und erlauben uns daher, Sie hiermit noch einmal daran zu erinnern. Jeder ausgefüllte Fragebogen trägt zum Erfolg der Studie bei.

Daher würden wir uns freuen, wenn Sie trotz Ihrer vielen Aufgaben 10 min für das Ausfüllen unseres Fragebogens finden könnten.

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Bitte beantworten Sie den Fragebogen bis spätestens Wochentag, den TT.MM.JJ.

Bei denjenigen, die den Fragebogen bereits beantwortet haben, möchten wir uns auf diesem Wege noch einmal recht herzlich bedanken.

Wir sind Ihnen im Voraus für Ihre Mitarbeit sehr dankbar und verbleiben mit freundlichen Grüßen

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APPENDIX II: ANNEX TO THE ANALYSIS OF SUSTAINABILITY MARKETING CHARACTERISTICS

Appendix II, 1: Means and aspects of public exposure by company type (Mann-Whitney-U-test)

Aspects of public exposure	$\bar{x}_{NoSuM}$ (n = 22)	$\bar{x}_{SuM}$ (n = 362)	Company type comparison NoSuM & SuM (α)
Sales volume p.a.	1.77	2.03	NS (.226)
Number of employees	1.95	2.13	NS (.546)
Market share	2.00	1.98	NS (.782)
Brand awareness	1.59	1.99	.068
Mandatory disclosure	.16	.26	NS (.321)

Appendix II, 2: Means and perception of socio-ecological problems by company type (Mann-Whitney-U-test)

Perception of socio-ecological problems	$\bar{x}_{NoSuM}$ (n = 22)	$\bar{x}_{SuM}$ (n = 362)	Company type comparison NoSuM & SuM (α)
	2.05	2.79	.010**

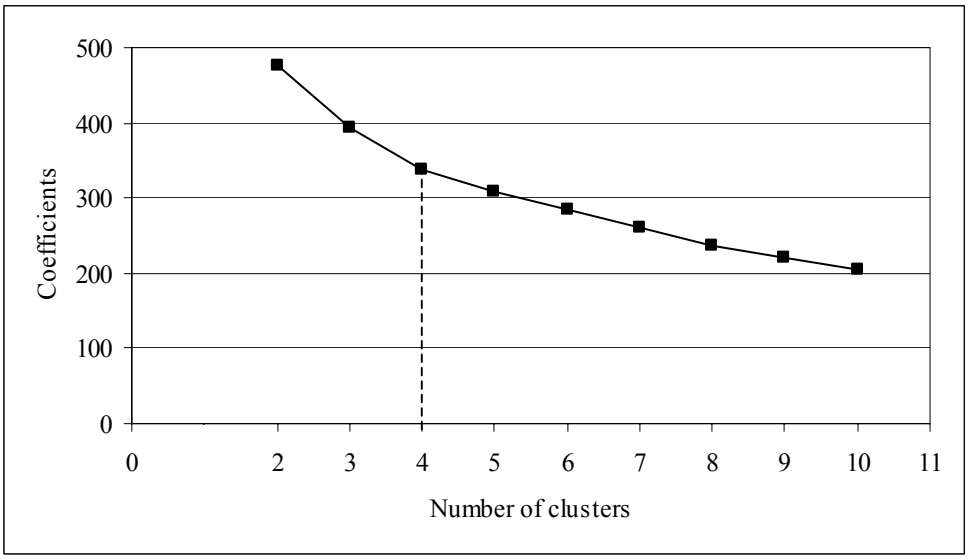
Appendix II, 3: Consideration of social product aspects: mean comparison of the different levels along the value creation chain (t-test) (N = 362)

Levels along the value creation chain	Test value 2.31 (Processing)					
					95% confidence interval of difference	
	T	df	Signi-ficance (α)	Mean difference	Lower	Upper
Agriculture (n = 332)	-3.216	331	.001	-.131	-.21	-.05
Processing (n = 339)	-.001	338	1.000	.000	-.07	.07
Transportation (n = 324)	-8.338	323	.000	-.334	-.42	-.26
Consumption (n = 320)	-5.204	319	.000	-.197	-.27	-.12
Packaging/recycling (n = 328)	-5.432	327	.000	-.220	-.30	-.14

Appendix II, 4: Consideration of ecological product aspects: mean comparison of the different levels along the value creation chain (t-test) (N = 362)

Levels along the value creation chain	Test value 2.47 (Processing)					
	T	df	Signi-ficance (α)	Mean difference	95% confidence interval of difference	
					Lower	Upper
Agriculture (n = 348)	-2.239	347	.026	-.084	-.16	-.01
Processing (n = 351)	-.001	350	.999	.000	-.07	.07
Transportation (n = 340)	-11.692	339	.000	-.447	-.52	-.37
Consumption (n = 326)	-7.192	325	.000	-.262	-.33	-.19
Packaging/recycling (n = 344)	-2.549	343	.011	-.092	-.16	-.02

Appendix II, 5: 'Elbow criterion' of the hierarchical cluster analysis



Appendix II, 6: Extract of the agglomeration schedule of the hierarchical cluster analysis

Stage	Cluster combined		Coefficients	Stage cluster first appears		Next Stage
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	
1	250	308	.000	0	0	19
2	179	305	.000	0	0	34
…	…	…	…	…	…	…
298	5	11	206.007	289	279	302
299	6	15	221.462	277	295	303
300	7	13	237.283	292	297	304
301	8	14	259.715	293	294	303
302	2	5	284.408	291	298	305
303	6	8	309.361	299	301	306
304	1	7	339.608	296	300	306
305	2	3	394.437	302	290	307
306	1	6	475.699	304	303	307
307	1	2	641.671	306	305	0

Appendix II, 7: Means of strategic characteristics by cluster solution (N = 308)

	Cluster solution			
Strategic characteristics	A	B	C	D
Social product quality	2.39	2.45	1.49	1.75
Ecological product quality	2.45	2.61	1.89	1.80
Market segmentation	2.34	2.50	2.42	1.00
Targeting	1.78	2.69	1.80	1.19
Positioning	1.70	2.56	1.06	1.32
Cluster size (n)	122	84	71	31
Share [%]	39.6	27.3	23.0	10.1

Appendix II, 8: Discriminant analysis I: classification table of SuM strategy types

			Predicted group membership				
		Clusters	SuM Strategy Performers	SuM Strategy Followers	SuM Strategy Indecisives	SuM Strategy Passives	Total
Original	Count (Share [%])	SuM Strategy Performers	79 (94.0)	5 (6.0)	0 (.0)	0 (.0)	84 (100.0)
		SuM Strategy Followers	0 (.0)	115 (94.3)	7 (5.7)	0 (.0)	122 (100.0)
		SuM Strategy Indecisives	0 (.0)	1 (1.4)	66 (93.0)	4 (5.6)	71 (100.0)
		SuM Strategy Passives	0 (.0)	0 (.0)	0 (.0)	31 (100.0)	31 (100.0)

94.5% of original grouped cases correctly classified

Appendix II, 9: Discriminant analysis II: test of equality of group means

Independent variables	Wilks-Lambda	F	df1	df2	Significance (α)
Social product quality	.567	77.458	3	304	.000
Ecological product quality	.627	60.308	3	304	.000
Market segmentation	.602	67.074	3	304	.000
Targeting	.508	98.028	3	304	.000
Positioning	.406	148.372	3	304	.000

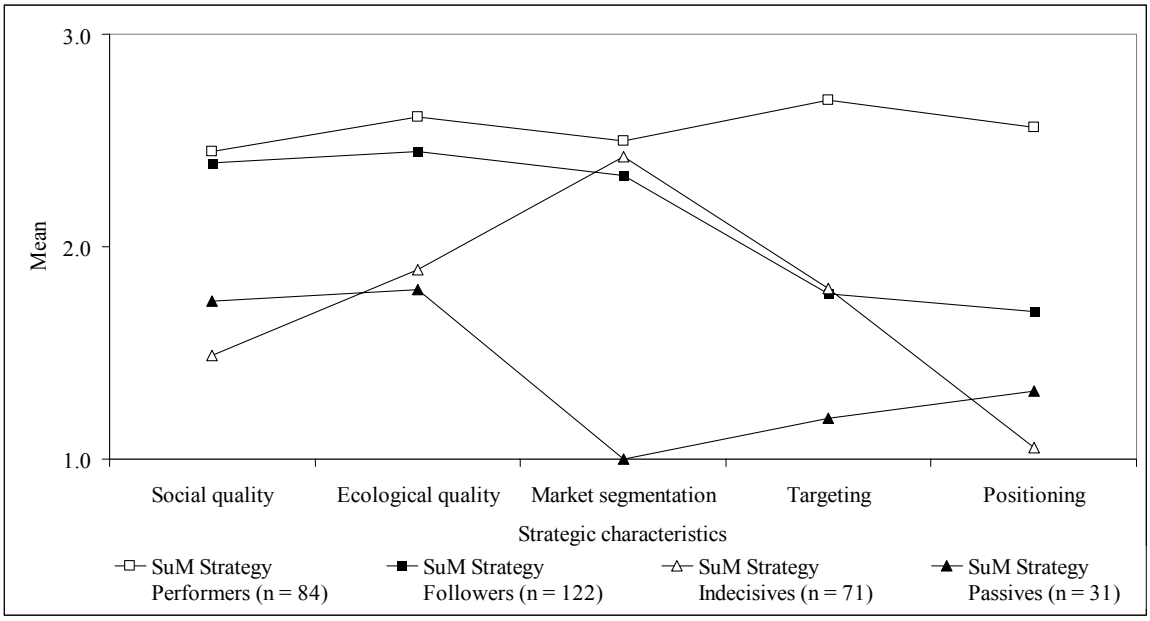
Appendix II, 10: Overall model fit I: canonical discriminant functions

Function	Eigenvalue	% of variance	Cumulative %	Canonical correlation
1	3.429	76.8	76.8	.880
2	.620	13.9	90.7	.619
3	.414	9.3	100.0	.541

Appendix II, 11: Overall model fit II: Wilks-Lambda

Test of function(s)	Wilks-Lambda	Chi^2	df	Significance (α)
1 through 3	.099	700.909	15	.000
2 through 3	.437	250.739	8	.000
3	.707	104.724	3	.000

Appendix II, 12: Mean comparison of SuM strategy types (N = 308)



Appendix II, 13: Strategic characteristics by SuM strategy type (Mann-Whitney-U-test) (N = 308)

Strategic sustainability marketing characteristics	Cluster comparison[1]					
	1 & 2	1 & 3	1 & 4	2 & 3	2 & 4	3 & 4
Social product quality	NS	.000***	.000***	.000***	.000***	.023*
Ecological product quality	.004**	.000***	.000***	.000***	.000***	NS
Market segmentation	.023*	NS	.000***	NS	.000***	.000***
Targeting	.000***	.000***	.000***	NS	.000***	.000***
Positioning	.000***	.000***	.000***	.000***	.000***	.000***

[1] 1: SuM Strategy Performers (n = 84); 2: SuM Strategy Followers (n = 122); 3: SuM Strategy Indecisives (n = 71); 4: SuM Strategy Passives (n = 31).

Appendix II, 14: Means and correlation coefficients between pricing and SuM strategy types (Spearman-rank-correlation-test)

Operational sustainability marketing characteristic	SuM strategy types							
	SuM Strategy Performers		SuM Strategy Followers		SuM Strategy Indecisives		SuM Strategy Passives	
	$\bar{x}$	r	$\bar{x}$	r	$\bar{x}$	r	$\bar{x}$	r
Pricing (1: lower pricing; 3: higher pricing) (n = 305)	2.66	**.19*** **	2.48	-.04	2.49	.00	2.03	**-.22*** **

Appendix II, 15: Pricing by SuM strategy type (Mann-Whitney-U-test)

Operational sustainability marketing characteristic	Cluster comparison					
	1&2	1&3	1&4	2&3	2&4	3&4
Pricing (n = 305)	.008**	.049*	.000***	NS	.002**	.003**

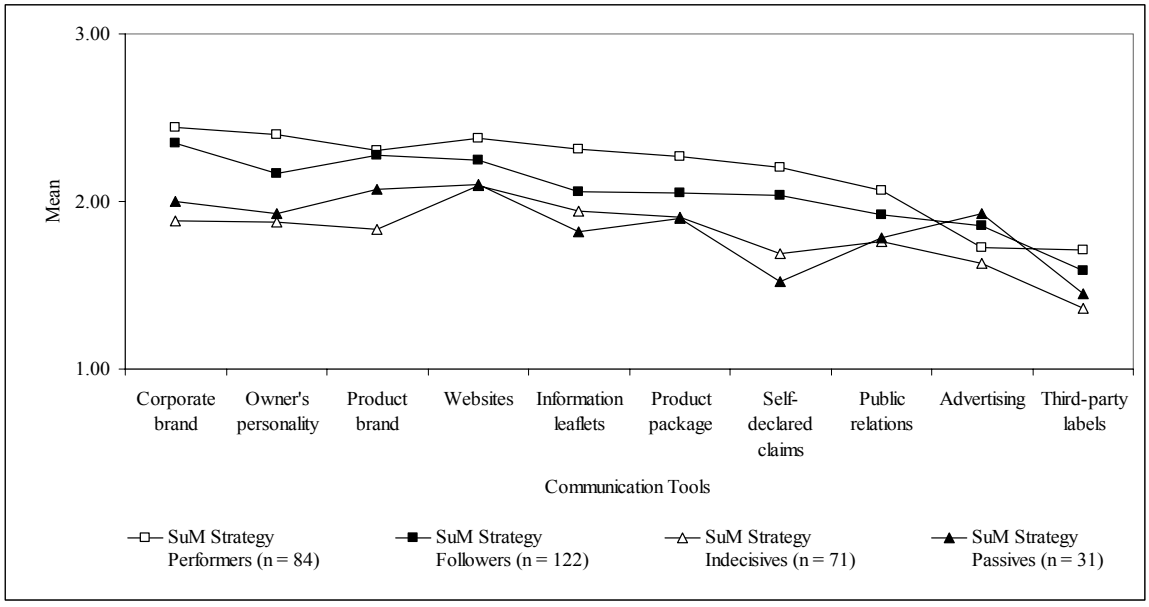
Appendix II, 16: Applied distribution channels by SuM strategy type (Mann-Whitney-U-test) (N = 308)

Applied distribution channels	Cluster comparison					
	1&2	1&3	1&4	2&3	2&4	3&4
Direct sale (n = 205)	NS	.033*	NS	.002**	.010**	NS
Wholesalers (n = 169)	NS	NS	.043*	NS	NS	NS
Supermarkets (n = 152)	.000***	NS	.000***	NS	.041*	.003**
Internet (n = 58)	NS	NS	NS	NS	NS	NS
Small wholefood shops (n = 54)	.000***	.000***	.000***	NS	.040*	NS
Discounters (n = 46)	NS	NS	.001***	NS	.019*	.002**
Wholefood supermarkets (n = 47)	.000***	.000***	.000***	NS	.049*	NS
Mail order (n = 47)	NS	NS	.021*	NS	.028*	NS
Health food stores (n = 21)	.002**	.005**	.016*	NS	NS	NS
Drugstores (n = 14)	NS	.008**	NS	NS	NS	NS
Pharmacies (n = 6)	NS	NS	NS	NS	NS	NS
Others (n = 144)	NS	NS	NS	NS	NS	NS

Appendix II, 17: Signalling credibility: mean comparison of used communication tools (t-test) (N = 362)

Communication tools	Test value 2.27 (Corporate brand)					
	T	df	Signi-ficance (α)	Mean difference	95% confidence interval of difference	
					Lower	Upper
Corporate brand (n = 314)	.000	313	1.000	.000	-.08	.08
Websites (n = 339)	-.689	338	.491	-.026	-.10	.05
Product brand (n = 313)	-1.489	312	.137	-.063	-.15	.02
Owner's personality (n = 326)	-2.480	325	.014	-.114	-.20	-.02
Information leaflets (n = 328)	-4.287	327	.000	-.182	-.27	-.10
Product package (n = 323)	-4.400	322	.000	-.187	-.27	-.10
Self-declared claims (n = 303)	-6,253	302	.000	-.297	-.39	-.20
Public relations (n = 306)	-8.701	305	.000	-.372	-.46	-.29
Advertising (n = 332)	-11.754	331	.000	-.487	-.57	-.41
Third-party labels (n = 290)	-15.816	289	.000	-.688	-.77	-.60

Appendix II, 18: Mean comparison of the usage of communication tools to signal credibility (N = 308)



Appendix II, 19: Usage of communication tools to signal credibility by SuM strategy type (Mann-Whitney-U-test) (N = 308)

Communication tools	Cluster comparison					
	1&2	1&3	1&4	2&3	2&4	3&4
Corporate brand (n = 279)	NS	.000***	.005**	.000***	.023*	NS
Owner's personality (n = 292)	NS	.000***	.008**	.028*	NS	NS
Product brand (n = 279)	NS	.001***	NS	.000***	NS	NS
Websites (n = 294)	NS	.007**	NS	NS	NS	NS
Information leaflets (n = 290)	.021*	.002**	.006**	NS	NS	NS
Product package (n = 291)	.046*	.007**	.027*	NS	NS	NS
Self-declared claims (n = 277)	NS	.000***	.000***	.006**	.003**	NS
Public relations (n = 276)	NS	.023*	NS	NS	NS	NS
Advertising (n = 291)	NS	NS	NS	.040*	NS	NS
Third-party labels (n = 268)	.034*	.005**	NS	.031*	NS	NS

Appendix II, 20: Communication between information and emotion: mean comparison of selected communication tools (t-test) (N = 362)

Selected communication tools	Test value 2.21 (Information leaflet)					
	T	df	Signi-ficance (α)	Mean difference	95% confidence interval of difference	
					Lower	Upper
Information leaflets (n = 297)	-.001	296	.999	.000	-.08	.08
Websites (n = 323)	-.872	322	.384	-.032	-.11	.04
Advertising (n = 277)	-4.579	276	.000	-.184	-.26	-.10
Public relations (n = 262)	-5.063	261	.000	-.224	-.31	-.14

Appendix II, 21: Means and correlation coefficients between motive alliances and SuM strategy types (Spearman-rank-correlation-test)

Operational sustainability marketing characteristic	SuM strategy types							
	SuM Strategy Performers		SuM Strategy Followers		SuM Strategy Indecisives		SuM Strategy Passives	
	$\bar{x}$	r	$\bar{x}$	r	$\bar{x}$	r	$\bar{x}$	r
Motive alliances (1: low extent; 3: high extent) (n = 306)	2.62	**.28*** **	2.39	.09	2.04	**-.20*** **	1.65	**-.29*** **

Appendix II, 22: Motive alliances by SuM strategy type (Mann-Whitney-U-test)

Operational sustainability marketing characteristic	Cluster comparison					
	1&2	1&3	1&4	2&3	2&4	3&4
Motive alliances (n = 306)	.007**	.000***	.000***	.001***	.000***	.010**

Appendix II, 23: Selected sustainability marketing aspects by SuM strategy type (Mann-Whitney-U-test) (N = 308)

Selected sustainability marketing aspects	Cluster comparison					
	1&2	1&3	1&4	2&3	2&4	3&4
Regional production (n = 231)	NS	.037*	NS	.003**	NS	NS
Eco-friendly packaging (n = 174)	NS	NS	NS	NS	NS	NS
Socially acceptable production (n = 158)	NS	.019*	NS	.029*	NS	NS
Seasonal production (n = 141)	NS	NS	.036*	NS	.008**	.006**
Fair trade (n = 105)	NS	.022*	NS	.005**	NS	NS
Organic farming (n = 101)	.000***	.000***	.000***	NS	.035*	NS
Third-party labels (n = 90)	.000***	.005**	.000***	NS	NS	NS
Self-declared claims (n = 68)	.000***	.000***	.000***	NS	.048*	NS
No statement applies (n = 15)	NS	.008**	NS	.027*	NS	NS

Appendix II, 24: Synopsis of the hypotheses regarding sustainability marketing characteristics

Charac-teristics	Hypotheses	Findings
Strategic sustainability marketing	H_1: The different strategic sustainability marketing directions of food processing companies can be characterised by means of certain 'Sustainability Marketing Strategy Types' (SuM strategy types). Each SuM strategy type is composed of a distinctive combination of the five strategic sustainability marketing dimensions.	Tentatively accepted Elbow criterion shows significant distinction at a four cluster solution; significant results of discriminant analysis.
Operational sustainability marketing	H_2: The sustainability marketing mix of food processing companies is influenced by the particular SuM strategy type to a great extent. It is assumed that there is a general fit between the strategic and operational sustainability marketing.	Tentatively accepted
	$H_{2/1}$: Specific sustainable food products are sold for a higher price since they offer a higher value added.	Tentatively accepted
	$H_{2/2}$: Specific sustainable food products are marketed through numerous smaller distribution channels which address only selected target groups.	Tentatively accepted
	$H_{2/3}$: With regard to the problem of credence qualities, some communication tools are applied to a greater extent than others to build up trust in the consumer. In the case of specific sustainable food products, communication tools are applied to a greater extent to signal credibility.	Tentatively accepted Tentatively accepted
	$H_{2/4}$: Some communication tools are more information-based, some more emotion-based in terms of marketing sustainable food products. In the case of specific sustainable food products, communication tools are more information-based than emotion-based.	Tentatively accepted Not accepted
	$H_{2/5}$: In the case of specific sustainable food products, motive alliances are used to a greater extent.	Tentatively accepted

APPENDIX III: ANNEX TO THE ANALYSIS OF SUSTAINABILITY MARKETING DRIVERS

Appendix III, 1: SuM strategy types by food sub-industry (Mann-Whitney-U-test)

SuM strategy types (n = 308)	Food sub-industry comparison[1]	
	Chocolate/confectionary & dairy/baby food	Chocolate/confectionary & coffee/tea
	.038*	.048*

[1] A comparison of the other food sub-industries regarding the distribution of SuM strategy types does not lead to further significant differences.

Appendix III, 2: Aspects of public exposure by SuM strategy type (Mann-Whitney-U-test) (N = 308)

Aspects of public exposure	Cluster comparison					
	1&2	1&3	1&4	2&3	2&4	3&4
Sales volume p.a. (n = 301)	NS	.055	.003**	NS	.011*	NS
Number of employees (n = 307)	.012*	.045*	.001***	NS	NS	NS
Market share (n = 280)	NS	NS	NS	NS	NS	NS
Brand awareness (n = 288)	NS	NS	NS	NS	NS	NS
Mandatory disclosure (n = 302)	NS	NS	NS	NS	NS	NS

Appendix III, 3: Validation of stakeholder classification (3-factor-solution) (N = 308)

Stakeholders	Factor 1 Internal stakeholders	Factor 2 Market stakeholders	Factor 3 Public stakeholders
Company's owner	,880	,049	,173
Top management	,822	,372	-,001
Shareholders	,556	-,043	,363
Consumers	,297	,803	-,026
Retailers	-,044	,641	,375
Competitors	,081	,571	,472
NGOs	,204	,127	,784
Legislators	,180	,209	,754
Media	,056	,474	,501

Appendix III, 4: Perceived stakeholders' influence by SuM strategy type (Mann-Whitney-U-test) (N = 308)

Stakeholders	Cluster comparison					
	1&2	1&3	1&4	2&3	2&4	3&4
Top management (n = 297)	NS	NS	.005**	NS	.004**	NS
Company's owner (n = 292)	NS	NS	.013*	NS	NS	NS
Shareholders (n = 264)	NS	NS	NS	NS	NS	NS
Consumers (n = 307)	.002**	.000***	.000***	.018*	NS	NS
Retailers (n = 299)	NS	.045*	NS	.005**	NS	NS
Competitors (n = 293)	NS	NS	NS	NS	NS	NS
Legislators (n = 290)	NS	.000***	NS	.002**	NS	NS
Media (n = 289)	NS	.019*	NS	.027*	NS	NS
NGOs (n = 274)	NS	.006**	.055	.054	NS	NS

Appendix III, 5: Perceived stakeholders' influences: mean comparison of different stakeholders (t-test) (N = 362)

Stakeholders	Test value = 2.58 (Top management)					
	T	df	Signi-ficance (α)	Mean difference	95% confidence interval of difference	
					Lower	Upper
Top management (n = 339)	.001	338	1.000	.000	-.07	.07
Consumers (n = 358)	-.989	357	.323	-.033	-.10	.03
Company's owner (n = 332)	-4.277	331	.000	-.178	-.26	-.10
Retailers (n = 342)	-11.552	341	.000	-.473	-.55	-.39
Shareholders (n = 292)	-16.152	291	.000	-.801	-.90	-.70
Legislators (n = 332)	-17.117	331	.000	-.702	-.78	-.62
Media (n = 327)	-20.183	326	.000	-.789	-.87	-.71
Competitors (n = 336)	-20.486	335	.000	-.748	-.82	-.68
NGOs (n = 309)	-30.826	308	.000	-1.099	-1.17	-1.03

Appendix III, 6: Perceived stakeholders' influence by primary strategic sustainability marketing orientation (Mann-Whitney-U-test) (N = 308)

External stakeholders		Comparison of primary strategic SuM orientations		
		Proactive and both strategies	Proactive and reactive strategy	Both and reactive strategy
Market pull	Consumers (n = 282)	NS	NS	.043*
	Retailers (n = 274)	NS	.040*	.014*
	Competitors (n = 269)	NS	NS	.054
Public push	Legislators (n = 267)	NS	NS	NS
	Media (n = 266)	NS	NS	NS
	NGOs (n = 252)	NS	NS	NS

Appendix III, 7: Confusion matrix of binary logistic regression (n = 212)

Observed		Predicted		
		Basic SuM Strategy Types		Correct percentage [%]
		SuM Strategy Non-Actives	SuM Strategy Actives	
Basic SuM Strategy Types	SuM Strategy Non-Actives	36	35	50.7
	SuM Strategy Actives	17	124	87.9
Overall percentage [%]				*75.5*

Appendix III, 8: Synopsis of hypotheses regarding sustainability marketing drivers

Drivers	Hypotheses	Findings
Sub-industry membership	H_3: The sub-industry membership constitutes a driver for the sustainability marketing commitment of food processing companies.	Tentatively accepted only for : Spearman-rank-correl.: Coffee/tea industry Mann-Whitney-U-test: Dairy/baby food industry Coffee/tea industry Binary log. regression: Dairy/baby food ind. (+) Meat industry (+)
Public exposure	H_4: The public exposure of food processing companies forms a driver for their sustainability marketing commitment:	Not accepted
	$H_{4/1}$: The larger a food processing company is in terms of sales volume p.a. and number of employees, the more it can be expected to undertake sustainability marketing. Opposite Hypothesis ($OH_{4/1}$) The smaller a food company is in terms of sales volume p.a. and number of employees, the more it can be expected to undertake sustainability marketing.	Not accepted, but $OH_{4/1}$ tentatively accepted: Spearman-rank-correl.: Sales volume p.a. Number of employees Mann-Whitney-U-test: Sales volume p.a. Number of employees Binary log. regression: Sales volume p.a. (-)
	$H_{4/2}$: The more a food processing company leads the market regarding market share, the more likely it is to adopt sustainability marketing.	Not accepted
	$H_{4/3}$: Food processing companies with high brand awareness are more likely to become involved in sustainability marketing.	Not accepted: Spearman-rank-correl.- and Mann-Whitney-U-test Tentatively accepted: Binary log. regression: Brand awareness (+)
	$H_{4/4}$: Food processing companies with mandatory disclosure of company data are more likely to commit to sustainability marketing than food processing companies without such a mandatory disclosure.	Not accepted
Internal stakeholders	H_5: The owner of the company, the top management, and the shareholders (i.e. the internal stakeholders) constitute drivers for the sustainability marketing commitment of food processing companies.	Tentatively accepted for: Spearman-rank-correl.: Top management Company's owner Mann-Whitney-U-test: Top management Company's owner Not accepted: Binary log. regression

Appendix III, 8: Synopsis of hypotheses regarding sustainability marketing drivers (Continuation)

Drivers	Hypotheses	Findings
Market stakeholders	H_6: The consumers, the retailers, and the competitors (i.e. the market stakeholders) make up drivers for the sustainability marketing commitment of food processing companies.	Tentatively accepted for: Spearman-rank-correl.: Consumers Retailers Mann-Whitney-U-test: Consumers Retailers Binary log. regression: Consumers (+) Competitors (-)
Public stakeholders	H_7: The legislators, NGOs, and the media (i.e. the public stakeholders) form drivers for the sustainability marketing commitment of food processing companies.	Tentatively accepted for: Spearman-rank-correl.: Legislators Media NGOs Mann-Whitney-U-test: Legislators Media NGOs Binary log. regression: Legislators (+)
Primary strategic sustainability marketing orientation	H_8: There is a correlation between the perceived stakeholder pressure (either market pull or public push) and the pursued primary strategic sustainability marketing strategy (either proactive or reactive).	Only partially tentatively accepted
	$H_{8/1}$: The stronger (less) the food processing company perceives the influence of the market stakeholders in comparison to the public stakeholders, the more likely it is to pursue a proactive (reactive) sustainability marketing strategy.	Tentatively accepted for: Spearman-rank-correl.: Consumers Retailers Competitors Mann-Whitney-U-test: Retailers
	$H_{8/2}$: The stronger (less) the food processing company perceives the public stakeholders in comparison to the market stakeholders, the more likely it is to follow a reactive (proactive) sustainability marketing strategy.	Not accepted

APPENDIX IV: ANNEX TO THE ANALYSIS OF SUSTAINABILITY MARKETING OUTCOME

Appendix IV, 1: Evaluation of sustainability marketing outcome: mean comparison of sustainability marketing objectives (t-test) (N = 362)

Key sustainability marketing objectives	Test value = 3.32 (Credibility)					
	T	df	Signi-ficance (α)	Mean difference	95% confidence interval of difference	
					Lower	Upper
Credibility (n = 351)	.001	350	.999	-.000	-.12	.12
Corporate image (n = 347)	-6.787	346	.000	-.400	-.52	-.28
Product image (n = 346)	-7.283	345	.000	-.443	-.56	-.32
Differentiation (n = 319)	-7.486	318	.000	-.442	-.56	-.33
Customer retention (n = 341)	-13.714	340	.000	-.838	-.96	-.72
Customer acquisition (n = 351)	-17.754	350	.000	-1.043	-1.16	-.93

Appendix IV, 2: Key sustainability marketing objectives by SuM strategy type (Mann-Whitney-U-test) (N = 308)

Key sustainability marketing objectives	Cluster comparison					
	1&2	1&3	1&4	2&3	2&4	3&4
Credibility (n = 303)	NS	.068	NS	NS	NS	NS
Corporate image (n = 302)	NS	.054	NS	NS	NS	NS
Product image (n = 297)	NS	NS	NS	NS	NS	NS
Differentiation (n = 281)	NS	NS	NS	NS	NS	NS
Customer retention (n = 295)	NS	NS	NS	NS	NS	.039*
Customer acquisition (n = 303)	NS	NS	NS	NS	NS	NS

Appendix IV, 3: Means and correlation coefficients between the overall sustainability marketing satisfaction and SuM strategy types (Spearman-rank-correlation-test)

Sustainability marketing outcome	SuM strategy types							
	SuM Strategy Performers		SuM Strategy Followers		SuM Strategy Indecisives		SuM Strategy Passives	
	$\bar{x}$	r	$\bar{x}$	r	$\bar{x}$	r	$\bar{x}$	r
Overall satisfaction (1: extremely dissatisfied; 5: extremely satisfied) (n = 299)	3.50	.09	3.40	.05	3.13	**-.13***	3.29	-.04

Appendix IV, 4: Overall sustainability marketing satisfaction by SuM strategy type (Mann-Whitney-U-test)

Sustainability marketing outcome	Cluster comparison					
	1&2	1&3	1&4	2&3	2&4	3&4
Overall satisfaction (n = 299)	NS	.020*	NS	.044*	NS	NS