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**Green Packaging from a Company's Perspective:
Determining Factors for Packaging Solutions in the
German Fruit Juice Industry**

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Abstract

In Germany, extensive legislation aims at getting companies to engage in eco-friendly packaging. A common packaging challenge centers on fruit juice products the packaging of which ranges from carton container, to glass or plastic bottles. This study examined the prevalence of Green Packaging in the Baden-Württemberg fruit juice industry. Expert interviews reveal that these companies make packaging decisions based on bottling volume and financial resources and not on Green Packaging concerns.

Concerns about product quality, packaging functionality and convenience prevail because the market values these factors above all. This means Green Packaging will be implemented only when eco-friendly packaging becomes a 'must-have' product feature.

The study also revealed that the retail channels used by these companies push back against returnable bottles because of their handling costs. Interviewees also expressed their opinion that consumers' demand for Green Packaging does not suffice to drive change in existing practices.

Our recommendation is that smaller companies focus their packaging decisions on existing returnable glass bottles thereby both minimizing change over costs and maximizing green marketing potential. For larger companies it is possible to take on a pioneer role in the field of Green Packaging.

Key Words

Environment, Sustainability, Marketing, Packaging, Green Packaging, Juice Industry

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List of Abbreviations

CO ₂	Carbon dioxide
ECR	Efficient Consumer Response
EU	European Union
EUROPEN	Europe and European Organization for Packaging and the Environment
€	Euro
FSC	Forest Stewardship Council
Ibid.	Latin, short for ibidem, meaning "in the same place"
LCA	Life Cycle Assessment
LEH	Lebensmitteleinzelhandel
NGO	Non-Governmental Organization
PET	Polyethylene terephthalate
s.a.	Latin, short for sine ano, meaning "without year"
SME	small and medium-sized enterprises
SPA	Sustainable Packaging Alliance
VdF	German, Verband der deutschen Fruchtsaft-Industrie e.V., meaning "Registered Association of German Fruit Juice Industry"

1. Introduction

In 2011, packaging waste in Germany amounted to 16.5 million tons exceeding the levels of previous years.¹ High amounts of waste are created by over-packaging of products, ignoring the facts of finite resources and a company's responsibility for external costs caused by pollution. At the same time it offends societal demands for more greenness in packaging.²

In this scenario, Green Packaging solutions present an opportunity to tackle these problems by reducing the negative environmental impacts packaging causes over time. The scope of decisions to achieve 'greener' packaging ranges from the choice and amount of material used, means of production, form and size up to the options for reducing, reusing, recycling and disposal of packaging. With raising consumer demands for eco-friendly packaging, an increasing number of companies take on the chance to pack their products 'greener' and become engaged in sustainable business practices.³

This relatively new development has become of high interest to researchers. The Institute for International Research on Sustainable Management and Renewable Energy at Nürtingen-Geislingen University, for instance, currently works on a multi-national study on consumer attitudes and behavior towards Green Packaging⁴.

Complementing such research, this paper aims at identifying the determining factors of Green Packaging from a company's perspective, as the current research interest focuses mainly on the consumer perspective. To explore the companies' view point, eight expert interviews with company representative will be conducted. The scope of the study is narrowed down to companies within the state of Baden-Württemberg that produce and sell the same fast-moving consumer good: fruit juice.

This paper is meant to derive implication for Green Packaging in the fruit juice industry.

¹ Umweltbundesamt, 2013, online

² Gary Armstrong and Philip Kotler, 2013, p. 232, Philip Kotler, 2011, pp.132

³ Frank-Martin Belz and Ken Peattie, 2012, pp. 261, ÖKO-TEST Verlag GmbH, 2012, online

⁴ Hochschule für Wirtschaft und Umwelt Nürtingen-Geislingen, 2015, online

2. From Conventional to Green Packaging

2.1 Packaging from a Marketing Perspective

The most common definition approved by the American Marketing Association Board of Directors defines marketing as “(...) the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large.”⁵ This captures the concept of an extended marketing environment including activities of institutions as well as individuals. Simultaneously it acknowledges broader responsibilities that marketing has got for its various stakeholders.⁶ In addition, the definition states four instruments of the marketing mix: product, price, promotion and place. With these instruments at hand, marketers aim to satisfy customer needs in a more effective way than their competitors and according to particular needs of a market segment.⁷

This paper concentrates on product policy. It relates to decisions companies have to make with regard to the products⁸ offered on the market to meet customers' needs. A product is a conglomerate of features which determine the degree to which the customer will be satisfied with the solution the product offers. All adjustments relating to a product's features are part of the product policy within the marketing strategy of a company.⁹

When taking decisions on the development and marketing of individual products, most marketers eventually face the question of how to pack a product. Packaging represents an important element of product strategy, which encompasses all “(...) activities of designing and producing the container or wrapper for a product”¹⁰ and constitutes the main focus of this paper.¹¹

Over time, packaging evolved into a marketing tool that comprises several different functions (*Figure 1*):¹²

- Firstly, packaging's primary function was (and still is) to *contain and protect* a product. Especially food requires packaging that prevents damage, enhances

⁵ Gregory T. Gundlach and William L. Wilkie, 2009, p. 262

⁶ Gregory T. Gundlach and William L. Wilkie, 2009., pp.262, Iris Ramme, 2013, p. 300

⁷ Frank-Martin Belz and Ken Peattie, 2012, p.14

⁸ *A company's market offering comprises products and services. However, this work makes use of a consumer good as an example product, which is why in the context of market offerings only products will be named.*

⁹ Philip Kotler and Kevin Lane Keller, 2012, pp. 347

¹⁰ Gary Armstrong and Philip Kotler, 2013, p. 232

¹¹ Gary Armstrong and Philip Kotler, 2013, pp. 229

¹² Gary Armstrong and Philip Kotler, 2013, pp. 232, Frank-Martin Belz and Ken Peattie, 2012, p. 262, Klaus Hüttel, 1998, pp. 266, Philip Kotler and Friedhelm Bliemel, op. 2006, pp. 764, Philip Kotler and Kevin Lane Keller, 2012, pp. 368, Robert Nieschlag, Erwin Dichtl and Hans Hörschgen, 2002, pp. 671, Iris Ramme, 2009, pp. 106, Hans Christian Weis, 2012, pp. 330

durability and creates a way to make products salable. Generally, a product can be packed up in three different layers: the primary layer contains the actual product, the secondary layer protects the primary layer and will be disposed before using the product and the tertiary layer facilitates transportation and storage while containing the primary and secondary layer.

- Secondly, packaging enables producers to *transport and store* their product more efficiently. Rationalization strategies in logistics and retail demand smart packaging solutions which reduce weight and space products take up. In addition, the *handling* of a product is improved when it is packed in units customers are able to use easily.
- Thirdly, packaging conveys *information* and works as a *communication tool* between the seller and the buyers. Due to the increase of self-service at the point of sale, packaging must take over the role of sales assistants used to have: Its task is to provide product identification, descriptive information of the product and instructions of use to customers. Legal requirements regulating the labeling of certain products must also be taken into consideration, as well as the illustration of codes used by merchandise management systems in companies.
- Another aspect of self-service leads to the fourth function of packaging: *sales promotion*. In a highly competitive environment like retail where a "(...) typical supermarket (...) [contains] more than 40.000 different types of products"¹³, effective packaging must work as marketing tool for products by performing sales tasks. The product itself needs the support of packaging to effectively present itself, attract customers and encourage purchasing. The promoting of certain features intends to increase the attractiveness of the product for the customer while brand identification contributes to the immediate recognition of a company and possibly boosts sales. As packaging is the buyer's first direct contact with a product, Kotler and Keller recommend that it serves the purpose of a "(...) 'five-second-commercial' (...)"¹⁴ to "(...) [draw] the consumer in and encourage product choice."¹⁵ Making a favorable impression in comparison to competing products is crucial. One way of differentiating a product from competition is to develop innovative packaging solutions. Reusable packages, improved handling techniques or superior design offer benefits to customers, who are willing to pay more for improved packaging that delivers higher convenience, enhanced dependability and easier handling. Furthermore, growing environmental concerns of customers can also be transformed into a differentiating characteristic of a product by using eco-friendly packaging.

¹³ Frank-Martin Belz and Ken Peattie, 2012, p. 262

¹⁴ Philip Kotler and Kevin Lane Keller, 2012, p. 368

¹⁵ Philip Kotler and Kevin Lane Keller, 2012, p. 368

Figure 1: Overview of functions of packaging

Containing and protection
Transportation and storage
Information and communication tool
Sales promotion

In general, decisions on packaging solutions are closely connected with key variables of the marketing mix: decisions on information and advertising messages delivered via packaging affect the communication strategy (promotion), while decisions in relation to disposal are interlinked with distribution strategies (place). Ideally, an effective packaging solution unites all elements of the marketing mix so that it "(...) creates convenience value for customers and promotional value for producers."¹⁶

However, diverse and even conflicting demands regarding the preferred performance of packaging by various actors may present a challenge when selecting a packaging solution. It can be assumed that producers, as well as retailers and consumers, seek for packaging solutions that ensure durability and protection of a product. However, while producers are likely to favor cost-effective solutions, consumers might seek for superior design and high quality packaging. The increasing pressure from local authorities asking for reduced and/or recyclable waste of packaging could be a conflicting limitation regarding the choice of potential material to be used. At the same time, retailers would certainly prefer packaging that enables self-service, efficient use of shelf space and that secures a high number of sales.¹⁷

To what extent demands of actors influence a company's decision on a packaging solution will be further analyzed in chapter 7.

2.2 Green Packaging

Over recent decades growing environmental concerns have been raised within society which is also affecting packaging strategies of companies.¹⁸ A shift in the orientation of conventional marketing is needed, calling for the integration of the idea of sustainable development into marketing practices.

¹⁶ Philip Kotler and Kevin Lane Keller, 2012, p. 372

¹⁷ Robert Nieschlag, Erwin Dichtl and Hans Hörschgen, 2002, p.671, Christina Vaih-Baur and Sonja Kastner, 2010, pp. 23, Hans Christian Weis, 2012, p.331

¹⁸ Pro Carton - Association of European Cartonboard and Carton Manufacturer, 2010, pp. 3, Statista GmbH, 2015, online

According to the definition of sustainable development by the United Nations Brundlandt-Report¹⁹, “(...) sustainability pursues three guiding principles: (...) sustainable usage of the natural resources, (...) inter- and intra-generational equity, and (...) participation of stakeholders and the notion of shared responsibility.”²⁰ The so-called three pillars of sustainability – environmental, social and economic - can be related to marketing as well: Belz and Peattie define sustainability marketing “(...) as building and maintaining sustainable relationships with customers, the social environment and the natural environment.”²¹

At a product level this implies the assessment of negative impacts on the natural and social environment caused by products through the analysis of the whole product life cycle. Belz and Peattie state quantitative and qualitative methods of analyzing these impacts, such as the life cycle assessment (LCA) or the socio-ecological impact matrix. In this context, packaging as a contributing factor to negative environmental impacts of corporate products is best illustrated by the following examples: Packaging waste accounts for up to 36% of municipal solid waste by weight in EU countries²².²³ On the other hand, ECR Europe and EUROOPEN state that “packaging makes a valuable contribution to economic, environmental and social sustainability through protecting products, preventing [food] waste, enabling efficient business conduct, and by providing consumers with the benefits of the products it contains.”²⁴

One obstacle marketers will face when dealing with eco-friendly packaging solutions is that there is no agreement on a common definition of Green Packaging. As different kinds of products call for individual packaging solutions, analyses of the environmental impact of packaging depend on various complex factors. This presents a challenge when comparing packaging solutions of different products. All potential packaging materials possess advantages and disadvantages depending on the circumstances in which they are used. For example, a light weighted plastic foil is produced on the basis of finite resource, while a rather environmentally-friendly produced material like glass may not

¹⁹ *Definition of the United Nations: „Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs”, G. H. Brundtland, 1987, p. 54*

²⁰ Birte Schmidt-Riediger, 2008, p.20

²¹ Frank-Martin Belz and Ken Peattie, 2012, p. 29

²² Pinya Silayoi and Mark Speece, 2007. The importance of packaging attributes: A conjoint analysis approach. *European Journal of Marketing* 41: 1495-517. As quoted in: Frank-Martin Belz and Ken Peattie, 2012, p. 261

²³ Frank-Martin Belz and Ken Peattie, 2012, pp.61 and p. 261

²⁴ Efficient Consumer Response (ECR) and Europe and European Organization for Packaging and the Environment (EUROOPEN), 2009, p. 17

perform well on CO₂ emissions produced when transported in a large sales territory.²⁵

Nevertheless, bearing in mind the named functions packaging has to fulfill, one possible definition of Green Packaging states that “well-designed packaging will meet the requirements of the product while minimizing the economic and environmental impacts of both the product and its package.”²⁶ This captures the need for “effective (...) [packaging that] achieves its functional requirements with minimal environmental and social impact”²⁷ as demanded by the Sustainable Packaging Alliance (SPA). Further the SPA defines sustainable packaging as “Efficient: minimal use of materials and energy (...) [,] Cyclic: renewable and recyclable materials (...) [and] Safe: non-polluting and non-toxic”²⁸.

On the basis of this definition this paper will analyze the current situation of Green Packaging from a company’s perspective.

²⁵ PricewaterhouseCoopers, 2010, p. 5

²⁶ Efficient Consumer Response (ECR) and Europe and European Organization for Packaging and the Environment (EUROPEN), 2009, p. 7

²⁷ Sustainable Packaging Alliance, 2010, p. 1

²⁸ Sustainable Packaging Alliance, 2010, pp. 2

3. Green Packaging in the German Fruit Juice Industry

3.1 Green Packaging in Germany

In Germany, Green Packaging in relation to environmental protection has evolved into a much discussed topic: An increasing number of companies take the ecological impact of packaging into account when deciding on a packaging solution for their products.²⁹ For a few years, for example, consumers have been able to find a number of dairy products using carton labelling facilitating the separating of household waste. The development of a yogurt plastic cup made of bioplastic derived from renewable corn starch by DANONE resulted in a legal dispute over the packaging's labeling as eco-friendly, attracting a high level of media interest.³⁰ Interest groups like the Registered Association of the Ecological Food Industry (Bund Ökologische Lebensmittelwirtschaft e.V.) and the Registered Association of European Cartonboard and Carton Manufacturers (Pro Carton) publish analyses and guidelines for sustainable packaging solutions³¹, while the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit) legally requires companies to take back their packaging after usage³². In addition, the recent debate about legally restricting the consumption of plastic bags by the European Union³³, led to a high awareness of the environmental impact of packaging among consumers.

One of the key issues associated with Green Packaging is the availability of a functioning recycling and waste management system. According to Germany's environmental protection agency, the Umweltbundesamt, 16.5 million tons of packaging waste was created in 2011, from which 96.6% percent were recycled. With its recycling quota of material and energetic recovery, Germany ranks very well in comparison to other member states of the European Union.³⁴ This can be attributed to an extensive legislation regarding recycling and waste management. Only with the availability of a working recycling and waste management system within an economy one can expect companies to make an effort towards more sustainable and eco-friendly packaging.

Within the legal framework, an increasing number of companies take sustainable aspects into consideration when deciding on a packaging solution.³⁵

²⁹ ÖKO-TEST Verlag GmbH, 2012, online

³⁰ Deutsche Umwelthilfe e.V., 2011, online

³¹ *Exemplary outline of studies*: Bund Ökologische Lebensmittelwirtschaft, 2011, Pro Carton - Association of European Cartonboard and Carton Manufacturer, 2010

³² Verpackungsverordnung - VerpackV, 1998, §§ 4-11

³³ Europäische Kommission, 2014, online

³⁴ Umweltbundesamt, 2013, online

³⁵ ÖKO-TEST Verlag GmbH, 2012, online

In addition, national and international scholars have researched the topic of Green Packaging in a number of studies³⁶.

This paper will analyze the current situation of Green Packaging from a company's perspective taking the fruit juice industry in Baden-Württemberg as an example. According to Hüttel, in terms of gross production value packaging expenditures for food products rank the highest compared to other consumer goods.³⁷ Therefore, it was decided to use a food product as an example product for this study. Moreover, the focus on fruit juice was made based on the fact that there are only three different kinds of packaging solutions available: glass, PET and carton. The researchers chose the state of Baden-Württemberg for practical reasons which were availability of contacts and vicinity. On the one hand, this limits the scope of study to a reasonable level, on the other hand, it allows for a clear differentiation between varying packaging decisions made by companies.

3.2 The German Fruit Juice Industry

According to the European Fruit Juice Association and the Registered Association of the German Fruit Juice Industry³⁸ (Verband der deutschen Fruchtsaft-Industrie e.V.), the German Fruit Juice Industry "(...) is Europe's leading juice market (...)"³⁹, characterized by a majority of small and medium-sized (SME) businesses.⁴⁰

In 2013, about 375 companies produced 3.9 billion liters of fruit juice nationwide, generating a total amount of sales of 3.4 billion €. As the overall per-capita consumption of juice has been declining since 2003,⁴¹ the market is highly competitive, leading to recurring insolvencies of businesses.⁴²

As stated by Heitlinger⁴³, twenty of the biggest companies dominate the market and account for 80 percent of the total sales, while a high number of family-owned SMEs generate sales below 10 million €, occupying mostly regional niche markets. This leaves a very limited market share for medium-sized companies which are often torn between small scale production of niche markets and cost benefits of large sales markets. The juice market is further divided into branded products of fruit juice producers and an increasing number

³⁶ *Exemplary outline of studies*: Norbisimi Nordin and Susan Selke, 2010, Joonas Rokka and Liisa Uusitalo, 2008, Lyndsey Scott and Debbie Vigar-Ellis, 2014, Marcel van Birgelen, Janjaap Semeijn and Manuela Keicher, 2008, Hans Christian Weis, 2012

³⁷ Klaus Hüttel, 1998, p. 267

³⁸ *In the following, the Registered Association of the German Fruit Juice Industry will be abbreviated as 'VdF'.*

³⁹ AIJN - European Fruit Juice Association, 2012, p. 21

⁴⁰ AIJN - European Fruit Juice Association, 2012, p.21, Verband der deutschen Fruchtsaft-Industrie e.V. (VdF), 2013b, online

⁴¹ Verband der deutschen Fruchtsaft-Industrie e.V. (VdF), 2014, online

⁴² Interview with Expert 3, Expert 4, and Expert 5

⁴³ Heitlinger quoted in newspaper article: Carina Groh-Kontio, 2013

of private labels offered by retailers. A significant purchasing power on part of the five biggest retailing companies in Germany⁴⁴ also leads to increased competition in the market.⁴⁵ Especially in comparison to branded products, private labels often cover a low-price segment, creating a need for brand manufacturers to differentiate their brand to be able to compete. Only a strong brand can assert itself over a low-cost product and survive in the market.⁴⁶

In comparison to the national market, the regional market in Baden-Württemberg significantly differs in a number of characteristics. The majority of fruit juice companies generating large amounts of total sales are located in the North of Germany. Thus, the South holds a majority of traditional family-owned SMEs, serving regional markets with local products. Moreover, the usage of different kinds of packaging in the state of Baden-Württemberg does not represent the national usage: While German consumers mainly buy non-returnable plastic and carton packaging⁴⁷, the majority of companies in Baden-Württemberg bottle their products into glass. There is no exact data, however, it can be assumed that the highest amount of fruit juices bottled into returnable glass bottles in Germany can be traced back to SMEs in Baden-Württemberg.

The preference for bottling into glass can be explained by two factors:

Firstly, many traditional businesses started out to bottle their products into glass bottles - simply because it was a commonly used rather inexpensive method suitable for small scale production. Since bottling plants represent a significant investment which often cannot be borne by SMEs, companies decide to adhere to the known bottling system. In addition, different kinds of bottling plants are needed for the filling of carton packaging, plastic or glass bottles. Consequently, deciding to use a different way of packaging simultaneously affects the entire bottling system.

Secondly, with the processing of local fruit many companies market their products as regional and/or organic juice of high quality. Within the scope of packaging for fruit juice, glass bottles are seen as the most preferable packaging solution in terms of preserving quality. Hence, the bottling of high-priced quality juice gains a higher credibility when filled into the packaging which best serves the needs of the product.⁴⁸

⁴⁴ *In terms of total amount of sales in 2013, for ranking see: Trade Dimensions, 2014, online*

⁴⁵ *Information received upon request from a representative of the Registered Association of the Fruit Juice Industry*

⁴⁶ Carina Groh-Kontio, 2013, online

⁴⁷ See graph „Verpackungsstruktur fruchthaltige Getränke 2013“ in: Verband der deutschen Fruchtsaft-Industrie e.V. (VdF), 2014, online

⁴⁸ *Information received upon request from a representative of the Registered Association of the Fruit Juice Industry*

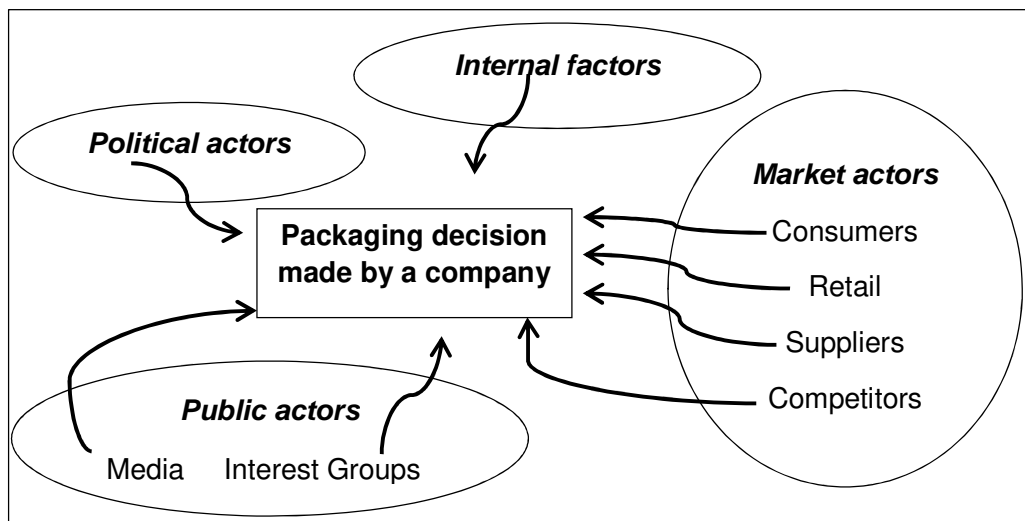
4. Conceptual Framework

4.1 Determining Factors of the Micro Environment for Packaging Solutions

As corporate activities are always impacted by internal and external factors, decisions related to marketing activities are also taken with regard to a company's environment. Therefore, it will be assessed which actors of the microenvironment actually influence the packaging decisions companies make within their product policy management. In order to reveal these so-called 'actors' Belz and Peattie's model of actors in the micro environment serves as a theoretical reference. According to the authors, "the micro environment includes a company's market and those actors it interacts with directly and relatively regularly"⁴⁹. Within the model, actors are classified as *market actors*, *public actors* and *political actors*.⁵⁰

This classification of actors will be incorporated in the conceptual framework of this paper. However, adjustments to the model are necessary in order to match with the characteristics of the fruit juice industry: While *market actors* comprise consumers, retail, suppliers and competitors, *public actors* are defined as media and interest groups. *Political actors* further relate to legislative actions taken by the government. Additionally, *internal factors* are added to the model. *Figure 2* shows the determining factors of the micro environment for packaging solutions, which will be adjusted to this study.

Figure 2: Determining factors of the micro environment for packaging solutions



⁴⁹ Frank-Martin Belz and Ken Peattie, 2012, p. 140

⁵⁰ Frank-Martin Belz and Ken Peattie, 2012, pp. 141

4.2 Development of Research Questions

Following the identification of actors in the micro environment, as a second step the nature of impacts these actors have on packaging decision will be assessed. In order to accomplish this, a literature review on the actors of the micro environment was carried out and Research Questions were developed.

Market actors:

When asking for relevant issues related to Green Packaging from a company's perspective, one commonly discussed factor is the demand for Green Packaging by consumers. Without the acceptance of consumers, companies have difficulties in maintaining a successful position in the market. The strategic orientation of a company depends to a high degree on consumer's demand. Sustainable business practices like marketing products in eco-friendly packaging are often implemented to satisfy consumer needs. Two separate surveys additionally reveal that companies perceive consumers as "(...) most influential (...)"⁵¹ actor by having a "(...) significant impact (...)"⁵² on their corporate activities.

The role of consumers as most influential actor is assumed in the first Research Question:⁵³

Q_{1A}: Of all actors, consumers most strongly influence packaging decision-making in a company.

The nature of a demand depends on the attitude and behavior of a consumer. This means that consumers favoring eco-friendly generally show a positive attitude towards the environment. Hence, the environmentally-friendly attitude is reflected in the purchasing behavior of an individual. Consumers with a positive attitude towards the environmental will thus demand Green Packaging to a higher extent than consumers with a different attitude. Recently, the amount of consumers aware of environmental and sustainable issues has risen. Thus, it can be assumed that demands for Green Packaging will increase, leading to the next Research Question:⁵⁴

⁵¹ Birte Schmidt-Riediger, 2008, p. 197

⁵² Maurice Berns, Andrew Townend, Zayna Khayat, Balu Balagopal, Martin Reeves, Michal S. Hopkings and Nina Kruschwitz, 2009, p. 4

⁵³ Frank-Martin Belz and Ken Peattie, 2012, p. 141, Maurice Berns, Andrew Townend, Zayna Khayat, Balu Balagopal, Martin Reeves, Michal S. Hopkings and Nina Kruschwitz, 2009, p. 4, Knut Haanaes, Martin Reeves, Ingrid Von Strengvelken, Michael Audretsch, David Kiron and Nina Kruschwitz, 2012, p. 5, Michael Jay Polonsky and Philip J. Rosenberger, 2001, p.22, Birte Schmidt-Riediger, 2008, pp. 171 and p. 197

⁵⁴ Frank-Martin Belz and Ken Peattie, 2012, p. 141, Norbissimi Nordin and Susan Selke, 2010, p. 321, PricewaterhouseCoopers, 2010, pp. 9, Birte Schmidt-Riediger, 2008, p. 175, Marcel van Birgelen, Janjaap Semeijn and Manuela Keicher, 2008, pp. 137

Q_{1B}: Companies perceive an increased demand for Green Packaging from consumers who have a positive attitude towards the environment.

Even though consumers are said to demonstrate an increased environmentally-friendly behavior, studies report that they are mostly unaware of characteristics of packaging materials. The absence of a generally accepted definition of Green Packaging leads to confusion among consumers about the terminology and the concept of eco-friendly packaging. Nordin and Selke report that “although most of the consumers stated the importance of package recycling, many had little or no knowledge about the type of packaging materials that can be recycled.”⁵⁵ Lacking the knowledge of benefits of Green Packaging makes it impossible for consumers to make informed judgments about different packaging solutions and their ecological impact. Q_{1C} states accordingly:⁵⁶

Q_{1C}: Companies recognize that consumers have insufficient knowledge of ecological advantages and disadvantages of packaging materials.

According to Dangelico and Pujari, “(...) green products are unlikely to be able to sustain long-term success in the market unless they can demonstrate credible environmental performance without compromising functional benefit of the product.”⁵⁷ This relates to the fact that consumers must often decide between varying attributes of a packaging solution. Depending on the buying behavior and attitudes, some attributes prove to be more relevant for consumers than others. Following this argument, a study by PricewaterhouseCoopers revealed that companies recognize price and quality as their consumer’s main concerns in relation to packaging solutions. Additionally, the functionality of a packaging plays an important role when deciding between two alternatives. Hence, it can be concluded that consumers are only likely to purchase Green Packaging if certain requirements of packaging attributes are met, as presented in the following Research Question:⁵⁸

Q_{1D}: Companies recognize that consumers have certain requirements which must be fulfilled when deciding on whether or not to buy Green Packaging: the price must not be higher, the packaging must be functional and convenient and the quality of the product must not be reduced.

⁵⁵ Norbisimi Nordin and Susan Selke, 2010, p. 322

⁵⁶ Rosa Maria Dangelico and Devashish Pujari, 2010, p. 480, Norbisimi Nordin and Susan Selke, 2010, pp. 321, PricewaterhouseCoopers, 2010, p. 12

⁵⁷ Rosa Maria Dangelico and Devashish Pujari, 2010, p. 481

⁵⁸ Rosa Maria Dangelico and Devashish Pujari, 2010, pp. 481, Knut Haanaes, Martin Reeves, Ingrid Von Strengvelken, Michael Audretsch, David Kiron and Nina Kruschwitz, 2012, p. 5, Philip Kotler, 2011, p. 134, Norbisimi Nordin and Susan Selke, 2010, p. 322, PricewaterhouseCoopers, 2010, p. 12, Joonas Rokka and Liisa Uusitalo, 2008, p. 523, Marcel van Birgelen, Janjaap Semeijn and Manuela Keicher, 2008, p. 140

By having direct contact to consumers, retailers hold a strong position within the value chain. They obtain information on demand first hand and are able to stimulate purchasing trends. Product producers only work with filtered information which is passed on through the value chain. In addition, with the power to determine the range of products offered, retailers themselves decide which products to list and delist in accordance with their business strategy. Consequently, retailers that follow a cost-reduction strategy are more likely to prefer low-cost packaging, while retailers following a sustainable strategy are more likely to prefer green packaging solutions. Owing to their purchasing power, “their business strategies (...) [have] flow-on effects across the supply chain.”⁵⁹ Hence, product producers are required to follow retailers’ demands to ensure the listing of their products. The high degree of influence from retail on producers is captured in the next Research Question:⁶⁰

Q₂: Due to their strong purchasing power, retailers’ business strategies strongly impact packaging decision-making in a company.

A company’s packaging decisions largely depend on what packaging solutions are offered in the market. A limited and expensive choice of available Green Packaging solutions constrains a company’s possibility to use a more eco-friendly packaging for its products. Kotler notes that companies only consider “(...) ‘green steps’ when they promise to yield strong economic savings.”⁶¹ Additionally, when using Green Packaging, companies are required to assess the ecological impact of the packaging inherited from their suppliers to guarantee a genuinely ‘greener’ packaging solution. In doing so, they depend on collaborations with the suppliers. The correlation between suppliers and packaging solutions offered is presented in the following Research Question:⁶²

Q_{3A}: Suppliers influence packaging decision-making in a company with regard to the variety of packaging solutions they offer.

In return, suppliers of packaging material are influenced by their own customers. For instance, a customer request to comply with environmental standards obliges suppliers to revise the environmental performance of their corporate activities. As the number of users of labels and certifications increases, companies select their suppliers according to their readiness to comply with the requirements of environmental standards. Thus, suppliers are increasingly

⁵⁹ Karli L. Vergheze, Ralph Horne and Andrew Carre, 2010, p. 609

⁶⁰ Frank-Martin Belz and Ken Peattie, 2012, p. 142, Danny Pimentel Claro, Neto, Silvio Abrahão Laban and Claro, Priscila Borin de Oliveira, 2013, p. 370, PricewaterhouseCoopers, 2010, p. 11, Birte Schmidt-Riediger, 2008, pp. 171, Karli L. Vergheze, Ralph Horne and Andrew Carre, 2010, p. 609, Karli Vergheze, Helen Lewis and Leanne Fitzpatrick, 2012, p. 26

⁶¹ Philip Kotler, 2011, p. 134

⁶² Frank-Martin Belz and Ken Peattie, 2012, p. 142, Philip Kotler, 2011, p.134

engaged in sustainable business practices. As a result, instead of being influenced by consumer demand, suppliers perceive external pressure from their own costumers to act more environmentally-friendly. This assumption is stated in Q_{3B}.⁶³

Q_{3B}: When deciding on Green Packaging solutions, companies put pressure on their suppliers to fulfill ecological requirements.

In their economic activities, companies are challenged by their competitors. On the one hand, competitors' approaches towards more sustainable business practices can lead to 'me-too strategies' of other companies. An environmentally-friendly orientation of one company may be perceived as a competitive advantage other players in the market want to benefit from as well. On the other hand, Schmidt-Riediger notes that "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."⁶⁴ The influence competition exerts on packaging decision-making in a company is reflected in the following Research Question:⁶⁵

Q₄: Decisions on packaging solutions are influenced by the company's competitors.

Public actors:

Media coverage holds the power to shape the public's opinion. Especially the rise of social media has led to a more rapid spreading of news and opinions on corporate activities. The need to prevent negative word of mouth is crucial for companies in order to maintain a successful position in the market. Thus, it is assumed that positive and even more importantly negative media coverage on a certain packaging solution will contribute to the public's opinion and buying behavior respectively. Hence, the influence of media coverage on companies is stated in Q₅.⁶⁶

Q₅: Media coverage influences packaging decision-making in a company by shaping the public's perception of different packaging solutions.

Collective representation of opinions in form of interest groups has the power to evoke far-reaching effects. In the past, interest groups have proven to be able to

⁶³ J. Joseph Cronin, Jeffery S. Smith, Mark R. Gleim, Edward Ramirez and Jennifer Dawn Martinez, 2011, p. 166, Philip Kotler, 2011, p. 134, Michael Jay Polonsky and Philip J. Rosenberger, 2001, p. 22, Karli Verghese, Helen Lewis and Leanne Fitzpatrick, 2012, p. 128
⁶⁴ Birte Schmidt-Riediger, 2008, p. 197
⁶⁵ Frank-Martin Belz and Ken Peattie, 2012, p. 142, Michael Jay Polonsky and Philip J. Rosenberger, 2001, p. 22, Birte Schmidt-Riediger, 2008, p. 171 and p. 197
⁶⁶ Frank-Martin Belz and Ken Peattie, 2012, p. 143, Philip Kotler, 2011, 134, Birte Schmidt-Riediger, 2008, pp. 176

influence government regulations or damage a company's reputation by initiating boycotts and/or campaigns against certain corporate activities. Therefore, to avoid negative publicity it is recommended to actively engage in dialogue with interest groups. This especially applies to small companies, whose employees and consumers are often located close by. With regard to environmental issues, it is supposed that companies which are already engaged in sustainable business practices are particularly influenced by interest groups. Companies claiming to act environmentally-friendly are assumed to be under higher public scrutiny than companies, which are keeping a low profile on sustainable issues. Hence, interest groups would also observe companies using Green Packaging solutions to a higher extent. This argument leads to the following Research Question:⁶⁷

Q₆: The more a company is engaged in sustainable business practices, the greater it perceives the influences of interest groups on packaging decisions-making in the company.

Political actors:

The imposition of legislative regulations exerts a strong influence on a company's decision-making. It is crucial that all economic activities are in compliance with legislations. Recently, legislative intervention to promote sustainability in the field of economics increased. This impacts the way in which business approaches sustainability. While some companies display environmentally-friendly behavior to comply with regulations, others see an opportunity to gain competitive advantages by improving the company's image. Additionally, some companies perceive legislative intervention as a constraint leading to higher business costs. Companies pioneering on sustainable business practices, though, may feel positively influenced by legislations that promote their business concept. Hence, even though all corporate activities are impacted by legislation, the nature of influence legislators exert on companies is perceived differently by companies. As a result, Q₇ presents the following assumption:⁶⁸

⁶⁷ Frank-Martin Belz and Ken Peattie, 2012, p. 143-144, Rosa Maria Dangelico and Devashish Pujari, 2010, p. 481, Michael Jay Polonsky, Claus-Heinrich Daub and Rudolf Ergenzinger, 2005, p. 1008, Birte Schmidt-Riediger, 2008, p. 176 and p.179, Karli Verghese, Helen Lewis and Leanne Fitzpatrick, 2012, p. 127-128

⁶⁸ Frank-Martin Belz and Ken Peattie, 2012, p. 144, Maurice Berns, Andrew Townend, Zayna Khayat, Balu Balagopal, Martin Reeves, Michal S. Hopkings and Nina Kruschwitz, 2009, p. 4, J. Joseph Cronin, Jeffery S. Smith, Mark R. Gleim, Edward Ramirez and Jennifer Dawn Martinez, 2011, p. 165, Rosa Maria Dangelico and Devashish Pujari, 2010, p. 474 and p. 476, PricewaterhouseCoopers, 2010, p. 10, Birte Schmidt-Riediger, 2008, p.176, Karli Verghese, Helen Lewis and Leanne Fitzpatrick, 2012, p. 127

Q₇: While companies generally perceive a strong influence on packaging decision-making from legislators, the perception of the nature of the impact differs.

Internal factors:

Cronin et al. argue that “(...) members within an organization play a critical role in the green efforts and success of the firm.”⁶⁹ The attitude of a company’s top-management, owner and employees shape the way in which business is done. The incorporation of environmental and social responsibilities into corporate activities derives from an internal orientation of the company. On the one hand, corporate commitment for sustainability is triggered by personal commitments of the top-management or the company’s owner as well as an interest on part of the employees. On the other hand, expectations to boost a company’s image or brand reputation also represent drivers for sustainable business practices. Additionally, the implementation of sustainable initiatives presents economic benefits, like cost and resource reductions. Hence, sustainable business practices like the usage of Green Packaging are motivated by differing internal attitudes. The relation between a company’s motivation for sustainability and the attitude of its members is consolidated in Q_{8A}.⁷⁰

Q_{8A}: The internal orientation towards sustainable business practices of top-management, owner and employees influences the motivation for decisions on Green Packaging solutions in a company.

Apart from the motivation for sustainable business practices, a company’s characteristics must also be taken into account. Research has shown that smaller companies (in terms of number of employees and volume of sales) are more likely to apply sustainable initiatives. This can be traced back to a more direct impact of the personal motives of managers. Additionally, “(...) in the food processing industry, the socio-ecological commitment (...) has its origin in small niche market players”⁷¹, which are generally more focused on organic production and local distribution. Hence, it can be assumed that smaller companies also show a high interest in using Green Packaging solutions than comparatively bigger companies do. This correlation between different company

⁶⁹ J. Joseph Cronin, Jeffery S. Smith, Mark R. Gleim, Edward Ramirez and Jennifer Dawn Martinez, 2011, p. 164

⁷⁰ Maurice Berns, Andrew Townend, Zayna Khayat, Balu Balagopal, Martin Reeves, Michal S. Hopkings and Nina Kruschwitz, 2009, p. 4-5, J. Joseph Cronin, Jeffery S. Smith, Mark R. Gleim, Edward Ramirez and Jennifer Dawn Martinez, 2011, p. 164, Rosa Maria Dangelico and Devashish Pujari, 2010, p. 476 and p. 480-481, Michael Jay Polonsky, Claus-Heinrich Daub and Rudolf Ergenzinger, 2005, p. 1004, Tobias Hahn and Mandy Scheermesser, 2006, p. 157 and 162, Michael Jay Polonsky and Philip J. Rosenberger, 2001, p. 22, ReCarbon, 2014, p. 7, figure 6, Birte Schmidt-Riediger, 2008, p. 170

⁷¹ Birte Schmidt-Riediger, 2008, p. 165

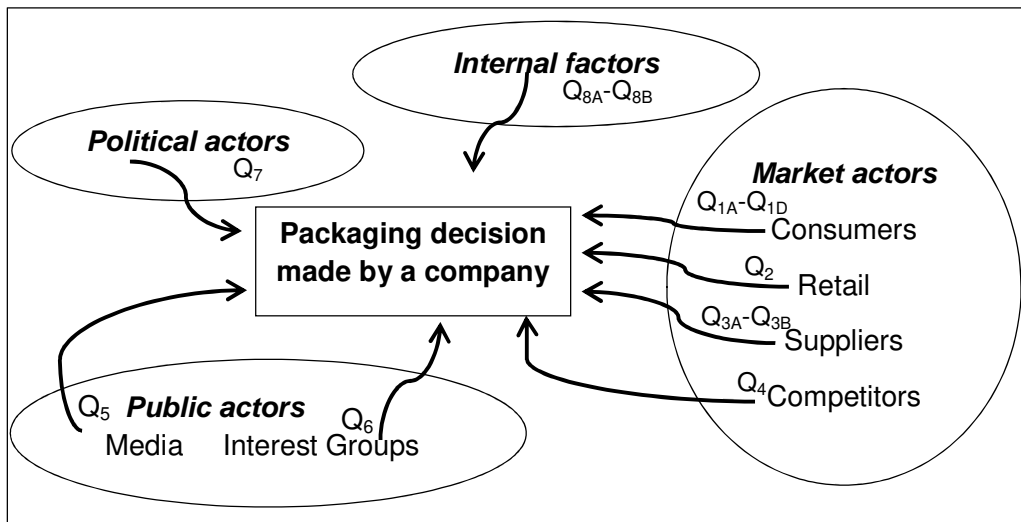
sizes and usage of packaging solutions is stated in the final Research Question:⁷²

Q_{8B}: A company's size influences packaging decision-making.

4.3 Research Framework

The combination of the Research Questions developed and the determining factors of the micro environment for packaging solutions constitute the research framework of this study, depicted in *Figure 3* and in *Table 1*. With this framework as a foundation a questionnaire⁷³ was developed. In order to test the Research Questions, qualitative expert interviews with representatives of companies of the fruit juice industry were conducted. The methodology of this is presented in the following chapter.

Figure 3: Research framework



⁷² Tobias Hahn and Mandy Scheermesser, 2006, p. 161, Birte Schmidt-Riediger, 2008, p. 165

⁷³ *The questionnaire can be sent to interested researchers upon request*

Table 1: Overview Research Questions

Q _{1A}	<i>Of all actors, consumers most strongly influence packaging decision-making in a company.</i>
Q _{1B}	<i>Companies perceive an increased demand for Green Packaging from consumers who have a positive attitude towards the environment.</i>
Q _{1C}	<i>Companies recognize that consumers have insufficient knowledge of ecological advantages and disadvantages of packaging materials.</i>
Q _{1D}	<i>Companies recognize that consumers have certain requirements which must be fulfilled when deciding on whether or not to buy Green Packaging: the price must not be higher, the packaging must be functional and convenient and the quality of the product must not be reduced.</i>
Q ₂	<i>Due to their strong purchasing power, retailers' business strategies strongly impact packaging decision-making in a company.</i>
Q _{3A}	<i>Suppliers influence packaging decision-making in a company with regard to the variety of packaging solutions they offer.</i>
Q _{3B}	<i>When deciding on Green Packaging solutions, companies put pressure on their suppliers to fulfill ecological requirements.</i>
Q ₄	<i>Decisions on packaging solutions are influenced by the company's competitors.</i>
Q ₅	<i>Media coverage influences packaging decision-making in a company by shaping the public's perception of different packaging solutions.</i>
Q ₆	<i>The more a company is engaged in sustainable business practices, the greater it perceives the influences of interest groups on packaging decisions-making in the company.</i>
Q ₇	<i>While companies generally perceive a strong influence on packaging decision-making from legislators, the perception of the nature of the impact differs.</i>
Q _{8A}	<i>The internal orientation towards sustainable business practices of top-management, owner and employees influences the motivation for decisions on Green Packaging solutions in a company.</i>
Q _{8B}	<i>A company's size influences packaging decision-making.</i>

5. Methodology

5.1 Expert Interviews

Armstrong and Kotler define marketing research as “the systematic design, collection, analysis, and reporting of data relevant to a specific marketing situation facing an organization.”⁷⁴ It helps companies to analyze market potentials, understand their customers’ behavior and assess the application of marketing instruments related to their effectiveness. This paper researches the companies’ perspective on Green Packaging, a field of study for which only limited information is available. Thus, primary data⁷⁵ for a qualitative research approach is collected. At an early stage of research, it is recommended to explanatorily gather preliminary information that helps to gain a greater understanding of the research topic. Shao and Zhen Zhou state that “qualitative techniques are particularly effective when phenomena that have not been previously addressed or topics that are not easily quantified are being explored.”⁷⁶ Since the identification of relevant topics for companies when dealing with Green Packaging is not something one can easily put in numbers, qualitative research is suitable for this work. It is characterized by a smaller sample size, more probing questions and a less structured approach in comparison to quantitative research⁷⁷. Qualitative research aims at understanding and predicting future developments of the topic at hand. By exploring behavior and attitudes, marketers are enabled to gain valuable insight into their customers’ motivations. Taking this into account as well as the relatively rapid and inexpensive execution, this approach is commonly used in practice. However, small samples and subjective, non-quantifiable data also mean that results are not necessarily representative of the target population.⁷⁸

Expert interviews are a qualitative research technique by which an expert of a target population is questioned by an interviewer. Experts are representatives of the target population who - due to broad knowledge and experience - are able to provide qualified information on the research topic. Depending on the purpose of the study, interviews can be of unstructured or structured nature. This relates to the way in which subjects are discussed and the interview proceeds⁷⁹. The one-

⁷⁴ Gary Armstrong and Philip Kotler, 2013, p. 128

⁷⁵ *Primary data is defined as „original data gathered fresh from the source for the current study”,* Alan T. Shao and Kevin Zheng Zhou, 2007, p. 107

⁷⁶ Alan T. Shao and Kevin Zheng Zhou, 2007, p. 108-109

⁷⁷ *Quantitative research is defined as „research that uses mathematical analysis“,* Carl D. McDaniel and Roger H. Gates, 2008, p. 108

⁷⁸ Gary Armstrong and Philip Kotler, 2013, pp. 128, C. Samuel Craig and Susan P. Douglas, 2000, p. 197, Carl D. McDaniel and Roger H. Gates, 2008, pp. 108, Gaby Kepper, 2008, p. 177-180, Jörg Koch, 2004, pp. 299, Alan T. Shao and Kevin Zheng Zhou, 2007, pp. 107

⁷⁹ *“Unstructured interviews [are] interviews in which the subjects discussed are free-floating from one issue to the next. Structured interviews [are] interviews that follow checklists to cover narrowly focused topics“,* Alan T. Shao and Kevin Zheng Zhou, 2007, p. 116

on-one conversations aim at obtaining information on a specific topic, gaining insight into future developments and/or assessing hypotheses or assumptions.⁸⁰

Admittedly, the obtained data lacks statistical validity, as responses are based on subjective opinions of individuals in the sample. Another shortcoming of expert interviews is the likelihood of distorted results. On the one hand, interviewees may give incomplete or untruthful answers to present themselves in a more favorable light. On the other hand, the interviewer may not be reliable. Personal opinions on the research topic easily influence the way questions are asked or responses are understood. Interviewer bias is a common problem when conducting personal interviews in qualitative research. The perception of the other person is likely to affect questioning and answering respectively. However, personal contact between interviewer and interviewee also allows for the discussion of more complex topics. The flexibility of the technique enables the interviewer to skip questions or probe more deeply into areas of interest. Complicated questions can additionally be explained to the interviewee. In this way, expert interviews enable marketers to quickly gain insight into complex topics and reveal information through a one-on-one interaction with an expert of the research topics. Moreover, to gain statistical validity, the results of the qualitative research can be substantiated by quantitative research techniques.⁸¹

In this study, expert interviews serve as foundation to test the developed Research Questions. Therefore, the interviews follow a prepared structure to make sure all aspects of the research framework are covered. The group of experts to be questioned comprises representatives of fruit juice companies⁸². From a total of eight interviews, six were conducted on the phone and two personally. The interviews lasted between thirty and ninety minutes. In order to avoid disruptions, a date for the interview was set in advance. Besides the preparation of a questionnaire, every interview was prepared individually by analyzing the business activities of the represented companies. To facilitate the questioning process and the analysis of results, the interviews were recorded on tape.

5.2 Sampling of Fruit Juice Companies for Interviews

Sampling is defined as “(...) the process of obtaining information from a subset (a sample) of a larger group (the universe or population).”⁸³ It facilitates the process of obtaining information from a large population by limiting the research to the studying of a smaller sample. From the results gained, estimations on

⁸⁰ Marius Dannenberg, 2004, p. 218-219, Jörg Koch, 2004, pp. 299, Alan T. Shao and Kevin Zheng Zhou, 2007, pp. 107

⁸¹ Jörg Koch, 2004, pp. 299, Carl D. McDaniel and Roger H. Gates, 2008, pp. 108, Alan T. Shao and Kevin Zheng Zhou, 2007, pp. 107

⁸² *Chapter 5.2 further elaborates on the sampling process*

⁸³ Carl D. McDaniel and Roger H. Gates, 2008, p. 328

characteristics of the larger population can be drawn in reference to the sample population. It is important that the sample represents the population for the estimations to be valid. Accordingly, a sample is referred to as “a segment of the population selected for marketing research to represent the population as a whole”⁸⁴, while the population presents the “entire group (...) about whom information is needed (...)”⁸⁵ The process of sampling is divided in several steps⁸⁶, which will be explained using the sampling process for expert interviews of this study as an example:

Firstly, the population must be defined. The target population consists of companies in the German fruit juice industry. For practical reason it was decided to focus on companies in Baden-Württemberg. Therefore, all fruit juice companies in the state of Baden-Württemberg, which produce and sell their own products, are relevant for this study. Consequently, companies producing fruit juice and selling it as half-finished products for further processing are not relevant, as they do not decide on the packaging solution of the products. With this definition of the population a problem occurs: No reliable numbers exist on the total amount of fruit juice companies in Baden-Württemberg. The closest estimation to the total number of companies is the number of members of the VdF from 2013. This association is the main institution for collectively representing the interest of the industry.⁸⁷ In Baden-Württemberg, 37 companies hold the status of full members.⁸⁸ Hence, the population comprises a maximum of 37 companies, deducting an unknown amount of companies that produce half-finished goods.⁸⁹

Secondly, a sample frame is identified. This refers to a “list of population elements from which units to be sampled can be selected (...)”⁹⁰ Ideally, such a list comprises all population members. However, McDaniel and Gates acknowledge that “(...) there seldom is a perfect correspondence between the sampling frame and the population of interest.”⁹¹ The same applies to sampling frame and population of this study. A list of all members of the VdF is not open to public. However, upon request of a number of companies, their name and

⁸⁴ Gary Armstrong and Philip Kotler, 2013, p. 138

⁸⁵ Carl D. McDaniel and Roger H. Gates, 2008, p. 328

⁸⁶ *The steps of sampling are stated differently in the literature, as for example in:* Philip Kotler and Kevin Lane Keller, 2012, p. 129 and Carl D. McDaniel and Roger H. Gates, 2008, p. 330-338

⁸⁷ Verband der deutschen Fruchtsaft-Industrie e.V. (VdF), 2013a, online

⁸⁸ *According to the annual report of 2013, the association has 85 members in Baden-Württemberg. However, 48 of these are sponsoring members, which do not belong to the fruit juice industry. Only 37 companies are full members. Further information can be delivered upon request*

⁸⁹ Gary Armstrong and Philip Kotler, 2013, p. 138 -140, Philip Kotler and Kevin Lane Keller, 2012, p. 129, Carl D. McDaniel and Roger H. Gates, 2008, p. 330-331

⁹⁰ Carl D. McDaniel and Roger H. Gates, 2008, p. 332

⁹¹ Carl D. McDaniel and Roger H. Gates, 2008, p. 333

logo is published on the association's website⁹². Twelve of the published companies comply with the given definition of the research population. The sampling frame was further fine-tuned by listings of the database for user of the organic label (Bio-Siegel).⁹³ Within the category of nonalcoholic beverages twenty companies match the defined requirements and not already listed companies were added to the sampling frame. Through internet research and observations in local supermarkets, the final sampling frame was compiled, comprising a total of thirty fruit juice companies located in Baden-Württemberg⁹⁴. This number is relatively close to the members of the VdF. It is quite conceivable that around seven companies in Baden-Württemberg produce half-finished good for further processing. Thus, the sampling frame presents an appropriate list of population members^{95, 96}.

Thirdly, a data-collecting method is chosen. To limit the expenditures of travelling costs and time, it was decided to conduct the interviews via telephone unless the company is reachable within one hour via public transportation. Following this, six interviews were carried out on the phone and two face to face. Here it should be noted that the quality of personal interviews was perceived as higher than the quality of telephone interviewing. An advantage of personal interviews is the interviewer's ability to record behavior, facial expressions and gestures of the interviewee. Additionally, packaging material and system are presented to the interviewer. In contrast to that, telephone interviewing does not allow for the observation of body language or influence of the interviewees' environment. Due to that, interview bias is likely to interfere with the questioning process. By misinterpreting the interviewee's reaction to a question, the interviewer is likely to change the way of asking questions, thus affecting the answer given. However, telephone interviewing is more flexible and time-saving in its execution and was assessed as adequate within the scope of this study.⁹⁷

Lastly, on the basis of the sampling frame interview requests were sent out⁹⁸. In the case of this study, the sample size was not determined by the researcher, but depended on the companies' willingness to provide an expert interview. To increase the response rate, the study's results were offered to the participating

⁹² Verband der deutschen Fruchtsaft-Industrie e.V. (VdF), 2013c, online

⁹³ 'Bio-Siegel, Produkt- und Unternehmensdatenbank', accessible via internet: <http://www.oekolandbau.de>

⁹⁴ *The sampling frame can be sent to interested researchers upon request*

⁹⁵ *Noticeably, the majority of companies listed use glass bottles as packaging solutions. This represents the packaging preference of companies in Baden-Württemberg, as stated in chapter 3.2 The German Fruit Juice Industry.*

⁹⁶ Gary Armstrong and Philip Kotler, 2013, p. p. 138 -140, Philip Kotler and Kevin Lane Keller, 2012, p. 129, Carl D. McDaniel and Roger H. Gates, 2008, p. 332-333

⁹⁷ Gary Armstrong and Philip Kotler, 2013, p. 134-135, Philip Kotler and Kevin Lane Keller, 2012, p. 130-131, Carl D. McDaniel and Roger H. Gates, 2008, p. 331

⁹⁸ *The letter of request can be sent to interested researchers upon request*

companies as a reward for participation. The response rate for this study resulted in 33.3 percent, accounting for eight interviews, one refusal and one subsequent cancellation. *Table 2* provides an overview of the characteristics of interviews conducted in December 2014 and January 2015⁹⁹.

Table 2: Characteristics of conducted expert interviews

	Packaging solution(s)	Market position of Company	Expert's position in the company	Data-collection method
1	Returnable glass bottles	Family-owned SME, less than 10 employees, local brand	Managing director and owner	Personal interview
2	Returnable glass bottles	Family-owned SME, 45 employees, regional brand	Managing director and owner	Telephone interview
3	Returnable glass bottles	Family-owned SME, 10 employees, local brand	Directing management and owner	Personal interview
4	Focus on returnable glass bottles, small share of non-returnable glass bottles	Family-run SME, 20 employees, local brand	Managing director, owner and head of marketing, sales and product development	Telephone interview
5	Focus on carton packaging, smaller share of returnable and non-returnable glass bottles	Management-led SME, 150 employees, national brand	Head of Marketing	Telephone interview
6	Focus on carton packaging, smaller share of returnable and nonreturnable glass bottles	Family-owned SME, 60 employees, regional brand, national private labels	Managing director	Telephone interview
7	Returnable glass bottles and plastic bottles	Management-led SME, 140 employees, regional brand	Head of Marketing	Telephone interview
8	Focus on returnable glass bottles, with smaller shares of nonreturnable glass bottles, plastic bottles and carton packaging	Family-owned SME belonging to a group of companies, 50 employees, regional brand	Department of technology and logistics	Telephone interview

It can be seen that the sample comprises four companies which solely use glass bottles, two companies focusing on carton packaging, one using plastic and glass bottles and one company that fills its products in all three packaging solutions. As stated before, no exact data exists on the usage of different

⁹⁹ *The names of the experts interviewed as well as the company names are treated confidentially.*

packaging materials on part of the companies¹⁰⁰. The high share of companies using glass bottles is representative for the state of Baden-Württemberg. It can further be assumed that the representation of plastic and carton packaging is also sufficient, bearing in mind that qualitative research aims at gaining insights into the question being researched. However, in order to be statistically valid, the results of this sample need further quantitative proof.

The majority of the experts interviewed are managing directors or staff holding leading position in the companies. Thus, they are “(...) worthy representative[s] both of the target group and the topic of interest.”¹⁰¹

The sample further consists of SMEs being mostly family-owned and varying in number of employees. As the fruit juice industry in Baden-Württemberg is characterized by a high number of SMEs, the sample can be assumed to be representative of the nature of companies.

With a sample of eight experts representing fruit juice companies at hand, the developed Research Questions were tested.

¹⁰⁰ A study by 'GfK consumer research' relates to the amount of fruit juice packaging material in terms of one liter which is purchased by consumers nationwide. It does not present the percentage allocation of packaging solutions used by companies, therefore, does not related to this study. For reference see graph „Verpackungsstruktur fruchthaltige Getränke 2013“ in: Verband der deutschen Fruchtsaft-Industrie e.V. (VdF), 2014, online

¹⁰¹ Alan T. Shao and Kevin Zheng Zhou, 2007, p. 116

6. Results of Research

Overall, the survey findings support the majority of the developed Research Questions: By examining the validity of all Research Questions the results of the conducted expert interviews will be outlined using the structure of the research framework as a guideline.¹⁰²

Market actors:

The experts surveyed generally agreed on the high influence consumers exert on their packaging solutions. Companies that had added a new line of packaging solution to their product range state that consumer demand and increasing sales have been decisive factors: “The consumer decides what packages he purchases and consumers are focusing on PET bottles. Therefore, we cannot exclusively offer glass packaging, even though we prefer it as the best packaging solution. However, if the consumer wants a lighter bottle or one which does not break, you have to offer it as well.”¹⁰³ The representative of a second company also explained that plastic bottles were added to their range of packaging solutions, as sales of beverages bottled in plastic bottles increased. In addition, the expert stated that “currently, sales in PET are stagnating throughout the industry and sales in glass are increasing again. Thereupon, we decided to invest in glass [purchase of a new bottling plant].”¹⁰⁴ Assuming that variations in sales are largely related to consumer demand, findings show that consumers prove to be highly influential actors within the micro environment of a company. This argument is supported by a global survey conducted by Haanaes et al. It reports that „(...) customers are the most common reason for companies to change their business models (...).“¹⁰⁵

However, research revealed that changes in consumer demands are not solely driving packaging decisions. In addition, financial circumstances play a role, especially for companies with limited financial resources¹⁰⁶. One expert admitted: “We are lucky, that consumers still love glass for their fruit juices.”¹⁰⁷ Smaller companies “cannot afford a PET bottling plant, thus, the issue is over

¹⁰² As the expert interviews were conducted in German, quotes are translated into English by the author. It must be noted that translations were made analogously to improve readability.

¹⁰³ Interview with Expert 7

¹⁰⁴ Interview with Expert 2

¹⁰⁵ Knut Haanaes, Martin Reeves, Ingrid Von Strengvelken, Michael Audretsch, David Kiron and Nina Kruschwitz, 2012, p. 5

¹⁰⁶ As stated before in 3.2 The German Fruit Juice Industry, the decision for a certain kind of packaging solution already implies the bottling system a company uses. The usage of glass bottles and carton packaging, for example, requires two different bottling systems and therefore presents high financial expenditures. For further reference see: Interview with Expert 1 p. 80-81

¹⁰⁷ Interview with Expert 3

and done with.”¹⁰⁸ Furthermore, a company’s relation to retail determines its flexibility of packaging solution offered. Another interviewee explained that “when developing a product, we have to primarily consider the product placement by the marketing agent [retailers]. If we are not listed, our products cannot be found.”¹⁰⁹ In this case, consumers’ demands are pre-filtered by retailers’ demands, setting the trend of packaging solutions offered.

Following this, Q_{1A} is only partly supported by the findings of the expert interviews. Consumers do strongly influence packaging decision-making - the demand impacting sales numbers and thus success in the market. However, packaging decision-making is a multi-faceted process within a company that cannot be determined by one sole factor.

The majority of experts confirmed the correlation between the nature of demand and consumers’ attitudes and behavior. Companies producing regional and/or organic products report a pro-environmental attitude of the consumers.¹¹⁰ Notably, regional products are in higher demand than organic ones, according to an expert: “Regional beats organic by far.”¹¹¹ This can be related to a perceived incredibility of organic products by consumers, resulting from an increased range of organic products offered in discount stores.¹¹² Furthermore, experts stated that consumers increasingly question the background of products, such as origin, means of production and packaging: “The consumer is becoming more critical.”¹¹³ “The consumer thinks further ahead. He wants to know if his clothes were produced in a fair way. Quality is questioned. This is a development, not a trend that stops at some point.”¹¹⁴ Consequently, one interviewee reported that consumers with a positive attitude towards the environment prefer glass bottles over plastic bottles, as glass is considered to be more environmentally-friendly: “We continuously hear concerns about PET. In light of sustainability, the focus is on returnable [glass] bottles.”¹¹⁵

Consequently, Q_{1B} is supported by the findings. Consumers with a positive attitude towards the environment do show an increased demand for Green Packaging.

Even though consumers are said to be more interested in Green Packaging, experts found that the characteristics of different packaging solutions for fruit

¹⁰⁸ Interview with Expert 3

¹⁰⁹ Interview with Expert 6

¹¹⁰ Interview with Expert 3, Expert 5, Expert 7, Expert 8

¹¹¹ Interview with Expert 4

¹¹² Interview with Expert 4

¹¹³ Interview with Expert 8

¹¹⁴ Interview with Expert 3

¹¹⁵ Interview with Expert 7

juice are largely unknown to consumers.¹¹⁶ One named exception is a group of consumers that consciously decides on purchasing glass bottles. For those, the advantages of glass packaging for fruit juice are known and valued.¹¹⁷ However, it can be assumed that the rejection of other packaging solutions is based on assumptions and speculations. Thus, judgments about packaging solutions result from subjective judgment instead of established facts, as supported by the results of a report by PricewaterhouseCoopers.¹¹⁸

Hence, the findings support Q_{1C} by confirming consumers' insufficient knowledge of ecological advantages and disadvantages of packaging materials. The experts named several possible explanations: Individual efforts of single companies to only promote their own packaging solution, the overload of information imposed upon consumers and the lack or ineffectiveness of collective campaigns to educate consumers.¹¹⁹

The expert interviews revealed that consumers do have certain requirements which influence the purchasing decision related to Green Packaging. Firstly, experts confirmed the importance of functionality and convenience in packaging solutions: Interviewees whose companies use plastic bottles explained that "many [consumers] prefer PET because of the lightness and the 'unbreakability'."¹²⁰ Additionally, a supporter of carton packaging stated: "The consumer increasingly prefers carton packaging. (...) This is due to handling and convenience. (...) Why does the consumer not buy returnable [glass] bottles anymore? Because he recognizes that there are other products with improved handling."¹²¹ The comparatively higher weight of glass bottles is an issue, which is also recognized by companies bottling in glass. However, an interviewee was of the opinion that "this is a question of attitude. We offer a crate of six bottles. I think one can easily carry that."¹²²

Secondly, consumers are said to place high importance on the quality of the product. Experts agreed that reductions in the product's quality due to packaging material can under no circumstance be made.¹²³ Many companies communicate the quality of their products by using company-owned or external quality labels: "The founder of the company already emphasized quality. With our quality mark we want to communicate that today we are still working according to this principle."¹²⁴ The quality of the product has also to be seen in relation to the

¹¹⁶ Interview with Expert 1, Expert 2, Expert 3, Expert 4, Expert 6, Expert 7, Expert 8

¹¹⁷ Interview with Expert 5

¹¹⁸ PricewaterhouseCoopers, 2010, p. 12

¹¹⁹ Interview with Expert 2, Expert 3, Expert 4

¹²⁰ Interview with Expert 7

¹²¹ Interview with Expert 1

¹²² Interview with Expert 5

¹²³ Interview with Expert 2, Expert 4, Expert 5, Expert 7

¹²⁴ Interview with Expert 7

background of the product: As stated earlier, consumers increasingly question the origin and means of production of purchased goods. Thus, companies promote the origin of fruits on packages. This especially applies to regional companies purchasing fruits from regional meadow orchards and thus supporting the preservation of regional fruit growing.¹²⁵ One interviewee drew a relation to the company's philosophy: "The consumer realizes that this is not a marketing idea, but an attitude towards life. If one shares a conviction, the consumer recognizes the honest approach and that it is not about imposing a product on him."¹²⁶

This point leads to another requirement - the price of a packaging solution. One expert summarized that "an ecologically correct packaging can only be marginally more expensive than a standard packaging, while offering the same advantages to the consumer."¹²⁷ The majority of experts, however, did not mention price as a criterion influencing consumer's purchasing behavior. One explanation might be that a large number of companies within the sample offer quality products within a medium- to high-price segment. The targeted consumers are already willing to pay a higher price, thus costs for packaging play a subordinate role.

In conclusion, the findings mostly support the argument of Q_{1D}: Functionality and convenience as well as high product quality are requirements consumers are not willing to trade off against Green Packaging. Support for the assumption that the price of Green Packaging must not be higher compared to conventional packaging can only partly be found.

Companies place their products on the market employing different kinds of distribution channels¹²⁸. During the expert interviews it became clear that the retail channels used define the influence retail has on packaging decision-making.

Experts reported that selling products through discount stores and central warehouses of supermarkets exerts high pressure on fruit juice producers: "By now, one only gets new listings in the area of non-alcoholic beverages (...) for non-returnable packaging."¹²⁹ "In retail one cannot substitute a package by a different one. (...) Substituting only works with equivalent packages, like Elopak

¹²⁵ Companies use labels like 'Qualitätszeichen Baden-Württemberg' and local labels of projects supporting meadow orchards.

¹²⁶ Interview with Expert 3

¹²⁷ Interview with Expert 2

¹²⁸ The distribution channels within the food retailing industry (Lebensmitteleinzelhandel) dealt with in this study are: discount stores (e.g. Aldi and Lidl), supermarkets (e.g. Edeka, Kaufland, Real and Rewe) and beverage retailers (specialist stores). It must be noted that supermarkets are supplied by local producers and central warehouses of the business chain that follow central product listings.

¹²⁹ Interview with Expert 6

in exchange for Tetra Pak. You cannot substitute with PET or a packaging with mandatory deposit – especially not in exchange with a deposit-free packaging.”¹³⁰ All experts agreed on the fact that discount stores and the central warehouses of supermarkets clearly prefer non-returnable over returnable packaging.¹³¹ Retailers’ preference for non-returnable deposit-free packaging can be explained by easier handling: “They are supplied with non-returnable products – so ‘out of sight, out of mind’ - as soon as they leave the store.”¹³² With the introduction of a new deposit regulation in 2003, the share of non-returnable packaging solutions strongly increased.¹³³ Consequently, retailers save storage space returnable glass bottles otherwise would have taken. “Retail does not want this kind of packages anymore. As returnable glass bottles lose market share, carton packaging becomes even more important.”¹³⁴ It can clearly be seen that retailers’ business strategy is being imposed on the producers impacting their decision-making.

However, not all companies follow this exclusive demand for non-returnable packages. Companies of sufficient size and financial power are able to exert sufficient influence on retailers to go along with the companies’ preferred packaging solutions.¹³⁵ Additionally, companies distributing their products via beverage retailers and regional supermarkets have no problems supplying retailers with returnable glass bottles: “Beverage retailers need returnable packaging, this is how they work. Supermarkets like Edeka and Rewe (...) strengthen smaller regional and local producers by distributing our products through their stores.”¹³⁶ Experts stated that for beverage retailers, profit margins of non-returnable packaging are too small. Furthermore, they use the offering of returnable packaging to differentiate themselves from other distribution channels.¹³⁷ Supermarkets are reported to support regional producers: “Soft packaging is already provided in large quantities to the food retailing industry by national producers. (...) Retailers, however, especially in Baden-Württemberg, want to offer a wide range of regional products. Thus, they are glad to not receive even more soft packaged products, but are able to offer glass bottles.”¹³⁸

¹³⁰ Interview with Expert 7

¹³¹ Interview with Expert 1, Expert 2, Expert 3, Expert 4, Expert 5, Expert 6, Expert 7, Expert 8

¹³² Interview with Expert 4

¹³³ Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit, 2014b, online

¹³⁴ Interview with Expert 1

¹³⁵ Interview with Expert 2

¹³⁶ Interview with Expert 4

¹³⁷ Interview with Expert 2

¹³⁸ Interview with Expert 3

Consequently, companies not distributing their products through discount stores and central warehouses of supermarkets experience less pressure to offer non-returnable packages and therefore feel less influenced by retailers.¹³⁹

In summary, Q₂ is supported: The high number of small specialized producers operating within their region in the state of Baden-Württemberg is an exception compared to the national fruit juice market. As soon as one of these companies decides to expand business operations, corporate decisions are very likely to be impacted by retailers' demand. It can be assumed that the majority of companies do encounter a strong influence from retailers on their packaging decision-making. This is additionally supported by the findings of Schmidt-Riediger¹⁴⁰.

The choice of packaging material used depends on what suppliers offer. However, the majority of companies within the research sample use standardized glass bottles of the VdF. The size, volume and thickness of these bottles are defined by the association and do not allow for any changes. Hence, for companies using returnable glass bottles by the VdF, suppliers' offerings are irrelevant.¹⁴¹

In contrast, the design of non-returnable glass bottles is not standardized. Individual design is only profitable when used for high scale bottling.¹⁴² The same applies to other packaging formats, like carton and plastics. Without making high investments, companies must choose a packaging solution within the suppliers' offers. In addition, even when switching suppliers within one packaging solution the bottling system cannot be used any further: Carton packages from Elopak and Tetra Pak are filled by different bottling systems.¹⁴³

Consequently, the findings partly support Q_{3A}. Variety of packaging solutions offered by suppliers only influences companies that do not use the standardized bottle of the VdF. All others are free to choose from an existing product range or even design an individual packaging solution if financial resources allow it.

The experts interviewed did not comment on ecological requirements they ask their suppliers to fulfill. Additionally, interviewees did not mention that suppliers are increasingly engaged regarding sustainable business practices.

¹³⁹ *However, it must be kept in mind that the choice of distribution channels, depends on the positioning on the market. It is interesting to note that companies which perceive less impact on packaging decision-making by retailers are the smallest ones within the sample. How their positioning as specialist within limited regional markets influences the choice of packaging will be further analyzed when testing Q_{8B}.*

¹⁴⁰ Birte Schmidt-Riediger, 2008, p. 175

¹⁴¹ Interview with Expert 4

¹⁴² Interview with Expert 3

¹⁴³ Interview with Expert 6

This can be explained by small bottling volumes and limited financial resources for individual packaging solutions. It can be assumed that suppliers only bother fulfilling the requirements of key customers.

A second explanation lies in the high usage of standardized glass bottles by the VdF. The standardized design of the bottles does not leave room for maneuver and individual requirements.

In any case, the findings do not support Q_{3B}, therefore the Research Question is rejected.

When questioned, the interviewees mutually agreed on high competition within the fruit juice industry. "Sales in the juice segment are declining. Within six to eight years, [the average consumption per capita] went from 42 to 33 liters. Larger capacities are mainly produced by bigger companies. In consequence there is a tough competition in a shrinking market. Only this year, three fellow companies became insolvent."¹⁴⁴ A second expert analyzed the reasons for companies going bankrupt: "It is always the ones without a clear strategy, the ones that are replaceable. Due to their size, they are under a great deal of price pressure. On the one hand, they are not big enough to produce as cheaply as the biggest companies. On the other hand, they are big enough to drag along a large administrative organization."¹⁴⁵ According to the experts, companies aim for a strong position within their market segment and strongly promote their unique selling points to beat the competition.¹⁴⁶

However, in most cases, maintaining a strong competitive position does not affect the company's choice for a packaging solution but mainly decisions on the product range: All but one interviewee stated that competition does not influence packaging decision-making.¹⁴⁷ This is mainly due to the high financial expenditures changes in bottling systems imply. "If I do not earn more or even have to pay more, I am better off not doing it [bottling in plastic bottles]."¹⁴⁸ Following this argument, the influence of competition on packaging decisions once again depends on the financial position of the company. The only company whose packaging solution was influenced by competition invested highly in the individual design of a new glass bottle. For this the company assessed "what works well for competitors and how can we do something even better?"¹⁴⁹

In conclusion, the findings only partly support Q₄. Whether or not decisions on packaging solutions result from influence of competitors depends on the

¹⁴⁴ Interview with Expert 4

¹⁴⁵ Interview with Expert 3

¹⁴⁶ Interview with Expert 2, Expert 3, Expert 4, Expert 5

¹⁴⁷ Interview with Expert 1, Expert 4, Expert 5, Expert 6, Expert 7, Expert 8

¹⁴⁸ Interview with Expert 8

¹⁴⁹ Interview with Expert 2

financial position of a company. Thus, for the majority of companies within the research sample competition is not a factor that impacts packaging decision-making.

Public actors:

Based on the assumption that media coverage shapes the public's opinion¹⁵⁰ interviewees reported that companies use local media as an advertisement and communication tool. According to the experts, cooperating with the media is seen as a positive experience for the companies. Often companies are the main employer within the region, thus, a positive relation with local press helps to maintain a good reputation in the community.¹⁵¹ However, the interviews revealed that topics related to packaging are not relevant for the local media. Experts do not perceive any media influence on the public's perception of different packaging solutions.¹⁵²

Since packaging does not present a topic local media reports on, it can be assumed that the topic is more often covered by larger media institutions. As stated by the interviewees, companies within the research sample seldom come in contact with these institutions. This is likely to result from those companies' regionally limited operational focus. Additionally, Hahn and Scheermesser found that smaller companies "(...) are mostly not confronted with high public attention and pressures as are bigger (...) companies."¹⁵³ Consequently, the companies packaging decision-making is not influenced by the media. H₅ is not supported by the findings and therefore rejected.

Experts named corporate engagement as an important aspect in the relation between companies and the local communities. For this purpose, sponsorship contracts with local sports clubs, open house days and projects to support meadow orchards are offered by regionally operating companies.¹⁵⁴ Packaging solutions, however, are not an issue local communities are interested in. The interviewees additionally stated they are not influenced by any other interest groups.¹⁵⁵

An explanation for the lack of influence on part of interest groups might be the fact that currently the work of such groups is less focused on packaging than on the product itself. According to a representative of the non-governmental organization Greenpeace, the ecological impact of a product in regard to origin of raw material and means of production is given priority at the moment. This

¹⁵⁰ See 4.2 Development of Research Questions, Public actors, p. 18-19

¹⁵¹ Interview with Expert 4

¹⁵² Interview with Expert 1, Expert 2, Expert 3, Expert 5, Expert6, Expert 8

¹⁵³ Tobias Hahn and Mandy Scheermesser, 2006, p. 161

¹⁵⁴ Interview with Expert 1, Expert 2, Expert 3, Expert 4, Expert 5, Expert 7, Expert 8

¹⁵⁵ Interview with Expert 1, Expert 2, Expert 3, Expert 4, Expert 5, Expert 7, Expert 8

relates to issues like organic production and labeling but less to Green Packaging.¹⁵⁶

No influence on part of interest groups is concurrently reported by companies strongly engaged in sustainable business practices as well as by companies without a particular attitude towards sustainability. Hence, a company's engagement for sustainability is not a deciding factor for the influence interest groups exert on companies. Furthermore, it is reasonable to assume that interest groups in general do not impact packaging decision-making in a company. As the findings do not provide any support for Q₆, the Research Question is rejected.

Political actors:

When deciding on a packaging solution, it is obvious that companies have to obey legislative regulations. One expert gave insight into the scope of regulations impacting packaging and listed the deposit regulations, Packaging Ordinance, the Calibration Law, the Finished Pack Regulation and regulations on declarations as relevant legislations.¹⁵⁷ The interviewee stated that changes in legislation often lead to complex alterations companies have to undertake to ensure compliance. "It [changes in labeling requirements] is easily done by the legislators, but it has a dramatic impact on the entire industry."¹⁵⁸ A second expert assessed the situation more fact-based: "Companies have obligations. If obligations increase due to political will one has to comply with them. Whether or not they are good or bad is not relevant. I will not argue with a police officer about running a red light."¹⁵⁹ Accordingly, it can be noted that companies' packaging decision-making is framed by several legislations to comply with. However, several experts admitted that legislations "are not the triggering factors. Triggers [for deciding on a packaging solution] are simply technology and money."¹⁶⁰ Experts agreed that the decision for a certain packaging solution is not determined by legislators.¹⁶¹ Consequently, legal regulations rather serve as providing a framework for companies to decide on a packaging solution. Therefore, the findings only partly support the first part of Q₇. Companies experience an influence on packaging decision-making from legislators, however, it does not present a strong decisive factor in the fruit juice industry.

Moreover, experts criticized legislative intervention: "Informing people is probably more effective than an EU legislation limiting plastic bags. When

¹⁵⁶ *Information received upon request from a representative of Greenpeace*

¹⁵⁷ Interview with Expert 2

¹⁵⁸ Interview with Expert 2

¹⁵⁹ Interview with Expert 4

¹⁶⁰ Interview with Expert 3

¹⁶¹ Interview with Expert 3

politics intervene things always end in a complete disaster.”¹⁶² “This is typically German. One wants to do something [deposit regulations] really well and it ends up in something so complicated no one understands.”¹⁶³ “I doubt that this [new regulations on declarations] is good. I observed it having negative impact on other food products like negative advertising. It is out of proportion and exaggerated.”¹⁶⁴ Additionally, political efforts to promote so-called ecologically advantageous packaging are objected by one interviewee: “Due to legislative classification as ecologically advantageous, Tetra Pak is currently deposit free. This is unfortunate as Tetra Pak is an ecologically unfriendly packaging. Almost every container ends up in waste incineration plants as the composite material is almost inseparable.”¹⁶⁵

Considering all statements provided, it can be concluded that the nature of legislative impacts is perceived as being fairly the same by companies: According to the experts, legislation is concurrently perceived as cumbersome and not well thought-out. Therefore, the second part of Q₇ is rejected, as findings cannot demonstrate varying perceptions of legislative action.

Internal factors:

The analysis of the conducted interviews showed that there is a correlation between the internal orientation and decisions on packaging solutions. Companies displaying a positive attitude towards the environment named ecological aspects as relevant for their choice of packaging: “In my opinion, bottling of an organic product into a PET bottle must be forbidden. How can it be called ‘organic’, if you prove that the bottled product contains oil - the material bottles are made of? Glass bottles much better suit organic products.”¹⁶⁶ A second expert stated that disposable packaging is not aligned with a company’s concept emphasizing regional and sustainable values.¹⁶⁷ For a third company sustainability has always been part of the company’s philosophy¹⁶⁸, thus, environmental friendliness is a relevant criterion for packaging decision-making. For the majority of companies, commitment to sustainability is triggered by the owner’s or top-management’s pro-environmental attitude. This finding is supported by the research results of Hahn and Scheermesser¹⁶⁹.

One interviewee, however, explained that besides a positive attitude towards the environment, financial and image aspects matter: “Why does one engage in

¹⁶² Interview with Expert 4

¹⁶³ Interview with Expert 3

¹⁶⁴ Interview with Expert 5

¹⁶⁵ Interview with Expert 2

¹⁶⁶ Interview with Expert 8

¹⁶⁷ Interview with Expert 5

¹⁶⁸ Interview with Expert 4

¹⁶⁹ Tobias Hahn and Mandy Scheermesser, 2006, p. 162

environmental sponsoring? On the one hand to give something back, on the other hand for communication and positioning of the company. We do a lot of sponsoring, it fits to our philosophy, but in the end it has to be financially viable.”¹⁷⁰ Following this the motivation for sustainable business practices results from different attitudes.

On the contrary, companies with no particular opinion on sustainability thought that ecological aspects are secondary for packaging.¹⁷¹ The usage of Green Packaging is only worth considering when strongly demanded by consumers, supported by retailers and economically beneficial.¹⁷²

It can be concluded that the findings support Q_{8A} and the internal orientation of a company does influence the motivation for or against using Green Packaging solutions.

In relation to the companies' attitudes towards sustainability, it is interesting to note that especially the smaller companies within the research sample are involved in sustainable business practices,¹⁷³ as already implied by Schmidt-Riediger¹⁷⁴. Within their regionally limited area of operations, these companies are positioned as specialists of high quality products. In this way, they distinguish themselves from nationally operating fruit juice brands, targeting consumers who demand regional quality products.¹⁷⁵ Experts argued that bottling into returnable glass bottles is the only packaging solution that matches the obtained market position¹⁷⁶: “Something else is not worth considering.”¹⁷⁷

Beyond this rationale, however, one must also realize that due to small scale productions other bottling systems are not an option for small-sized companies. Consequently, for the smaller companies within the sample, the packaging solution used results from limited bottling volumes and financial resources as well as the positioning as a regional specialist. “We are a regional producer and prefer to bottle less but all the more sustainable and of higher quality.”¹⁷⁸

For companies that decide to expand business operations and produce larger volumes, the previous arguments do not hold. Within the research sample, bigger companies offer up to three different packaging solutions. Nowadays,

¹⁷⁰ Interview with Expert 2

¹⁷¹ Interview with Expert 1

¹⁷² Interview with Expert 1

¹⁷³ *Sustainable business practices comprise protecting and promoting meadow orchards, fair payment for fruit suppliers, local and regional engagements, energy-saving machinery and producing organic products. For reference see: Interview with Expert 3, Expert 4, Expert 5, Expert 8*

¹⁷⁴ Birte Schmidt-Riediger, 2008, p. 164

¹⁷⁵ Interview with Expert 3, Expert 4, Expert 5

¹⁷⁶ Interview with Expert 5

¹⁷⁷ Interview with Expert 8

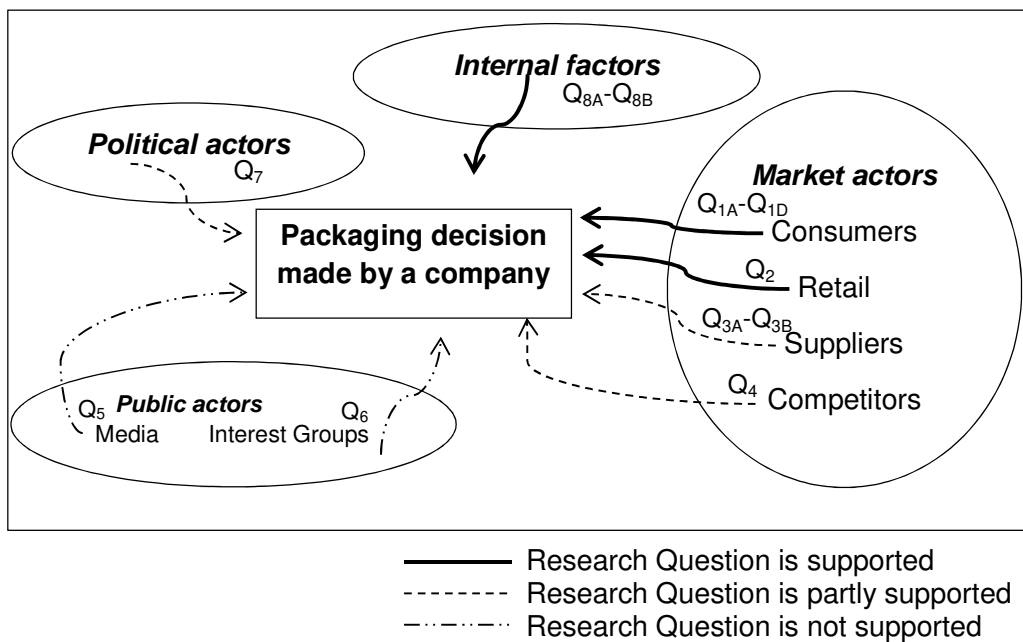
¹⁷⁸ Interview with Expert 5

consumers seldom buy fruit juice bottled in only one kind of packaging. Purchasing behavior is based on needs, e.g. light-weighted bottles for sports activities.¹⁷⁹ Experts therefore agreed that a variety in packaging solutions is necessary to appropriately serve all consumers' needs.¹⁸⁰ "I do not want to favor one package over another. Everyone should decide individually."¹⁸¹ Consequently, it becomes necessary to consider additional packaging solutions and distribution channels to serve larger markets: "You can just observe or decide to expand your supplier expertise."¹⁸²

In conclusion, while smaller companies bottling comparatively less fruit juice are limited in their scope of action, bigger companies need to offer a variety of packaging solutions to serve consumer's needs. It was shown that a company's size does influence packaging-decision making, thus the findings support Q_{8B}.

Closing the examination of Research Questions, the results of the research are depicted in *Figure 4* and in *Table 3*.

Figure 4: Results of research



¹⁷⁹ Interview with Expert 2

¹⁸⁰ Interview with Expert 4

¹⁸¹ Interview with Expert 1

¹⁸² Interview with Expert 2

Table 3: Overview results of Research Questions

Q _{1A}	<i>Of all actors, consumers most strongly influence packaging decision-making in a company.</i>	<i>supported</i>
Q _{1B}	<i>Companies perceive an increased demand for Green Packaging from consumers who have a positive attitude towards the environment.</i>	<i>supported</i>
Q _{1C}	<i>Companies recognize that consumers have insufficient knowledge of ecological advantages and disadvantages of packaging materials.</i>	<i>supported</i>
Q _{1D}	<i>Companies recognize that consumers have certain requirements which must be fulfilled when deciding on whether or not to buy Green Packaging: the price must not be higher, the packaging must be functional and convenient and the quality of the product must not be reduced.</i>	<i>supported</i>
Q ₂	<i>Due to their strong purchasing power, retailers' business strategies strongly impact packaging decision-making in a company.</i>	<i>supported</i>
Q _{3A}	<i>Suppliers influence packaging decision-making in a company with regard to the variety of packaging solutions they offer.</i>	<i>partly supported</i>
Q _{3B}	<i>When deciding on Green Packaging solutions, companies put pressure on their suppliers to fulfill ecological requirements.</i>	<i>partly supported</i>
Q ₄	<i>Decisions on packaging solutions are influenced by the company's competitors.</i>	<i>partly supported</i>
Q ₅	<i>Media coverage influences packaging decision-making in a company by shaping the public's perception of different packaging solutions.</i>	<i>not supported</i>
Q ₆	<i>The more a company is engaged in sustainable business practices, the greater it perceives the influences of interest groups on packaging decisions-making in the company.</i>	<i>not supported</i>
Q ₇	<i>While companies generally perceive a strong influence on packaging decision-making from legislators, the perception of the nature of the impact differs.</i>	<i>partly supported</i>
Q _{8A}	<i>The internal orientation towards sustainable business practices of top-management, owner and employees influences the motivation for decisions on Green Packaging solutions in a company.</i>	<i>supported</i>
Q _{8B}	<i>A company's size influences packaging decision-making.</i>	<i>supported</i>

7. Determining Factors for Green Packaging Solutions in the Fruit Juice Industry

7.1 Factors Determining Packaging Solutions

To begin with the *internal factors* of a company itself must be considered. In this context, a distinction between small and big companies in terms of bottling volume and financial position as well as the market position is needed. It was pointed out that limited bottling volumes in conjunction with a company's positioning as regional specialist lead to bottling systems using returnable glass bottles. For those companies the main factor determining their packaging solutions is not a choice but rather a result of their business model: The small scale production of high quality products distributed regionally, calls for a comparatively inexpensive packaging solution that guarantees preservation of quality. Accordingly, only companies with increased bottling volumes and a broad positioning face a decision on different packaging solutions.¹⁸³

In doing so, companies are influenced by *market actors*. It was found that *consumers* strongly impact packaging decision-making. However, consumers' influences are perceived differently by companies depending on the nature of demand. While consumers with a positive attitude towards the environment demonstrate an increased demand for Green Packaging,¹⁸⁴ the correlation between attitude and purchasing behavior implies that consumers with no particular environmental attitude are likely to focus on product attributes other than Green Packaging. Following the argumentation of Schmidt-Riediger, companies targeting the latter do not recognize an increased demand for ecological packaging solutions, as sustainable business practices are not demanded by consumers.¹⁸⁵ Among the sample of experts interviewed, one expert working for such a company states: "I strongly doubt that this [organic products and Green Packaging] is important for the consumer."¹⁸⁶

Moreover, it was pointed out that decision-making is influenced by *retail*. Here the nature of influence depends on the business practices across the distribution channels used. While beverage specialists and certain supermarkets support the filling into returnable glass bottles for regional products, other retailers request non-returnable packaging.¹⁸⁷ This preference affects the majority of companies, especially those producing for private labels in addition to their own brand: "For his private label a major customer demanded gable-top juice containers [Elopak containers]. He said we either invest in this or the job will be

¹⁸³ See chapter 3.2 The German Fruit Juice Industry and 6. Results of Research

¹⁸⁴ See chapter 6. Results of Research

¹⁸⁵ Birte Schmidt-Riediger, 2008, p. 175

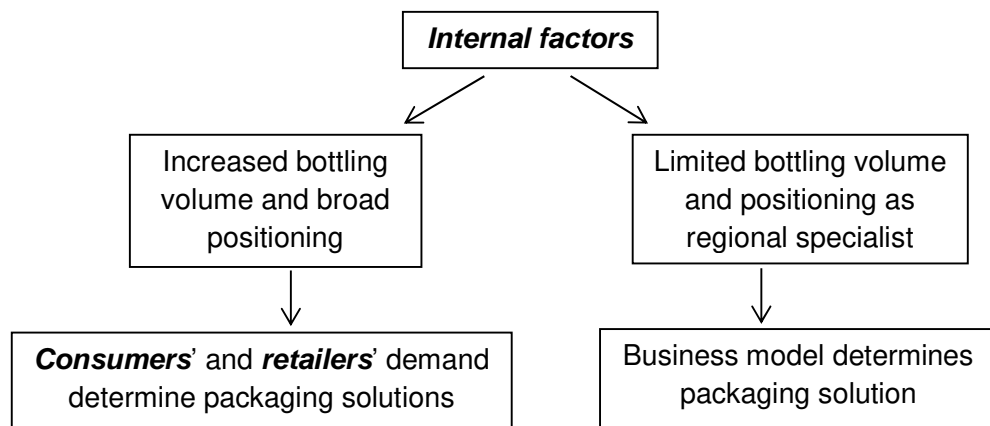
¹⁸⁶ Interview with Expert 1

¹⁸⁷ See chapter 6. Results of Research

awarded to someone else.”¹⁸⁸ According to this expert, the main criterion for deciding on a packaging solution is retailer’s demand. “We are following the decisions made for private labels. The pace-maker is the supermarket chain.”¹⁸⁹ Supported by the opinion of Verghese et al.¹⁹⁰, it was additionally found that retailers’ business practices do spread over to the supply chain: The company producing private labels for retailers that focus on sustainability is required to adhere to environmental protection, energy and waste regulations and to give proof of origin and production processes: “Sustainability is implemented in the company, however, not due to our own intrinsic motivation, but rather due to the requirements imposed on us by retail.”¹⁹¹ Alternatively, sustainable business practices are not transmitted via all distribution channels: “The ‘ecological footprint’ is a ‘luxury’ topic. (...) It surely works well in health food and organic shops but at Kaufland [Supermarket chain] no one cares.”¹⁹²

In conclusion, for companies of the fruit juice industry in Baden-Württemberg the main factors determining packaging solutions are internal factors (bottling volume and positioning), consumers’ and retailers’ demand¹⁹³, as summarized in a simplified scheme by *Figure 5*. How these findings relate to Green Packaging will be analyzed in chapter 7.2.

Figure 5: (Main) factors determining packaging solutions



7.2 Implications for Green Packaging

In general, it was observed that Green Packaging so far had not a major impact on the fruit juice industry in Baden-Württemberg. A campaign to promote

¹⁸⁸ Interview with Expert 6

¹⁸⁹ Interview with Expert 6

¹⁹⁰ Karli L. Verghese, Ralph Horne and Andrew Carre, 2010, p. 609

¹⁹¹ Interview with Expert 6

¹⁹² Interview with Expert 2

¹⁹³ *The influence exerted by suppliers, competitors and legislation will be dealt with in 7.2 Implications for Green Packaging.*

returnable glass bottles had only limited success¹⁹⁴ and companies find that “the ecological aspect is rather secondary”¹⁹⁵ to quality aspects in driving consumers’ purchasing decisions. “I do not consider Green Packaging to be a relevant sales benefit. It is not a topic of real importance to the consumer, nor a deciding factor between two brands.”¹⁹⁶ Results of a study by Nordin and Selke¹⁹⁷ support this finding.

Although Green Packaging is not the highest priority for business practices companies are aware of the developments: Definitions of Green Packaging collected via the survey are closely related to characteristics stated by the SPA¹⁹⁸: Interviewees emphasized the importance of limited use of energy (‘efficient’), saving resources by reusing and recycling (ideally renewable) material (‘cyclic’) and using eco- packages that serves the product best (‘safe’ and ‘effective’).¹⁹⁹ Additionally, sustainable business practices are being followed by a number of companies: For those, ‘green’ aspects of production and the ecological impact of packaging are relevant. Other companies are more pushed towards sustainability by retailers’ demands or see engagement for sustainability as a way to distinguish their products.²⁰⁰

Considering its current limited role, the question is what future developments for Green Packaging are conceivable in the fruit juice industry. Taking the identified factors determining packaging solutions as references, the following implications can be derived:

Stronger promotion of returnable glass bottles

Assuming that the experts are right in stating that returnable glass bottles are environmentally and ecologically advantageous²⁰¹, companies that already use eco-friendly packages are more likely to bring Green Packaging forward than others.

For smaller companies the determining factor for packaging decision-making is their business model. The usage of returnable glass bottle fits their production scale and positioning while matching the sustainable orientation of business practices.²⁰² However, fruit juice sold in returnable glass bottles is losing market

¹⁹⁴ Interview with Expert 3

¹⁹⁵ Interview with Expert 7

¹⁹⁶ Interview with Expert 1

¹⁹⁷ Norbisimi Nordin and Susan Selke, 2010, p. 322

¹⁹⁸ See Chapter 2.2 Green Packaging

¹⁹⁹ Interview with Expert 1, Expert 2, Expert 3, Expert 4, Expert 5, Expert 6, Expert 7

²⁰⁰ See chapter 6. Results of Research

²⁰¹ Interview with Expert 3

²⁰² See chapter 6. Results of Research

share to non-returnable packaged products. Consumers lack knowledge about advantages of glass and struggle to recognize returnable packages.²⁰³

Given the restrictions in packaging choices, an increased promotion of returnable glass bottles as a Green Packaging solution would be beneficial for smaller companies. To target environmentally-conscious consumers, the ecological advantages of returnable glass bottles can be highlighted to a greater extent than it is currently done.

To communicate the advantages information can be printed onto the label or be displayed at point of sale.²⁰⁴ As proposed by Dangelico and Pujari eco-labelling should be used to capture consumers' interest.²⁰⁵ Simultaneously, the use of third-party labeling reduces the danger of sustainability efforts being perceived as 'greenwashing'.

Additionally, the companies' positioning as regional specialist of high quality products supports an authentic sustainable business orientation. Through close contact to local communities transparency and trust are established.²⁰⁶

In this way, the usage of returnable glass bottles distinguishes companies from national brands and contributes to a positive environmental performance.

Green Packaging as a 'must-have'

In contrast, companies with increased bottling volumes and broad positioning are able to choose from varying bottling systems. For the majority of those, ecological aspects are secondary and only worth considering when demanded by consumers, supported by retail and economically beneficial.²⁰⁷ Applying the classification of company types by Hahn and Scheermesser, "these companies' approach to sustainability is characterized by a traditional view."²⁰⁸ The so-called 'traditionalists' only implement sustainable business practices if directly supporting "(...) traditional business goals, such as revenue growth, new market opportunities and a positive corporate image"²⁰⁹. Belz and Peattie further explain

²⁰³ Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit, 2014b, online, also see chapter 6. Results of Research

²⁰⁴ *To promote ecological advantages additional initiatives are imaginable. However, limited financial resources have to be borne in mind.*

²⁰⁵ Rosa Maria Dangelico and Devashish Pujari, 2010, p. 484

²⁰⁶ J. Joseph Cronin, Jeffery S. Smith, Mark R. Gleim, Edward Ramirez and Jennifer Dawn Martinez, 2011, p. 170, Norbisimi Nordin and Susan Selke, 2010, pp. 322, also see chapter 6. Results of Research

²⁰⁷ See chapter 6. Results of Research, internal factors

²⁰⁸ Tobias Hahn and Mandy Scheermesser, 2006, p. 160

²⁰⁹ Tobias Hahn and Mandy Scheermesser, 2006, p. 160

that due to high investments and risks involved, companies are reluctant to turn away from known practices.²¹⁰

In other words, Green Packaging needs to become a 'must-have': Only as a mainstream product feature demanded by consumers, supported by retail and surely resulting in profits, Green Packaging will become of interest to 'traditionalists'. In the highly competitive fruit juice industry, a 'must-have' feature is no longer a question of financial resources, but a necessity to survive in the market.²¹¹ Thus, the number of companies using eco-friendly packaging would raise and Green Packaging would become a feature of the mass market.²¹²

However, it must be investigated what the barriers to mainstreaming of Green Packaging in the fruit juice industry are.

To begin with, consumers lack information on ecological impacts of packaging solutions.²¹³ The experts elaborated on the difficulties to educate consumers, admitting that "a small company cannot initiate a reversal of trend."²¹⁴ A second interviewee additionally stated that "every company communicates for its own sake and not the general public. A company will always educate consumers on their own brand instead of a system. Therefore, this is the duty of the VdF, the legislator or the general public."²¹⁵ Following the argument that a collective approach is needed to effectively convey information, another expert argued that a campaign by the VdF to promote glass packaging for fruit juice had failed as financial resources for advertising were insufficient.²¹⁶ Alternatively, this expert proposed specialized institutes to write neutral reports on the topic, although at the same time being concerned about the effectiveness of such consumer education: "It surely is important to convey information, but I am pessimistic regarding the amount that will ultimately stick in the consumer's head."²¹⁷

Moreover, purchasing behavior is impacted by deposit regulations: As of January, 1st 2003, non-returnable packages had to carry a mandatory deposit. The legislation aimed at reducing littering of non-returnable bottles and promoting the use of returnable bottles for consumers.²¹⁸ The experts on the contrary accused the legislation of having caused a decrease in returnable bottles: "The entire industry envisioned that a deposit on non-returnable packaging will pave the way for this type of packaging. This is logical because

²¹⁰ Frank-Martin Belz and Ken Peattie, 2012, p. 291

²¹¹ See chapter 6. Results of Research, competitors

²¹² Frank-Martin Belz and Ken Peattie, 2012, p. 291

²¹³ See chapter 6. Results of Research

²¹⁴ Interview with Expert 4

²¹⁵ Interview with Expert 2

²¹⁶ Interview with Expert 3

²¹⁷ Interview with Expert 3

²¹⁸ Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit, 2002, online

the consumer equates deposit with returnable bottles. Therefore, [legislation] contributed to the drastic increase of non-returnable packaging in Germany.”²¹⁹ The assumption that deposit refers to returnable packaging, makes it difficult for consumers to differentiate between returnable and non-returnable bottles. The confusion led to an increase in sales of non-returnable bottles carrying a deposit.²²⁰ Thus, legal regulation impacted the purchasing behavior of consumers. Additionally, experts accuse retailers of taking advantage of the deposit regulations on non-returnable bottles²²¹: “Retail is not interested [in a revision of the deposit regulation]. Deposits account for 25 cents. If only 200 million [bottles] are not returned – there is nothing easier to make money.”²²² Apart from this, the focus on non-returnable packaging by retail has consequences for the product range offered to consumers: “The consumer is driven [by retail]. If you go to a supermarket, you find twenty meters of soft packaging and only ten meters of crates [glass bottles]. Hence, consumers are guided towards this trend.”²²³ Consequently, retailers’ purchasing power influences consumer preferences.

Lastly, the importance of eco-friendly packaging is currently not high enough for it to become a feature of the mass market. When selecting a packaging format, deciding factors are closely related to the requirements consumers have for packaging solutions. One expert explained why the current supplier of carton packaging was chosen: “The packaging is really good and easier to handle. The gable-top fruit juice container improves the serving and looks more valuable.”²²⁴ A second interviewee stated that the company’s supplier for bottling into plastic bottles was selected due to quality concerns²²⁵ and ecological reasons. The company was of the opinion that the solution “carries the product quality and presents the ecological aspects in the best possible way.”²²⁶ In contrast to this, a third expert explained why a carton packaging with a lid made out of renewable material was decided against: “This is offered by Elopak, however, only for a special type of lid we do not use.”²²⁷ In this case, ecological aspects were secondary to technical requirements. Apart from these statements experts did not mention ecological aspects with regard to the supply of packaging material.

²¹⁹ Interview with Expert 2

²²⁰ Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit, 2014b, online

²²¹ *The translation of German terms is likely to confuse the reader at this point. Non-returnable bottles in this case refer to bottles which are not refilled (German: Einweg Flasche). Some of these bottles do carry a deposit, especially in the area of non-juice-beverages.*

²²² Interview with Expert 8

²²³ Interview with Expert 1

²²⁴ Interview with Expert 7

²²⁵ *To avoid absorption of flavors by the packaging material, the company uses PETCYCLE bottles. After each use bottles are melted down and new ones are produced. Interview with Expert 2*

²²⁶ Interview with Expert 2

²²⁷ Interview with Expert 6

Green Packaging is not a relevant aspect for the sample companies and their suppliers, even though promoted by suppliers themselves²²⁸.

Pioneering for Green Packaging

“Three years ago nobody cared about this hype about sustainable packaging. (...) Meanwhile, the topic is almost finished and no longer of interest to anyone. It would need a revival via someone.”²²⁹ An expert explained how the introduction of FSC-certified containers by the discount store Lidl impacted the industry, leading to a high demand for sustainable carton packaging by retailers. Today FSC-certification²³⁰ is standard for beverage containers and interest has tailed off.²³¹ Therefore, another pioneering initiative would be needed to raise interest in Green Packaging again.

However, we would like to know what kind of company would be willing to take on a pioneer role.

Firstly, the company must be committed to sustainable business practices. Without an interest in sustainability, eco-friendly packaging will not be a relevant factor for decision-makers.

Secondly, sufficient financial resources must be available to introduce a new and innovative Green Packaging solution to the market. As pointed out, the design of individual packaging solutions require investments and also increased bottling volumes to be profitable.

Thirdly, the company's positioning has to allow for a successful marketing of the new packaging solution to ensure profitability. This includes a target group of environmentally-conscious consumers who are open-minded towards Green Packaging and distribution channels supporting sustainable business strategies. In the long run, Green Packaging must match the company's business concept, must be in demand by consumers and consequently by retailers in order to have a broad impact on the fruit juice industry in Baden-Württemberg.

²²⁸ See for example ELOPAK, 2014, online and © Tetra Pak International S.A., 2015, online

²²⁹ Interview with Expert 6

²³⁰ „FSC certification ensures that products come from responsibly managed forests that provide environmental, social and economic benefits“, FSC Forest Stewardship Council, s.a.

²³¹ Interview with Expert 6

8. Conclusion

Within product policy, Green Packaging presents an element of sustainability marketing reducing the negative environmental impact of packaging solutions. Despite the lack of a common definition, Green Packaging is mainly characterized by being “effective (...), efficient (...), cyclic (...) [and] safe”^{232 233}.

In Germany, extensive legislation on recycling and waste management regulates and encourages companies to engage in eco-friendly packaging. The environmental impact of packaging solutions for fruit juice ranges from carton container, to glass or plastics bottles. In comparison to the national market, the fruit juice industry in Baden-Württemberg is characterized by a high number of small family-owned businesses using glass bottles.²³⁴

Expert interviews revealed that especially for those companies, the internal factors of bottling volume and financial resources are determining the packaging decision-making. Additionally, consumers’ demand and retailers’ support present strong influences. Several legislations form a legal framework for companies to decide on packaging solution. Suppliers and competitors were found to be further actors of the micro environment partly impacted decision-making.²³⁵

Overall, there is no evidence that Green Packaging has fully reached the fruit juice industry yet. The environmental impact of packaging is given some thought. However, concerns about product quality and functionality and convenience prevail. For traditionally orientated companies, Green Packaging will be implemented when eco-friendly packaging becomes a ‘must-have’ product feature a company cannot afford to ignore. Nevertheless, it is well conceivable that the promotion of ecologically-advantageous packaging will increase. Especially smaller companies limited in their packaging decisions are likely to emphasize benefits of returnable glass bottles more strongly. However, only a sustainability-orientated company with sufficient financial resources is able to take on a pioneer role in the field of Green Packaging. It needs a stronger demand and the willingness of retailers to cooperate to successfully offer eco-friendly packaging in the market.²³⁶

In summary, some limitations of this paper should be highlighted. Due to small sample sizes, findings of qualitative research lack statistical validity. The significant differences between the national fruit juice industry and the one in

²³² Sustainable Packaging Alliance, 2007, online

²³³ See chapter 2. From Conventional to Green Packaging

²³⁴ See chapter 3. Green Packaging in the German Fruit Juice Industry

²³⁵ See chapter 6. Results of Research

²³⁶ See chapter 7. Determining Factors for Green Packaging Solutions in the German Fruit Juice Industry

Baden-Württemberg surely influenced the statements given. Currently, the fruit juice industry is only to some extent involved in Green Packaging. Thus, conclusions can only be drawn with caution.

Nevertheless, the research objective to explore the companies' perspective on Green Packaging could be met. With the identification of determining factors for decision-making, implications for eco-friendly packaging could be derived. For future research perspectives it would be highly interesting to investigate the retailers' perspective on Green Packaging. By directly interacting with consumers they hold a strong position to influence demand. With increasing sales of private brands, retailers' decision-making strongly impacts the food retailing industry. As companies depend on product listings, what is offered to the consumers is the retailers' decision.

Ultimately, despite all needs for availability, legislative regulations and awareness campaigns, consumers themselves have to understand the importance of Green Packaging and consciously incorporate into their purchasing decisions. This would require the characteristics of Green Packaging to be highly convincing. "I think it is important that the consumer is informed and with a clear conscience decides for himself."²³⁷

²³⁷ Interview with Expert 4

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