

**Three Essays on Spillover Effects of Product Certifications
on Non-Certified Bystander Products**

Dissertation

Submitted to the

Faculty of Business and Economics

TU Dortmund University

Dortmund

In partial fulfillment of the requirements

for the degree of

Doctor rerum politicarum (Dr. rer. pol.)

Submitted by

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January 2018

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Preface

The work presented in this thesis has been developed during my two years at the marketing department at the TU Dortmund University. The support of the German Research Foundation (DFG) in the project “Ausstrahlungseffekte von zertifizierten Produkten auf das nicht-zertifizierte Produktprogramm – Eine empirische Analyse der Effektstärke und –richtung” under Grant HO 2224/11-1 is gratefully acknowledged.

Many people have supported my research project, and I would like to express my sincerest gratitude to all of them. First, I want to thank my supervisor Prof. Dr. Hartmut H. Holzmüller for his constant support, advice, and trust in my work. I also thank Prof. Dr. Jens Rowold for his readiness to be the second examiner of this thesis. Further, I owe special thanks to Dr. Sören Köcher, who supervised the DFG research project, and was my most important contact person in terms of all questions regarding quantitative research, which were quite a lot over the last two years’ time.

Moreover, I want to thank my former and current colleagues at the marketing department for their valuable suggestions regarding my research, but also for an always friendly atmosphere, shared success and failure, joint struggle for motivation, mental support for conference presentations, and countless inspiring coffee- and chocolate-breaks. I thank Nicole Ahl-Saelbstaedt, Thorsten Autmaring, Gerrit Cziehso, Ulya Faupel, Sabrina Heix, Moritz vom Hofe, Lars Jensen-Lampiri, Andreas Kessenbrock, Sarah Köcher, Xenia Raufeisen, Stefan Ruffer, and JProf. Dr. Tobias Schäfers. Some of you have become truly good friends and I really enjoyed working with you at the marketing department.

Aside from these people, special thanks belong to my family and friends. To my parents, without whom I would not be the person I am today. To Corinna, Judith, and Lena, for all the hours spend in our ‘Schreibwerkstatt’, and every distracting dog walk

to refill our energies. To Lukas, for your continuous patience and support; for being calm, reasonable, and optimistic when I am not, and for letting me know that no matter what, there is always my little family waiting for me at home. And, again, to my mother, for a million supportive after-work-calls, your unfaltering faith in me, and your unconditional love. I would not have been able to overcome the challenges I have encountered in my life without you.

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A Introduction

1. Motivation and Purpose

In the past decade, consumers have grown more conscious of health and quality issues, as well as the importance of sustainable consumption (Cho 2015; Moussa and Touzani 2008; Pancer, McShane, and Noseworthy 2017; Purohit 2012). Consequently, the demand for green and ethical products (i.e., “products that have a positive social and/or environmental impact” (Luchs, Naylor, Irwin, and Raghunathan 2010, p.18)) has increased, making it imperative for companies to adapt their assortment in response to this evolution in the market (COSA 2013; Pancer et al. 2017). However, consumers are typically unable to assess the conditions in which a good has been produced, either before or after purchase; therefore, corporate social responsibility (CSR) has been generally categorized as credence attribute (Darbi and Karni 1973; Étile and Teyssier 2016).

In order to overcome this limited consumer experience and provide a reliable signal with regard to a product’s qualities or degree of sustainability, companies may use certifications that have “a codified set of standards for production and management practices” (COSA 2013, p. xii) and ideally “include third party auditing to confirm that the standard’s requirements are being met” (COSA 2013, p. xii; Atkinson and Rosenthal 2014). Sustainability certifications, also referred to as eco-labels (e.g., Atkinson and Rosenthal 2014, Pancer et al. 2017), can be used to signal unobservable qualities about products, such as “ethical sourcing, fair trade, energy efficiency, labor practices, animal rights, [and] environmental orientation” (Pancer et al. 2017, p.162). Prominent examples are organic or fair trade labels which are widely recognized in many countries, especially developed markets (COSA 2013).

The common use of such certifications – for instance, by some of the world’s largest food and beverage corporations, such as McDonalds, Unilever, PepsiCo, and Nestlé (COSA 2013) – has established a market in which sustainability standards “are no longer a novelty serving niche markets, [but] have found their way into mainstream markets” (Lernoud 2017, p. xii).

The economic significance of these trends and their impact on consumer decision making are reflected by the ongoing growth of different markets; for instance, organic sales in the USA rose by 11% to \$43.3Billion in 2015 (of which \$39.7Billion were organic food sales, representing the largest category of organic products (Organic Trade Association 2016, online)), and sales of organic foods in Germany increased by 13% up to €8.62Billion in 2016 (BÖLW 2016). International retail sales of fair trade products reached €7.3Billion in 2015, compared with €5.9Billion in 2014. Similar to the organic market, food products represent the largest category certified with a fair trade label (e.g., coffee, cocoa, bananas (Fairtrade International 2017, online)).

A large body of research has been devoted to the impact of certifications on consumer behavior in various product categories. Overall, many studies agreed that certifications generally have a positive effect on labeled products, resulting in positive attitudes regarding better taste (Sörqvist et al. 2013) and quality (Dean and Biswas 2001), superior environmental friendliness and improved health (Aertsens et al. 2011; Amos, Pentina, Hawkins, and Davis 2014; Saba and Messina 2003). There is also a positive impact on the likelihood of consumption, (re-)purchase intention (Marian, Chrysochou, Krystallis, and Thøgersen 2014; Sen and Bhattacharya 2001), and willingness to pay (Linder et al. 2010; Van Loo, Caputo, Nayga, and Verbeke 2014; Rödiger and Hamm 2015).

In addition, research has identified some boundary conditions of these positive effects. Regarding certifications in general, Haenraets, Ingwald and Haselhof (2012) outlined several critical determinants of their effectiveness: source credibility, reputation of certification and brand, as well as consumer knowledge and attitude towards product certifications. Langer, Eisend and Kuß (2008) revealed that a growing number of eco-labels lead to consumer confusion, which increases uncertainty in the decision-making process and, consequently, customer dissatisfaction. In the particular context of CSR labels, research identified several further determinants, such as the company's general corporate abilities (consumers regard investments in CSR activities as misguided priorities for companies with low capabilities for innovation (Luo and Bhattacharya 2006)), and the type of benefit consumers most value within a product category (CSR claims enhance preference for a product if consumers value attributes related to gentleness but reduce preference if strength-related attributes are more relevant (Luchs, Naylor, Irwin and Raghunathan 2010)). Moreover, consumers' personal support for a CSR issue and their general beliefs about CSR are of relevance, (Sen and Bhattacharya 2001), and whether the certified attribute is integral to a product's composition or separate from the product (inherent attributes lead consumers to assume a firm's resources are reallocated from quality to ethical or environmental priorities, whereas separate attributes such as better working conditions indicated by a fair trade logo increase positive associations with a firm and, thereby, purchase intentions (Newman, Gorlin, and Dhar 2014)).

These research streams investigating positive effects and boundary conditions exclusively focus on the certified product itself. In practice however, many brands certify only select products within their assortment, as the use of reliable certification labels typically entails extensive requirements and certification costs (Dabbert, Lippert,

and Zorn 2014; Veldstra, Alexander, and Marshall 2014). Firms offer these certified alternatives in addition to their uncertified products, resulting in product lines consisting of both certified and uncertified alternatives; in this dissertation, this strategy is referred to as ‘partial certification strategy’. Hence, portfolio-related considerations, i.e., consequences for other non-certified products of the same product line, should also be taken into account when deciding about the employment and design of a certification strategy.

Despite the ubiquitous use of product certifications in practice, knowledge of potential side effects on non-certified products is scarce. An exception is the findings of Anagnostou, Ingenbleek, and van Trijp (2015), who investigated the spillover effect of sustainable products on the perception of mainstream goods in the Dutch market. The authors found that the presence of organic fair trade coffee can challenge the legitimacy of non-certified mainstream coffee in the eyes of the consumer. Aside from these findings, there is a lack of understanding regarding the unintended consequences of product certifications on the non-certified product market.

Given the common practice of offering only select certified products in addition to the non-certified assortment, knowledge about potential side effects is of critical practical relevance to enable precise assessment, from a brand perspective, of a certification’s overall benefit. Therefore, this research looks beyond the straightforward positive effects of certifications on labeled products in order to shed light on potential side effects on non-certified products within the same line.

In this thesis, those non-certified products of the same product line are referred to as ‘bystander products’. They are regarded as distinct from ‘target products’, defined as those products that benefit from preferential treatment (Steinhoff and Palmatier 2016), which, in the context of this research, is to bear a product certification (Figure 1). In

contrast, bystander products ‘observe’ the preferential treatment of others, but are not part of it. The distinction between target and bystander products offers a more expansive portfolio perspective, in order to identify cases of unintended negative bystander effects (i.e., side effects on non-certified products of a brand induced by a partial certification strategy) that can outweigh the intended positive effects on the target product.



Fig. 1: Exemplary Partial Certification Strategy

Thus, the purpose of this dissertation is to enhance the understanding of how offering certified products in addition to a standard assortment affects consumer perception and evaluation of bystander products, as well as their resulting purchasing behavior. It contributes to extant research in the context of product certifications by explicitly focusing on consequences for non-certified product alternatives; a perspective that so far has been neglected despite its significant practical relevance. Aside from establishing a theoretical understanding of relevant processes and underlying cognitive mechanisms, this dissertation aims to derive specific practical implications for manufacturers and retailers in the fast moving consumer goods (FMCG) sector, where the use of a partial certification strategy constitutes common practice despite the yet-unknown consequences for uncertified product alternatives.

2. Research Questions

The first step to establish a conceptual framework for assessing potential side effects of a partial certification strategy on bystander products was to investigate the phenomenon of spillover effects in general; meaning, the transfer of attributes between associated entities (Kim 2016; Spry, Pappu, and Bettina 2011). Spillover plays a fundamental role in various marketing domains; by identifying theories that are commonly used to explain the occurrence of such spillover effects, the dissertation aimed to develop an understanding of how and why attributes or attitudes toward one object are transferred to other related objects. As it can be reasonably assumed that this fundamental process determines bystander effects in the context of product certifications, the preliminary analysis provided the conceptual base for the following considerations:

RQ1: What characterizes spillover effects, and what are the theoretical explanations for their occurrence?

A second objective was to examine how, if at all, the employment of a partial certification strategy, i.e., offering certified products in addition to a product line's uncertified standard assortment, affects consumer perceptions and behavioral intentions toward bystander products.

RQ2: What side effects on non-certified bystander products in terms of consumer product perceptions and behavioral intentions are induced by the employment of a partial certification strategy?

Furthermore, it was investigated whether uncertified products of the same brand, compared with uncertified products of a competing brand, are equally or differently affected by the presence of a certified target product. This distinction aimed to expose

consequences of a partial certification strategy for a brand's overall competitive position.

RQ3: Are there any differences between effects on bystander products of the same brand and uncertified products offered by competing brands?

After providing a basic understanding of the emergence and direction of bystander effects, the thesis sought to reveal the underlying cognitive processes that determine consumers' evaluation and preferences of bystander products. A differentiated understanding of relevant mechanisms is conducive to identifying possible starting points for marketing interference.

RQ4: What drives the occurrence of bystander effects within the same product line?

What are the underlying cognitive and affective mechanisms when consumers evaluate bystander products?

Finally, it was deemed likely that there are conditions under which bystander effects are differently pronounced. The identification of factors that influence the strength and direction of bystander effects offered specific practical implications and detailed understanding of the effects caused by a partial certification strategy.

RQ5: What determines the strength and direction of bystander effects? Are there any product- or brand-related, situational or certification-related factors that influence these effects?

3. Structure of the Thesis

Aiming to attain a purposeful examination of bystander effects induced by a partial certification strategy, this thesis consists of three individual papers which investigate different issues relevant to the overall research topic. In particular, they cover (1) the

fundamental mechanisms of spillover effects in marketing, (2) basic effects induced by a partial certification strategy on consumer perceptions and behavioral attitudes toward uncertified bystander products, and (3) determinants that affect the strength and direction of the identified bystander effects (Figure 2).

Paper 1	Paper 2	Paper 3
<p style="text-align: center;">"Spillover Effects in Marketing: Holistically Integrating Core Research Domains"</p> <p>Purpose: Develop a holistic understanding of spillover effects in marketing; framework of theoretical explanations and underlying mechanisms</p>	<p style="text-align: center;">"The Dark Side of Sustainability Labeling – Exploring Unintended Effects on Non- Certified Bystander Products "</p> <p>Purpose: Explore and explain bystander effects induced by partial certification strategy on perceptive and behavioral level; basic model</p>	<p style="text-align: center;">"How to Avoid Negative Bystander Effects of Product Certifications? An Empirical Examination of Moderating Determinants"</p> <p>Purpose: Identify determinants that affect the strength and direction of identified bystander effects; extended model</p>

Fig. 2: Overview of three individual papers and their purposes

The first paper reviews extant research on spillover effects in different marketing domains, namely, brand extension, co-branding, ingredient branding, certification marks, endorsement, sponsoring, and Country-of-Origin (CoO) effects. The objective is to contribute to the overall understanding of spillover effects in marketing by utilizing a more holistic approach and integrating findings from different research streams. More precisely, the paper reviews what characterizes spillover effects in different research domains and compares theoretical explanations of the phenomenon and its occurrence (RQ1). Furthermore, Paper 1 addresses whether there is common theoretical ground underlying spillover effects in different marketing domains and, if so, how such a general process can be characterized and integrated into an overall conceptual model. As it was expected that, in the research context, bystander effects of product certifications would be caused by this principle of spillover effects and related phenomena, the insights of Paper 1 provided the conceptual basis for the dissertation.

Spillover Effects in Marketing:		Paper 1
<u>Conceptual Framework:</u>	Integration of findings from disparate research streams to develop a holistic understanding of spillover effects and underlying cognitive mechanisms.	
Method:	Literature Review and Analysis	
Source:	Journal of Marketing, Journal of Marketing Research, Journal of Consumer Research, Marketing Science, Journal of the Academy of Marketing Science, Journal of Retailing, International Journal of Research in Marketing, Journal of Consumer Psychology, and European Journal of Marketing	
Period:	2005-2015	
Sample:	# 104 research paper	

Fig. 3: Summary Information Paper 1

Paper 2 concentrates on the specific context of sustainability certifications. It investigates the basic effects of a partial certification strategy by exploring how consumer perceptions of non-certified items are affected, and whether these perceptions carry over to product preferences and behavioral intentions (RQ2). Thereby, a distinction was made between products of the same brand and products offered by a competing brand in order to expose potential differences between intra- and cross-brand effects (RQ3). To answer these questions, a field study (Pilot Study) was conducted to examine how partial certification in a product line affected actual behavior by manipulating whether a choice set did or did not include an organic product and measuring participants' actual choices. To explain the findings, an online experiment (Study 1) assessed whether the observed effects of a partial certification strategy can be explained by attenuated perceptions of product attributes associated with the respective quality seal (mediation effect), and whether these effects differ for products of the same brand versus those of competing brands (moderation effect). Furthermore, a mixed methods approach was applied to gain deeper insights into the process underlying changes in consumer perceptions of bystander products if a certified option is present (RQ4). Hypotheses were derived based on qualitative interviews and tested in an online

experiment (Study 2). Overall, three underlying mechanisms, i.e., bystander effects, that determine consumers' evaluations of bystander products were identified, providing the basic research model for the subsequent analysis on moderating effects.

Bystander Effects of Product Certifications (Basic Model):		Paper 2
<u>Pilot Study:</u>		
Explore effects of partial certification strategy on non-certified bystander products (choice shares)		
Method:	Field Study	
Sample:	n = 102, M _{age} = 25.2, 62.7% female, 86.3% students	
<u>Study 1:</u>		
Explain identified effects (mediation through impaired bystander perceptions) and differences between same and competing brand		
Method:	Scenario-based online experiment, between-subject: 2 (certification: no vs. partial) x 2 (brand: same vs. competing) design	
Sample:	n = 283, M _{age} = 21.5, 72.4% female, student sample	
<u>Study 2:</u>		
Identify cognitive mechanisms that underlie changes in bystander perceptions		
Method:	Mixed-Methods approach: Qualitative Interviews	
Sample:	n = 14, M _{age} = 38.7, 64.3% female, mean duration = 36 minutes Scenario-based online experiment, between-subject: certification (no certification vs. partial certification) n = 85, M _{age} = 22.7, 69.4% female, student sample	

Fig. 4: Summary Information Paper 2

Following the identification of these underlying mechanisms, the third paper aims to derive practical implications that may help brand managers prevent the observed diluting effects of a partial certification strategy, as well as identify any conditions under which overall bystander effects can be turned from negative to positive (RQ5). Therefore, this paper seeks to identify and test different determinants that might affect the strength and direction of the three cognitive effects found in the basic model (Study 1-4). Additionally, a field study (Study 5) was conducted to overcome the limitation of low external validity. This study provided additional support for the previous findings, and revealed how strategic shelf-placement can prevent or promote the occurrence of bystander effects within an assortment that includes selected certified options.

Moderating Determinants of Bystander Effects (Extended Model):		Paper 3
Hypotheses for Study 1-4 were derived based on qualitative interview data (Paper2, Study 2)		
<u>Study 1:</u> Moderating effect of brand's control over certification (type of certification) on bystander effects		
Method:	Scenario-based online experiment, between-subject: certification (no certification vs. partial certification organic vs. partial certification consumer test label)	
Sample:	n = 128, M _{age} = 22.8, 73.4% female, student sample	
<u>Study 2:</u> Moderating effect of brand reputation on bystander effects		
Method:	Scenario-based online experiment, between-subject: 2 (certification: no vs. partial) x 2 (brand reputation: low vs. high) design	
Sample:	n = 135, M _{age} = 22.4, 73.5% female, student sample	
<u>Study 3:</u> Moderating effect of brand – certification fit on bystander effects		
Method:	Scenario-based online experiment, between-subject: 2 (certification: no vs. partial) x 2 (fit: low vs. high) design	
Sample:	n = 212, M _{age} = 22.2, 73.4% female, student sample	
<u>Study 4:</u> Moderating effect of pricing strategy on bystander effects		
Method:	Scenario-based online experiment, between-subject: certification (no certification vs. partial certification with same price vs. partial certification with higher price organic)	
Sample:	n = 132, M _{age} = 29.1, 89.4% female, 25.8% students	
<u>Study 5:</u> Moderating effect of shelf-placement on occurrence of bystander-effects, increase external validity		
Method:	Field experiment, manipulation: shelf-placement of certified product (closeness vs. distance to bystander)	
Sample:	n = 302, sales data	

Fig. 5: Summary Information Paper 3

The final part of this dissertation is a general conclusion, integrating the findings of the three different papers. This section summarizes key results and explains how they relate to the initial research questions, outlines theoretical contributions and derives managerial implications. Finally, limitations of the dissertation are discussed and avenues for future research are identified.

In sum, the purpose of this dissertation is to fill the gap in scholarly research on product certifications about potential consequences for uncertified bystander products induced by offering certified options in addition to the unlabeled assortment. A better understanding of such unintended side effects allows a portfolio-considering assessment of a certification's overall benefit. Different empirical approaches and the use of various different samples provide a rigorous empirical base for the derived conclusions and implications (Figure 6).

		Method	Sample Origin	n
Paper 1 "Spillover Effects in Marketing: Holistically Integrating Core Research Domains"		Literature Review and Analysis	Marketing and Consumer Behavior Journals, 2005-2015	104
	Pilot Study	Field Experiment	Visitors (University event)	102
Paper 2 "The Bright and Dark Sides of Sustainability Labeling – Exploring Unintended Effects on Non-Certified Bystander Products "	Study 1	Online Survey (scenario-based experiment)	Students	283
	Study 2	Qualitative Interviews, Online Survey (scenario-based experiment)	Mixed sample	14
			Students	85
Paper 3 "How to Avoid Negative Bystander Effects of Product Certifications? An Empirical Examination of Moderating Determinants"	Study 1	Online Survey (scenario-based experiment)	Students	128
	Study 2	Online Survey (scenario-based experiment)	Students	135
	Study 3	Online Survey (scenario-based experiment)	Students	212
	Study 4	Online Survey (scenario-based experiment)	Mixed sample	132
	Study 5	Field Experiment	Sales data	302

Fig. 6: Method and Sample Summary

B Spillover Effects in Marketing: Holistically Integrating Core Research Domains

Abstract

Spillover effects, that is, the mental inference or transfer of attributes between associated entities, are a core mechanism underlying a variety of marketing activities such as brand extensions, co-branding, ingredient branding, celebrity endorsement, sponsorship, or CoO effects. While recent studies have focused on the occurrence of such spillover effects separately within each research domain, this research develops a more holistic understanding by comparing and integrating findings from disparate streams of research. This allows for a more general perspective on spillover effects, and identifies which distinct characteristics and overall factors affect these processes. Furthermore, theories and motivational drivers underlying these effects are reviewed and a general framework of fundamental mechanisms provided. Results of both the research stream analysis and the theory review help to establish a broader understanding of spillover processes in marketing.

Additional note:

» A prior version of this paper is co-authored with Ulya Faupel (TU Dortmund University) and Prof. Dr. Hartmut H. Holzmüller (TU Dortmund University):
Wulf, Linda, Ulya Faupel, and Hartmut H. Holzmüller: „Spillover Effects in Marketing: Holistically Integrating Core Research Domains”.

This paper was submitted to the AMS Review, VHB3 Ranking: B, and invited to be revised and resubmitted.

1. Introduction

Spillover effects denote the transfer of attributes or traits between associated entities (Kim 2016; Spry, Pappu, and Bettina 2011) and are essential in a variety of different marketing domains. Companies spent \$57.5Billion on worldwide sponsorship activities in 2015 (IEG 2015; statista 2016) as well as millions of dollars on celebrity endorsers, e.g., tennis player Roger Federer (\$58Million from multiple sources in 2015; Greenburg and Robehmed 2015), actor George Clooney (estimated \$5Million per year from Nespresso since 2005; Guilbeau 2015), and singer Beyoncé (\$50Million from Pepsi; Casserly 2012). Also, many companies extended their portfolio by launching new products using established brand names, for instance, Snickers introducing ice cream bars (Mars Incorporated 2016), or IKEA entering the home-building business (Belsky 2012). Additionally, many brands refer to a certain country or region of origin to emphasize specific characteristics of a product (e.g., “Frenchness” referring to associations of “aesthetic sensitivity, refined taste, and sensory pleasure [...], elegance, flair, and sophistication” (Leclerc, Schmitt, and Dubé 1994, p. 264)). Spillover effects in different marketing areas have been the subject of a broad number of studies (e.g., co-branding: Votolato and Unnava 2006; sponsorship: Carrillat, Solomon, and d'Astous 2015; brand extension: Baumeister, Scherer, and Wagenheim 2015; endorsement: Miller and Allen 2012; Country-of-Origin (CoO) research: D'Antone and Merunka 2015).

All these strategies, as different as they may initially appear, built on the principle that knowledge of one entity (e.g., a sports club, celebrity, brand or country), causes the inference or transfer of attributes to another entity. However, though they investigate the same basic phenomenon, recent studies on spillover have been context-specific. Further, spillover effects are typically considered as a functional means to an end in the different

domains, but the underlying process itself is rarely the focus of the researchers' attention. Therefore, this research aims to contribute to the overall understanding of spillover effects in marketing by taking a more holistic perspective, and integrating findings from different research streams. More precisely, the characteristics of spillover effects in different research domains are reviewed and theoretical explanations used to explain the phenomenon are compared. Thereby, this paper aims to find whether there is common theoretical ground underlying spillover effects in different marketing domains and, if so, how such a general process can be characterized and integrated into an overall conceptual model.

Generally, there are claims that research in marketing often focuses on empirical data, while neglecting the importance of a theoretical context or explanation preceding the analysis (Rotfeld 2014). Addressing this issue, this research provides a sound theoretical foundation for researchers in different domains where spillover effects occur, and enables them to position their specific research projects within a broader spillover framework. Further, this overview and comparison of such effects in disparate research fields provides stimulation for future research in that scholars in one research domain may draw on the findings of other domains and test the applicability in their own research contexts. Finally, the framework provides guidance when investigating consumer inferences in other research areas where the perspective of spillover has not yet been applied, but may be appropriate.

Overall, this paper seeks to answer the following three questions:

1. What characterizes spillover effects in different marketing domains?
2. Which theoretical explanations are provided for the occurrence of spillover effects? Are there differences and/ or connections between different domains?

3. Does common ground underlying spillover effects exist in marketing domains?

How can such a fundamental process be characterized?

The outline of this paper is as follows: Initially, marketing domains where spillover effects are of relevance are defined, and research papers suitable for further analysis in each domain are identified. The next step focuses on the separate review and analysis of each research stream, and identification of specific characteristics relevant to the spillover mechanism. The findings in the different domains are compared in order to reveal differences and similarities. Afterwards, an overview of the most frequently used theoretical explanations is provided and a conceptual framework of the general processes of the spillover phenomenon, integrating different theoretical approaches on underlying cognitions and motivational drivers, is developed.

2. Identification of Research Domains

To identify relevant marketing-related contexts of spillover effects, this research focuses on entities that have been characterized as secondary sources of brand knowledge in extant literature (Keller 2013). In his seminal work on strategic brand management, Keller (2013) described companies, countries or geographic areas, distribution channels, other brands, characters, spokespersons, events, and third-party sources as potentially beneficial for the enhancement of brand equity via a process of knowledge transfer. In addition, the concerned brand itself is included as a potential source to account for internal spillover processes. For this analysis, these sources of spillover are grouped into three broader categories according to the relationship between the involved entities, namely into brand extension (internal branding strategy), co-branding (external branding strategies), and CoO-effects. These clusters and the identified domains are illustrated in Figure 7.

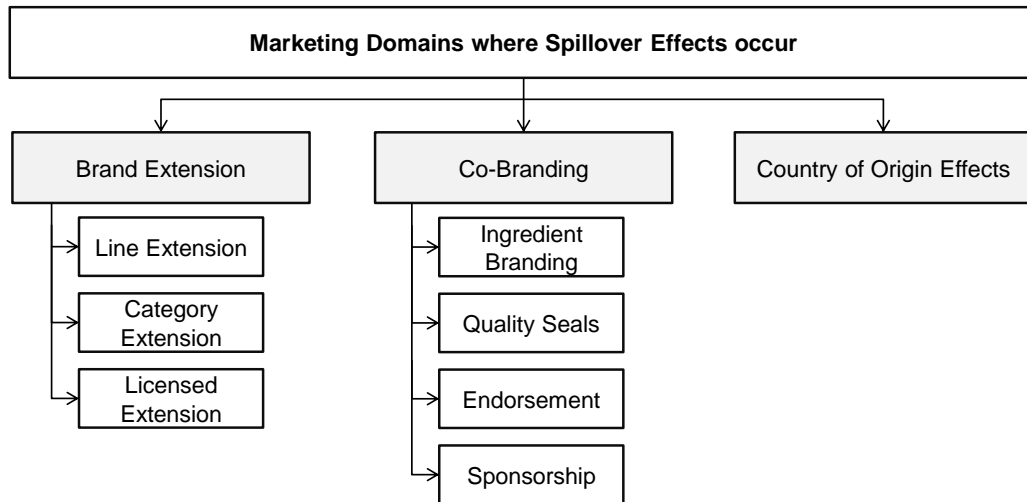


Fig. 7: Paper 1 – Identified Research Domains

Brand Extension: Within this literature analysis, brand extension, which is defined as the use of an established brand to launch new products (Aaker and Keller 1990), is considered as an in-house branding strategy (Rao and Rueckert 1994) that induces spillover effects between parent brands and extensions.

Extant literature has investigated different extension concepts and utilized varied terminology (Grime, Diamantopoulos, and Smith 2002). Namely, extensions can take place in an existing product category, often referred to as line extension (Aaker and Keller 1990; Reddy, Jolak, and Bhat 1994), or in a completely new product category, referred to as (cross-) category extension (Batra, Lenk, and Wedel 2010). A third subtype is that of extension via licensing, referring to a firm selling the right to use its brand to another organization for a lump sum or royalties (Colucci, Montagui, and Lago 2008). In all cases, the objective is “to benefit from the existing brand name’s awareness and associations” (Batra et al. 2010, p.335).

Co-Branding: Co-branding strategies can be defined as a form of brand alliance where two or more individual brands are combined and jointly presented to consumers (Geylani, Inman, and Ter Hofstede 2008; Rao et al. 1999; Simonin and Ruth 1998). A sub-category which falls in this categorization is ingredient branding, that is, the incorporation of key attributes of one brand into another as ingredients (Desai and Keller 2002), as a vertical form of co-branding (Hariharan, Bezawada, and Talukdar 2012; Helmig, Huber, and Leeflang 2008). Further, quality seals are considered as a type of co-brands, with their presence on a product evoking inferential beliefs about the item's attributes (Larceneux 2012; Patarapongsant 2008). Aside from referring to alliances between two brands (in the conventional sense), these characteristics also describe endorsement and sponsoring activities (Motion, Leitch, and Brodie 2003; Seno and Lukas 2007); extant literature has referred to celebrities as a form of human brand, and sponsored parties (such as sports teams or sponsored events) as a form of corporate brand (Abosag, Roper, and Hind 2012; Motion et al. 2003; Seno and Lukas 2007; Thomson 2006; Zamudio 2015). Sponsorship and endorsement are therefore considered as sub-categories of co-branding. These co-branding strategies are characterized by independent entities that purposefully engage in a strategic partnership to promote and benefit from spillover effects.

CoO effects: The term 'CoO effects' refers to the concept of "consumers (sub)consciously incorporating a CoO stimulus [...] as an evaluative criterion in their formation of an attitude towards a product" (Bloemer et al. 2009, p. 63). That is, consumers use information about a country or region to conjecture attributes of associated products (Berry, Mukherjee, Burton, and Howlett 2015).

3. Methodology

Following the classification in Figure 7, a literature research focusing on the identified research domains was conducted. The keywords applied to identify relevant literature were: brand alliance, brand extension, co-branding, CoO, endorsement, ingredient branding, sponsorship, quality seals, and spillover.

To ensure a reliable literature base and thereby high-quality content for the analysis, several top marketing and consumer behavior journals were identified, and their table of contents analyzed to find the selected keywords in research published between 2005 and 2015. In order to specify which journals to include, a variety of journal rankings, positioned on both qualitative peer group evaluations and quantitative citation-based criteria, were used. The following rankings were included:

- » VHB-JOURQUAL rankings (version two and three), provided by the German Academic Association for Business Research, which are based on quality assessments of both articles and reviews (Schrader and Hennig-Thurau 2009)
- » Association of Business Schools' (ABS) Academic Journal Guide (2015), a hybrid ranking based on peer reviews as well as statistical citation information and editorial judgements (ABS 2015)
- » Google Scholar-based *hg*-index (Moussa and Touzani 2010), based on earlier metric indicators, developed to rank marketing journals
- » Modified SNIP (source normalized impact per paper) indicator (Waltman, van Eck, van Leeuwen, and Visser 2013), which is corrected for differences in citation practices between scientific fields
- » SCImago Journal and Country Rank (SJR), an indicator of journals' scientific prestige, which applies citation weighting schemes and eigenvector centrality as ranking criteria (González-Pereira, Guerrero-Bote, and Moya-Anegón 2010)

- » GeMark (2011, 2016), a bibliometric ranking focusing on the German speaking marketing community and references used by German academics (Voeth, Loos, and Herbst 2011)
- » ABDC journal quality list, provided by the Australian Business Deans Council (ABDC), supported by public submissions, qualitative and quantitative data assessment, public exposure feedback and international expert consultation (ABDC 2013).

The different rankings were compared and those journals most frequently evaluated as one of the top 10 according to the respective ranking's criteria were identified. Based on overall agreement, six high-quality journals were found: *Journal of Marketing*, *Journal of Marketing Research*, *Journal of Consumer Research*, *Marketing Science*, *Journal of the Academy of Marketing Science*, and *Journal of Retailing*. Three additional journals were named as top 10 in numerous different rankings and, therefore, also included in further analysis; these are the *International Journal of Research in Marketing*, *Journal of Consumer Psychology*, and *European Journal of Marketing*. To further ensure content-related fit, journals that cite the seminal paper on spillover effects by Simonin and Ruth (1998) most frequently were examined (Web of Science Citation Report 2016). The journals with the most frequent citations included five of these nine top journals, confirming the presented choice of literature as adequate for the subject of a spillover literature analysis.

After examining the journals for research published within the defined time period from 2005 to 2015, 104 articles were identified, including conceptual and empirical papers (Figure 8; detailed information in Appendix A). The identified articles provided the literature base for the following analyses.

		Journal									
Research Domain	#	JM	JMR	JCR	Market Sci	JAMS	JR	IJMR	JCP	Eur J Mark	Σ
	Brand Extension	5	5	5		8	1	5	6	5	40
	Co-Branding				2	1			1	3	7
	Ingredient Branding										0
	Seals of Quality										0
	Endorsement	1			1			3	2	6	13
	Sponsorship	1		1		5		2	1	11	21
	Country of Origin Effects			2	1	2	3	4	1	5	18
	Others (Categories, Competitors)	2	2	1							5
	Σ	9	7	9	4	16	4	14	11	30	104

Fig. 8: Paper 1 – Sources for Literature Analysis

However, as can be seen in Figure 8, there has been no paper on spillover effects, in the context of ingredient branding and quality seals, published within the defined time frame and journal selection. In order to include these domains in our analysis, the search for relevant research papers was broadened by allowing earlier times of publication (e.g., Desai and Keller 2002) as well as more specific journals (e.g., food marketing).

In addition, seminal works within other domains (typically published before 2005) found to be frequently referred to were included in the analysis (e.g., Reddy, Jolak, and Bhat 1994; Simonin and Ruth 1998). Finally, as can be seen in Figure 8, five research papers that explicitly investigated spillover effects, but did not specifically fit into the predefined clusters (e.g., spillover between competing brands), were included.

4. Literature Review and Analysis of Spillover Research in Different Marketing Domains

In this section, an overview of spillover-related research within the different domains is provided. Specific characteristics regarding the relation between the partnering entities as well as consequences for spillover effects and managerial issues are outlined and summarized in Table 1. Detailed findings in each research domain are presented in the following sections.

4.1. Brand Extension

Brand extension has been defined as the use of an established brand to launch new products (Aaker and Keller 1990). It is referred to as the most common method for introducing new products into a market and is frequently used to leverage brand equity (e.g., Balachander and Ghose 2003; Keller 2013; Kim and John 2008; Milberg, Sinn, and Goodstein 2010). Objectives focus on successfully introducing new products by strategically using established brand names to reduce risks of failure and costs (e.g., for distribution or promotion) (Aaker and Keller 1990; Reddy et al. 1994).

In this context, spillover occurs in the form that positive associations from a pre-established, strong brand name are inferred on a newly launched product. Essentially, spillover in brand extension can occur in two directions, that is, from the core or parent brand to the extension (i.e., forward effect) as well as reciprocally, from extension to parent (i.e., backward effect). The latter is also referred to as the feedback effect (Buil, Chernatony, and Hem 2009; Caldieraro, Kao, and Cunha Jr. 2015; Martínez and Pina 2010). These effects can differ in their favorability, with a potential negative substitution effect of extensions on the one hand (e. g., new products cannibalizing established ones, especially if parent and extension brand are highly similar), and

Table 1: Summary of Research Stream Characteristics

	RESEARCH DOMAIN						
	Brand Extension	Co-Branding	Ingredient Branding	Quality Seals	Endorsement	Sponsoring	CoO Effects
Definition	Use of an established brand to launch new products (Aaker & Keller 1990)	Form of brand alliance in which two or more independent brands are jointly presented to consumers (e.g., Rao & Rueckert 1999; Simonin & Ruth 1998)	“Key attributes of one brand are incorporated into another brand as ingredients” (Desai & Keller 2002, p.73)	“Used [...] to certify regional or other origin, material, mode of manufacture, quality, accuracy, or other characteristics” (Public Law 489, p.19)	Endorser: “any individual who enjoys public recognition and who uses this recognition on behalf of a consumer good by appearing with it in an advertisement” (McCracken 1989, p.310)	“Provision of assistance either financial or in kind to an activity by a commercial organisation for the purpose of achieving commercial objectives” (Meenaghan 1983, p.9)	Effects induced by a product’s CoO; “consumers (sub)consciously incorporating a CoO stimulus [...] as an evaluative criterion in their formation of an attitude towards a product” (Bloemer et al. 2009, p.63)
Managerial Objectives	Introducing new products; benefit from a strong brand’s leverage	Uncertainty reduction; presence of attributes/ image transfer , attractiveness	Uncertainty reduction; presence of attributes/ image transfer , attractiveness	Certify certain product characteristics	Choice of “ best endorser ”, increase attractiveness	Image transfer , increase brand awareness	Benefit from CoO associations
Hierarchy of Partners	Depending on extension type	Partnering brands can be of dominant or of equal strength	Clear distinction between host and ingredient	No hierarchy	Central meaning of individual persons (endorser)	Dominant role of sponsored entity	No hierarchy

	RESEARCH DOMAIN						
	Brand Extension	Co-Branding	Ingredient Branding	Quality Seals	Endorsement	Sponsoring	CoO Effects
Dependency of partners	High degree of interdependence	Autonomous partners					Autonomous partners
Degree of Intent	Strategically initiated	Strategically initiated					Inherent, strategic communication or disguise
Direction of Spillover effects	Reciprocal, from parent brand to extension (forward) and backwards	Reciprocal	Reciprocal	Unilateral, from certification to brand	Unilateral, from endorser to product	Unilateral, from sponsored source to sponsoring entity	Mostly unilateral, from CoO/region to brand
Risks	Intra-brand cannibalization; Undesired associations for core brand induced by falsely chosen extension	Overshadowing effects (for less-known brands partnering with prominent ones)	Cannibalization effects	Consumer information overload	Harmful effects of negative celebrity information (due to high public attention) such as scandals	Risk of bad performance, negative communication and scandals about sponsored entity	Negative image of CoO (e.g., China) Legal restrictions
Managerial Controllability	High, in-house activities/ no dependency on external partners	High, brand alliances and respective spillover processes are strongly determined by management-based factors	High, strongly determined by management-based factors	High, brands can actively choose to perform according to a certification's requirements	Medium, free choice of well-fitting endorser; Direct form of communication enables desired associations to be communicated	Low, strong dependence on partner's performance (often only partly self-determined)	Limited to communication means

positive spillover of attributes on the other (Balachander and Ghose 2003; Carter and Curry 2013).

Furthermore, falsely chosen extensions can dilute the core brand by inducing negative or undesired associations (Aaker and Keller 1990). Overall, their shared affiliation causes a higher interdependence between partnering entities in brand extensions when compared with other research domains. However, this approach also increases managerial controllability as both brands involved in the spillover process are controlled by the same sources. In case of extension via licensing, the firm's control over the brand management is somewhat reduced as certain rights are assigned to another manufacturer, depending on the specific licensing contract (Colucci et al. 2008). Additional considerations include risks of overexposure or negative effects on the parent brand in case of incongruent extensions (Colucci et al. 2008; Keller 2013).

Due to the frequent usage of brand extensions, numerous studies have focused on determinants and moderating factors of spillover in this domain, such as consumer involvement and mood (Barone 2005), culture (Buil et al. 2009; Monga and John 2007), self-regulatory focus (Yeo and Park 2006), consumer innovativeness (Martínez and Pina 2010), brand attachment (Fedorikhin, Park, and Thomson 2008), brand extension authenticity (Spiggle, Nguyen, and Caravella 2012), technological direction of extension (He and Li 2010), competitive context (Milberg et al. 2010), brand name structure (Sood and Keller 2012) or perceived advertising effort (Sattler, Völckner, Riediger, and Ringle 2010).

To investigate the relative importance of different identified success factors, Völckner and Sattler (2006) considered the results of 45 empirical studies covering the period from 1985 to 2001. Of the 10 key factors derived as a result, fit between parent brand and extension product was found to be of the highest relevance in determining

extension success. Völckner and Sattler (2007) further examined the empirical generalizability of existing brand extension research results, using data from hypothetical and real extensions, including different FMCG product categories, parent brands, samples, and success measures. They found that many prior results generalize across the named areas, with perceived quality of the parent brand and global similarity between the core brand and the extension being the most dominant factors in determining perceived quality of the extension (i.e., extension success). Overall, strength of the parent brand and fit emerge as the central factors relevant to success.

Loken et al. (2010) reviewed research on brand extensions from the 1980s to 2009. They identified parent brand related factors (i.e.; commitment, trust, liking, and experience), brand extension consistency, and information prominence and accessibility as three key determinants of brand extension acceptance.

All in all, there exists an abundance of marketing research investigating spillover effects in brand extension, focusing on effects from parent to extension brand and vice versa, considering both enhancing and impairing conditions. Brand extensions are strategically initiated to benefit from the leverage of an established brand and facilitate new product launches. However, to prevent harming the own brand by inducing negative feedback effects or intra-brand cannibalization, potential diluting effects must be considered.

4.2. Co-Branding

Many different terms refer to co-branding activities (e.g., Besharat 2010; Erevelles, Horton, and Fukawa 2008; Hariharan 2012; James 2006; Simonin and Ruth 1998). While definitions differ somewhat in their delineations, most agreed with co-branding being a form of brand alliance (strategic intent) in which two or more independent

brands (autonomous partners) are jointly presented (visibility) to consumers (e.g., Erevelles et al. 2008; Helmig 2008; Rao and Rueckert 1999; Seno and Lukas 2007; Simonin and Ruth 1998; Swaminathan 2006).

Unlike other research domains, partners engaging in co-branding activities do not inherently share cognitive associations due to their affiliation or regional belongingness, and the desired associations may be not immediately apparent (Becker-Olsen and Simmons 2002; Simmons and Becker-Olsen 2006). However, because such a cognitive association is necessary to achieve the intended spillover effects, it can be created through the specific indication of the entities' less obvious shared features. Those can be, for instance, product-related attributes (required for basic functionalities), non-product-related attributes (e.g., user and usage image, customer base, situations in which products are typically used, or brand personality), benefits (i.e., personal value) attached to a product (e.g., functional benefits caused by consumption or usage, experiential benefits leading to emotional attachment, symbolic benefits corresponding to underlying needs and self-concept such as prestige or trendiness), or brand attitudes (overall consumer evaluation of a brand; Keller 1993; Smith 2004). Thus, even if two partners are not inherently associated, communication of shared features can help to establish cognitive connections and, therefore, enable spillover processes. This principle constitutes an overall base for the sub-categories of co-branding, which are discussed in the following sections.

Research on co-branding has often been conducted in a context of uncertainty reduction (Rao and Rueckert 1994; Rao, Qu, and Rueckert 1999). As co-branding is often related to the launch of new products, consumer uncertainty is relatively high; as a consequence, similar to the extension context, inferences are made based on the constituent brands, of which consumers have established a concept of associations

(Besharat 2010; Keller 1993; Washburn, Till, and Priluck 2000). Rao and Rueckert (1994) distinguished between two rationales for joint branding activities: First, experience goods with unknown or unobservable product quality may invest in brand alliances to profit from the partner's quality image, thereby signaling assurance to consumers. Second, for products with observable quality, an "additional brand name provides information about the presence of attributes that may make the jointly branded product more attractive" (p. 90). Hence, a major objective of co-branding activities is to benefit from spillover processes by forming an alliance and, thereby, building associations with a respective partner to signal a certain standard of quality or presence of attributes.

Various factors that influence the transfer of attributes from one partner to another have been investigated in co-branding research. A seminal study was conducted by Simonin and Ruth (1998), examining whether "brand alliance evaluations 'spill over' on subsequent evaluations of the individual partner brands" (p. 31). The authors found that consumers' attitude toward an alliance indeed affects their post-attitudes toward the partnering brands, whereby the impact may differ in strength for the different partner brands, and brand familiarity moderates the detected spillover effects. Based on their findings, Simonin and Ruth (1998) proposed brand alliances as a marketing opportunity with considerable potential to improve associations by drawing on spillover effects.

Several studies have considered particular conditions under which co-branding strategies may serve as reinforcement, but also have detrimental effect on one of the partnering entities. For instance, Park, Jun, and Shocker (1996) investigated spillover effects in composite branding alliances; that is, a combination of "two existing brand names to create a composite brand name for a new product" (p. 453). They found that an extension's attribute profile mostly benefits from a combination of two

complementary brands, resulting in increased consumer choices and preferences. However, feedback effects on the header brand are limited, especially if the brand is of high favorability. Geylani, Inman and Hofstede (2008) investigated influences of co-branding activities on attribute uncertainty, demonstrating that in the case of two brands highly distant in terms of expected attribute value, co-branding activities can impair branding partners by increasing uncertainty about the co-branded product. Similarly, Cunha, Forehand and Angle (2015) demonstrated how different timing effects can either help or hurt less-known brands. They found that, when presented simultaneously, partnering with established brands can dilute evaluations of the lesser-known brands, as the latter are unable to establish strong associations with the co-branding outcome when prominent brands are present (i.e., positive outcomes are associated with the stronger brand). This effect can be prevented by a time delay between brand exposure and feedback information on product benefits due to adaptive learning processes. Thus, fit between partnering brands as well as brand strength emerge as relevant determinants.

Votolato and Unnava (2006) examined conditions under which negative spillover is likely to occur, depending on the type of partnership and misbehavior. They distinguished between spokesperson and supplier alliances, finding that moral transgressions are more detrimental in the former, while for the latter, competence failures are more unfavorable for attitudes towards the partnering brand. However, negative spillover only occurred when the partnering brand was linked to the negative act and regarded as equally culpable for the misbehavior.

Swaminathan et al. (2015) distinguished between two ways in which consumers interpret co-branded partnerships: property mapping versus relational linking. When utilizing property mapping, salient attributes are plotted from one partner to the other, while relational linking focuses on how two allied partners are related (e.g.,

functionally). In their study, Swaminathan et al. (2015) investigated the usefulness (i.e., consumers' evaluation) of either attribute-complementary or attribute-similar co-branded partnerships, depending on the type of interpretation strategy. The authors found that when property mapping (relational linking) is used, consumers favor complementary (similar) co-branded partnerships. Breadth of a host brand and advertisement were identified to influence consumers' preferences for a certain interpretation strategy, which, in turn, relates to a greater perceived usefulness of the one or other type of co-branding partner.

Further, a variety of studies have demonstrated how spillover effects of co-branded relationships are moderated by brand attributes, e.g., brand credibility (Aghdaie et al. 2012), brand favorability (Suh and Park 2007), brand equity (Washburn et al. 2000), or brand identity fit (Xiao and Lee 2014) as well as consumer attributes such as consumer coping (Xiao and Lee 2014), commitment (Ahluwalia et al. 2001), or familiarity with the brand (Simonin and Ruth 1998; see Helmig, Huber, and Leeflang 2008 for an overview of success factors for spillover effects in co-branding).

Overall, this review found that spillover effects investigated in co-branding research between two autonomous brands are typically of a reciprocal kind. There may be situations in which one brand is stronger than the other, or both partners may be of equal strength, status, or degree of popularity. In both cases however, there is no fixed direction of spillover effects, as they can occur in both ways. The motives of uncertainty reduction and image transfer play an important role for establishing co-branding activities, such as the fact that allying with a well-known brand assures consumers about a certain level of quality or presence of certain attributes of the co-branded product (Dean 1999; Rao and Rueckert 1994). From a management perspective, co-branding provides a strategic opportunity to alter or improve a brand's associations with a high

degree of influence. As brands are purposefully created entities, management-based factors have a strong role in determining brand alliances and respective spillover processes; this is in opposition to the importance of source-based factors in other domains, such as endorsement or sponsorship, which rely more on the external partner (Park et al. 1996; Seno and Lukas 2007).

4.3. Ingredient Branding

Ingredient branding, in which “key attributes of one brand are incorporated into another brand as ingredients” (Desai and Keller 2002, p. 73), constitutes a vertical form of co-branding (Helmig et al. 2008), with the partnering brands being referred to as host brand and ingredient brand. As this type of branding is a sub-case of co-branding, conceptual models of the latter can be applied; few studies identified in the literature review specifically focus on spillover in ingredient branding partnerships. One frequently cited study is that by Desai and Keller (2002), who investigated the effects of different ingredient branding strategies on consumer acceptance of line extensions and host brand extendibility (i.e., consumer evaluation of subsequent category extensions). Conceptually, they distinguished between slot-filler expansions (“involving modification of a current attribute”; p.74) versus new attribute expansions (“involving the addition of new attribute”; p.74) and co-branded versus self-branded ingredient branding. The authors found that in case of slot-filler expansion, co-branded ingredient branding facilitates acceptance of the initial expansion, while a self-branding strategy benefits subsequent category extensions. For new attribute expansions, a co-branded strategy leads to more favorable evaluations of both the initial and subsequent extension.

Swaminathan, Reddy and Dommer (2012) demonstrated a behavioral spillover impact of ingredient branding. Utilizing panel data from a field setting, they showed that the trial of co-branded products enhances purchase probability of both host brand and ingredient brand. Similarly, Hariharan, Bezawada, and Talukdar (2012) examined factors that directly affect trial and repeat purchases of co-branded extensions (i.e., parent brand loyalty and category involvement), as well as spillover effects from the extension on host and ingredient brands. Regarding the latter, the authors found that co-branded extension purchase has a negative impact on the host brand due to cannibalization effects while positively affecting ingredient brand purchase likelihood, which is only partly in line with the findings of Swaminathan et al. (2012).

Unlike in co-branding research, partnering entities in ingredient branding can be clearly distinguished in the categories of host or ingredient. Spillover may occur in both directions; however, empirical studies differ in their results concerning whether these effects vary for the one or other type of partner in being positive or negative.

4.4. Quality Seals

Quality seals belong to the category of certification marks, which can be defined as “a mark used upon or in connection with the products or services of one or more persons [...] to certify regional or other origin, material, mode of manufacture, quality, accuracy, or other characteristics of such goods or services, or that the work or labor on the goods or services was performed by members of a union or other organization” (Public Law 489, p.19). Thereby, the presence or absence of a particular characteristic or conformance with predefined standards qualifies goods to carry a respective certification mark (Desai 2016; D’Souza et al. 2007; Laric and Sarel 1981; Taylor 1958). Extant research has applied the framework of co-branding (i.e., “certification

cobranding” (Patarapongsant 2008)) to assess how such certifications which “constitute specific types of brands” (Larceneux 2012, p. 89), affect consumer product evaluations due to the inferential beliefs that arise from their presence on a product (Larceneux 2012, Patarapongsant 2008). These inferences often surpass descriptive beliefs which are in fact guaranteed by the certification. For instance, studies have found that consumers associate better taste, higher quality or healthiness with organic products, although organic labels typically certify neither of these benefits (Hughner et al. 2007; Larceneux 2012; Mondelaers et al. 2009; Sörqvist et al. 2013). Unlike co-branding arrangements between two conventional brands, employing a certification mark results in rather unilateral spillover effects from the certification to the labeled product. These effects are generally positive, so long as the label is perceived as trustworthy and its source as credible (Haenraets et al. 2012). Managerial controllability for this form of co-branding is high, as brands can deliberately choose to perform according to a certification’s requirements in order to gain certification. However, a potential risk arises from the growing number of certification marks available, which can lead to information overload (Langer, Eisend, and Kuß 2008).

Interestingly, extant research in the field of marketing has not yet focused significant attention on the use of certification marks as a strategic tool to exploit spillover effects (Patarapongsant 2008; in general, no paper on product certifications were identified in the top marketing journals used as the literature base for this research). So far, most studies investigating certification marks and their effects on consumer perceptions have been conducted in the context of food.

4.5. Endorsement

Endorsement is a widely used marketing strategy that builds on spillover principles; the term endorser denotes “any individual who enjoys public recognition and who uses this recognition on behalf of a consumer good by appearing with it in an advertisement” (McCracken 1989, p. 310). Endorsements are used by consumers as extrinsic cues to draw inferences about product attributes (Dean 1999). A basic distinction of endorsement was made by Friedman and Friedman (1979), who separated the types of endorser into three categories: celebrities, professional experts, and typical consumers. Thereby, they defined a celebrity endorser as “an individual who is known to the public (actor, sports figure, entertainer, etc.) for his or her achievements in areas other than that of the product class endorsed”, a professional expert endorser as “an individual or group possessing superior knowledge regarding the product class endorsed [...] obtained [...] as a result of experience, study, or training”, and a typical consumer endorser as “an ordinary person who is expected to have no special knowledge of the product-class endorsed except that acquired by normal use of the product” (p. 63).

The different types of endorsement differ slightly in their method of persuasion and reasons for attribute transfer, i.e., attitudes toward a product can be adopted because people like the person endorsing it or judge the attitude as consistent with their self-concept (confirmative motive), or because people “believe in the substance of the new attitude” (Friedman and Friedman 1979, p. 64) and find it useful for solving a certain problem (Dean and Biswas 2001). Thus, different types of endorsement vary in how strongly they rely on the concepts of likeability and attractiveness, expertise, and trustworthiness. Consequently, a connection between product category and the type of endorser, in terms of effectiveness, has been confirmed in various studies (e.g., Dean and Biswas 2001; Erdogan 2001; Friedman and Friedman 1979).

A primary objective within the research domain is the choice of the ‘best’ endorser; over time, different theoretical and conceptual approaches regarding this specific issue have dominated endorsement literature. Foundations were laid by the Source Credibility Model (Hovland et al. 1953), postulating that credibility strongly influences the effectiveness of a communication source, whereby the concept of source credibility is comprised of two key factors: expertise and trustworthiness (Hovland et al. 1953; Ohanian 1990). This approach was followed by the Source Attractiveness Model (McGuire 1985), stating that a message’s effectiveness depends on similarity, familiarity and liking (caused by a source’s physical and social attractiveness) of the endorser (Erdogan 1999; McGuire 1985). In an integrative approach, Ohanian (1990) identified three central dimensions of the source credibility construct, namely expertise, trustworthiness and attractiveness. These theories are referred to as “source models”, and focus on characteristics of the communication source, i.e., the endorser (Erdogan 1999).

The general idea of fit in a product-endorser interrelationship was initially addressed in the match-up hypothesis, “which in general suggests that the message conveyed by the image of the celebrity and the image of the product should converge in effective advertisements” (Kamins 1990, p. 5). Thus, there is a “need for convergence” between the endorser and the nature of the product to enhance the effectiveness of communication (Kamins 1990; Kamins and Gupta 1994; Kahle and Homer 1985). For instance, Kamins (1990) showed that attractive spokespeople only lead to more positive evaluations of attractiveness-related products. Kamins and Gupta (1994) found that using a spokesperson with a high product congruence image leads to higher spokesman believability and attractiveness for celebrity endorsers. In a more recent study, Lee and Thorson (2008) extended these findings by regarding congruence as a continuum

instead of comparing the two extremes of high versus low congruence. They found that a moderate mismatch of product and endorser image lead to the highest purchase intentions, compared to the result of high and no congruence conditions, especially with high-involvement consumers. As potential explanations, the authors named higher curiosity, interest and arousal caused by moderately incongruent endorsements due to novelty and a moderate degree of unexpectedness.

The meaning transfer model (McCracken 1989) is a strong conceptual enhancement in the endorsement literature, investigating how meanings move within the endorsement process, from celebrity via product to consumer. McCracken used the term “meaning” to describe a person’s distinctive features such as “status, class, gender, and age, as well as personality and lifestyle types” (p. 312), but also applied it to culturally acquired symbolic properties. According to the model, celebrities develop interconnected, unique sets of meanings through their behavior and roles on the public stage. Afterwards, advertisements suggest associations between a celebrity and a product, thus enabling the transfer of endorser-related meanings to the endorsed product. Finally, the product offers consumers a materialized way to gain access to the desired attributes embodied by the endorsing celebrity. The model contributes to a differentiated understanding of how endorsers’ symbolic properties enter the spillover process and are transferred to products via advertising.

Overall, it was found that existing research on endorsement focused on unilateral spillover processes from endorser to product (with an exception provided by Seno and Lukas (2007), which assumed that brand image can indirectly spill over to celebrity equity through influencing celebrity image). Thereby, the central meaning of individual persons constitutes a characteristic feature. Due to the significant public attention, the harmful effects of negative celebrity information, such as scandals, have been the

subject of several studies (e.g., Carrillat et al. 2013; Erdogan 1999; Till and Shimp 1998; White et al. 2009). These studies emphasized the importance of choosing an endorser carefully. However, despite this potential hazard, the use of endorsement to induce spillover effects offers a moderate degree of controllability, as a brand is free to choose a well-fitting endorser from a variety of potential individuals. Due to the direct manner of communication in forms of endorser advertisements, it is possible for brand managers to control what kind of association is communicated, as well as to selectively communicate favorable information, while screening out less favorable material, to enhance celebrity and brand image (Seno and Lukas 2007). Thus, the process of spillover can be actively influenced by managerial factors in endorsement partnerships.

4.6. Sponsorship

Sponsorship is another co-branding strategy in which the generation of spillover effects in forms of image transfer constitutes a major objective (besides increasing brand awareness; Carrillat et al. 2010; Pope et al. 2009; Schnittka et al. 2013; Smith 2004). To account for the variety of activities and entities comprised within the term, Meenaghan (1983) broadly defined sponsorship as “the provision of assistance either financial or in kind to an activity by a commercial organisation for the purpose of achieving commercial objectives” (p. 9). From the company perspective, sponsorship is a marketing communication strategy, differing from advertising in terms of perceived goodwill, and acting as a more subtle, disguised form of persuasion (Meenaghan 2001). Typical domains of sponsorship include sports, culture, arts, charities or media (Baumgarth 2014; Smith 2004; Zdravkovic and Till 2012).

Conceptual sponsorship models follow approaches from the endorsement literature. The image transfer model by Gwinner (1997), which adapts McCracken’s (1989)

meaning transfer model to the sponsorship context, is frequently cited. According to Gwinner, the image of an event (i.e., the sponsored party) is determined by several antecedents, such as event type, event characteristics and individual factors. Similarly, Smith (2004) distinguished external and internal sponsorship factors (e.g., domain, composition, brand knowledge) as antecedently influential on consumer perceptions of sponsorship. Both conceptualizations include variables moderating the image transfer process, such as degree of similarity, level of sponsorship, event frequency and involvement (Gwinner 1997; Gwinner 1999) as well as consumers' assessment of quality and fit between the sponsor and the sponsored party (Smith 2004). Further moderating variables reported in empirical studies include, for instance, familiarity with the brand or cause (Carrillat, Lafferty, and Harris 2005; John et al. 2006; Zdravkovic, Magnusson, and Stanley 2010), team identification (Grohs et al. 2015; Ngan, Prendergast, and Tsang 2011), type of sponsorship (Mazodier and Rezaee 2013), whether the team contains a star (Ngan, Prendergast, and Tsang 2011), emotional attachment (Abosag et al. 2012), and consumer involvement (Schnittka et al. 2013).

The positive influence of fit on the image transfer process is central to sponsorship research and has been empirically supported in a large number of studies (e.g., Baumgarth 2014; Schnittka et al. 2013; Simmons and Becker-Olsen 2006; Zdravkovic and Till 2012). Carrillat et al. (2010) showed that even for concurrent sponsors, a similar underlying brand concept (i.e., high fit) can lead to fortuitous brand image transfer. If the desired association is not immediately apparent (low "native fit"; e.g., for a tobacco company sponsoring a sports event), external resources can be used to focus consumer attention in the preferred direction ("created fit"), and to explain how a sponsor fits with a certain cause (Becker-Olsen and Simmons 2002; Cornwell et al. 2006; Simmons and Becker-Olsen 2006). Thereby, articulation is most effective in an

incongruent sponsor-event pairing, but is rather superfluous if a strong perception of fit already exists (Cornwell et al. 2006). Further, negative effects of low fit can be mitigated by the source of a message, i.e., nonprofit message source versus company source (Simmons and Becker-Olsen 2006).

Compared to other co-branding contexts, sponsorship is characterized by a lower degree of controllability in terms of the partners', i.e., the sponsored party's performance, which is often only self-determined in part. Pope et al. (2009) demonstrated through two longitudinal field experiments that disappointing Formula One team performance negatively spills over to the perception of the sponsor's brand quality and corporate image. Similarly, Schnittka et al. (2013) found that unfavorable information about a sports event negatively spills over to the attitude towards the event sponsor, with regard to factors such as, for example, satisfaction, sympathy, and trustworthiness. Thus, regarding desired outcomes of image transfer, sponsors strongly depend on the performance of the sponsored party, increasing the risks associated with negative communication and scandals. This dependency reflects the dominant role of the sponsored entity in the spillover process. Accordingly, sponsorship research has concentrated on unilateral spillover effects, mainly investigating the transfer of image from a sponsored source to the sponsoring entity, while the sponsored party mostly benefits from financial or in kind assistance instead of spillover profits.

4.7. Country-of-Origin Effects

Effects induced by information on a product's CoO have been the subject of investigation for some time, with Dichter (1962) calling for marketing managers to take a countries' distinct characteristics and needs into account, along with existing prejudices toward different nations that may influence customer perceptions. He states

that “the little phrase ‘made in’ can have a tremendous influence on the acceptance and success of products over and above the specific advertising techniques used by themselves” (p. 116).

Following Dichter’s research, more than 1,000 articles have been published in the field of CoO research (Newman et al. 2014; Usunier 2006). CoO effects have been referred to as “a specific marketing phenomenon, i.e. consumers (sub) consciously incorporating a CoO stimulus [...] as an evaluative criterion in their formation of an attitude towards a product” (Bloemer et al. 2009, p. 63). Different country-related concepts have been applied, such as a country’s overall image (Koschate-Fischer et al. 2012), country as a manufacturer (Hong and Kang 2006) or exemplar brands of a country (D’Antone and Merunka 2015). Further, distinctions between cognitive, affective and normative CoO cues and effects have been made (Bloemer et al. 2009; Chen et al. 2014; Laroche et al. 2005).

A variety of specific constructs have been developed and empirically demonstrated to affect CoO processes, such as ‘perceived brand globalness’ (Steenkamp, Batra, and Alden 2003; Davvetas et al. 2015), ‘corporate brand category-brand image fit’ (Lopez, Gotsi, and Andriopoulos 2011), perceived brand origin (in contrast to factual brand origin (Magnusson et al. 2011)), and confidence in brand origin identification (Zhou et al. 2010). Other empirically investigated moderators include consumer ethnocentrism (Chryssochoidis et al. 2007), evaluation modes (Chu et al. 2010), consumer expertise (D’Antone and Merunka 2015), structure of country image (i.e., strengths of cognitive, affective, and conative components (Laroche et al. 2005)), and degree of prototypicality or level of country development (Magnusson 2014).

Bloemer et al. (2009) defined and classified four different types of occurring CoO processes – namely the halo, summary construct, default heuristic, and product-attribute

effects – and integrated them into a theoretical framework building on the elaboration likelihood model (Petty and Cacioppo 1986). All four types refer to a “rational processing of descriptive, inferential and/or informational beliefs one associates with a particular country’s products in order to arrive at an overall evaluation of the product being confronted with” (Bloemer et al. 2009, p. 68). However, the types differ in their strength, in terms of whether they have a direct or indirect effect on evaluation, and in the kind of information processing, that is, peripheral versus central processing. The authors named prior knowledge about the country, predictive and confidence values of a cue, a person’s motivation and ability to engage in cognitive processing, additional product information, and time interval as determinants for the occurrence of a certain CoO effect.

Another conceptual model focused on spillover effects is the brand origin meaning transfer model by D’Antone and Merunka (2015). Built on triadic semiotic theory (Grayson and Martinec 2004) and analogic learning theory (Gregan-Paxton and John 1997), the brand origin meaning transfer model integrates the two stages of classification (i.e., brand origin (BO) identification) and inferences from BO to brand image (i.e., BO meaning transfer) into one theoretical framework. The authors distinguished between indexical and iconic BO cues that trigger a respective BO identification process and determine whether it is more likely that country-related or exemplar brand-related knowledge will be assessed. Further, the degree of consumers’ BO-related knowledge influences whether they are likely to adapt an attribute-based (i.e., a similar-to-exemplar transfer process) versus relation-based transfer (i.e., a schema-based transfer to brand image).

A distinctive feature of the CoO context is that, in contrast to extension or co-branding, the partnering entity from which attributes or image are transferred, i.e., the

country, cannot be strategically chosen, but is inherent in the majority of cases. Thus, the scope of action available to make use of CoO effects is limited to communication, such as to certify products made in a certain region or country with a particular CoO label (Berry et al. 2015) to attract consumers' attention, or use of brand names to emphasize or also disguise associations with a regional belongingness (e.g., for high-quality firms suffering from negative CoO image (Zhang 2015)). Further, conceptualizing and clearly delineating CoO to adequately operationalize it, and investigating the resulting effects is difficult due to the higher degree of complexity, resulting in a greater amount of research investigating conceptual issues (e.g., Bloemer et al. 2009; D'Antone and Merunka 2015; Lopez, Gotsi, and Andriopoulos 2011; Zhang 2015).

Analysis for this research revealed that the direction of spillover effects investigated in CoO research is predominantly of a unilateral kind, i.e., it focuses on inferences made from a country to a product or brand (exceptions are studies by Magnusson et al. (2014) and Gotsi et al. (2011), who investigated spillover effects from transgression by prototypical brands, and corporate image on country image). This unilateral focus emphasizes the significance of a thorough understanding and a proper conceptualization of the CoO construct.

5. General Determinants of Spillover Effects

Aside from the specific characteristics of each research domain, this research identified several determinants that are of relevance in all activities. One such determinant is fit-related variables, referring to how similar or congruent two entities are, for instance, in terms of image or associations (e.g., Kamins 1990; Simmons and Becker-Olsen 2006; Smith 2004; Völckner and Sattler 2007). Along the general importance of fit to facilitate

and strengthen mental connections between two partnering entities, there are several context-adapted fit constructs, such as parent brand extension fit (Völckner and Sattler 2006), brand extension consistency (Loken et al. 2010), product/spokesperson image congruence (Kamins and Gupta 1994), and brand origin-extension fit (Sichtmann and Diamantopoulos 2013), all of which refer to the same underlying concept.

A second communality of research in the different contexts is found in moderators focused on consumer attributes, for instance, consumer involvement (Barone 2005; Hariharan et al. 2012; Schnittka et al. 2013), commitment (Ahluwalia et al. 2001), or familiarity with the brand (Carrillat et al. 2005; John et al. 2006; Simonin and Ruth 1998; Zdravkovic et al. 2010), emotional attachment (Abosag et al. 2012), and consumer expertise (D'Antone and Merunka 2015).

Finally, all contexts investigated for this research concentrate on brand- (i.e., entity-) related moderators, influencing what information is transferred and whether this information is positive or negative. Examples are brand credibility (Aghdaie et al. 2012), brand favorability (Suh and Park 2007), brand equity (Washburn et al. 2000), breadth of a host brand (Swaminathan et al. 2015), and perceived quality of the parent brand (Völckner and Sattler 2007).

Overall, this literature review and subsequent analysis of different research streams provide a comprehensive understanding of characteristics that determine the specific relational setting between partnering entities involved in spillover processes in marketing activities. Differences were found in the partners' hierarchy and dependency as well as the strategic intent of the partnership. These properties affect the spillover process in that they determine its direction; while, for conventional brands and partners of balanced power, reciprocal spillover occurs, relations with one dominant partner induce mainly unilateral spillover from the more to the less dominant entity. In the case

of the latter, there are also consequences of higher risks and lower managerial controllability due to a stronger dependence on the dominant partner's performance or overall image. In contrast, strategic partnerships with external brands, quality seals and in-house branding strategies offer more opportunity for managerial influence. However, the risk of intra-brand cannibalization and the transfer of undesired associations must be considered.

6. Conceptual Framework of Spillover Effects

Following the analysis of characteristics of spillover effects in different marketing domains, this chapter addresses the second and third research questions by focusing on theoretical explanations and concepts outlined in the extant research to explain the occurrence of spillover effects. Overall, a variety of theories were found; some explanations are repeatedly used within a certain research domain because they refer to its specific characteristic, e.g., social identity theory (Tajfel and Turner 1979) for co-branding forms with human brands (endorsement, sponsorship). Such descriptions cannot be transferred to other domains with no involvement from human brands. However, there are some theories frequently referred to in papers on multiple domains that seem to constitute common ground for understanding the occurrence and underlying processes of spillover effects, independently of the domain context. These are: associative network theory (Anderson 1983; Collins and Loftus 1975), category theory (as well as schemas and prototypes (Fiske and Taylor 1991; Loken and Ward 1990; Rosch 1978)), economics of information (Stigler 1961), attribution theory (Heider 1958), signaling theory (Spence 1973), balance theory (Heider 1958), and the accessibility-diagnostics framework (Feldman and Lynch 1988). In the following sections, a brief overview of those overarching theories is provided in the context of

spillover; interrelations between the different approaches are explained and integrated into a general framework of spillover effects in marketing (Figure 9).

To structure the underlying theoretical explanations, spillover is considered as a process consisting of two steps, namely I) the creation of a mental connection between two entities, e.g., brands, and II) the transfer or inference of attributes from one entity to another. As explained in the next paragraph, the majority of theories refer to either the former or the latter step. This separation aims to describe spillover effects and underlying processes in a comprehensible and transparent way.

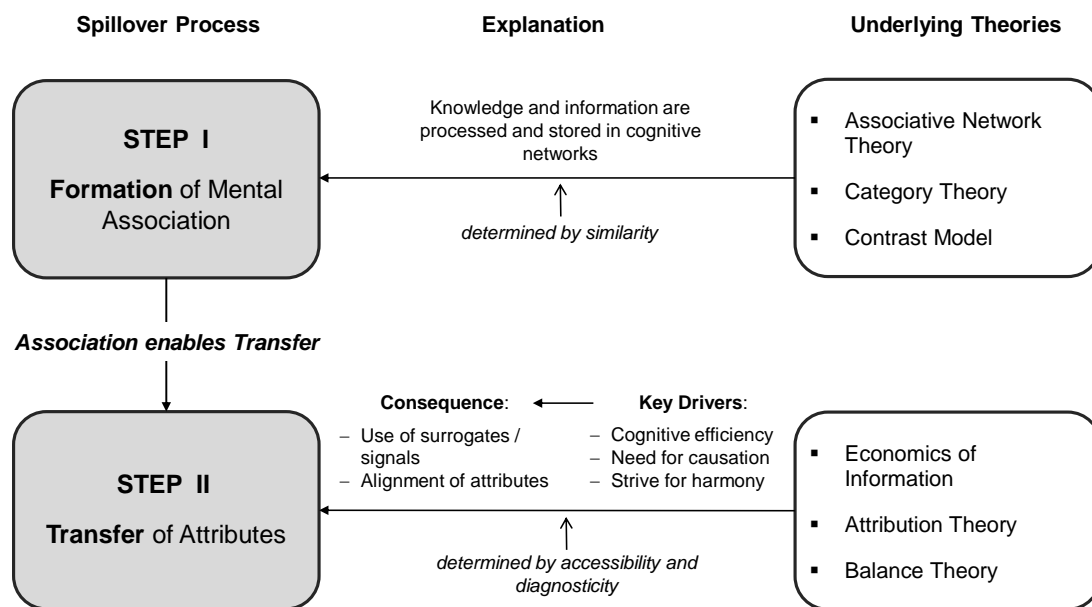


Fig. 9: Paper 1 – Framework on Spillover Processes in Marketing

6.1. Step I: Formation of Mental Connections

A necessary precondition for spillover to occur is that two objects are cognitively connected, which is determined by how humans, in this case consumers, process and store information. The associative network theory (ANT) focuses on how information is remembered and activated (Anderson 1983; Collins and Loftus 1975). According to

ANT, knowledge is stored as a network consisting of nodes, with each node representing information or memories of a certain concept. Nodes are connected by links, which represent associations between the respective elements. If a node is activated, this activation “spreads” to adjacent links, where the strength of activation depends on the intensity of the association. The latter is determined largely by the underlying construct of similarity, with close similarity resulting in stronger connections and thereby increased activation of associated constructs. According to Tversky’s contrast model, the determination of similarity between two objects is a feature-matching process, i.e., a function of their common minus their distinctive features (Loken and Ward 1990; Tversky 1977). In accordance with this approach, ANT assumes that the amount of shared semantic, lexical or phonetic attributes increases the strength of the association between two constructs (Collins and Loftus 1975). In addition, affective components (e.g., emotions, mood) are potential features of similarity (Bower 1981). Also, associations between two entities can be based on shared functional aspects or benefits (Keller 1993).

Based on this overall network of knowledge, people use different strategies to reduce complexity and structure information through diverse cognitive heuristics (Tversky and Kahneman 1974). Several psychological theories refer to the creation of organized cognitive structures of related constructs, labeled as “categories”, “schemas”, or “prototypes” (Fiske and Taylor 1991; Loken and Ward 1990; Rosch 1978). As for associative networks, relations within these structures are built on similarity. For each set of related concepts, integrated knowledge and evaluations from earlier experiences are present (Aronson, Wilson, and Akert 2014; Loken, Barsalou, and Joiner 2008), which accelerates the processing of new information, simplifies decision making, and improves comprehension of the environment (Magnusson, Krishnan, Westjohn, and

Zdravkovic 2014). Thus, cognitive links between two entities are formed in knowledge networks in order to store and process information efficiently.

6.2. Step II: Transfer of Attributes

The second step within the spillover process is the inference of attributes between mentally connected entities. This analysis revealed three major motivations to mentally transfer attributes from one entity to another: an attempt for cognitive efficiency (Stigler 1961), a need for causation (Heider 1958), and a preference for cognitive harmony (Heider 1958). Due to a significant amount of uncertainty and lack of information concerning daily surroundings, people use information surrogates and make inferences. The economics of information theory postulates that, in a context of information asymmetry and restricted transparency, people strive to an optimum combination of amount of search and marginal return (Stigler 1961). As cognitive and time resources are limited, information processing automatically relates to the named strategies of inference making in the interest of cognitive efficiency. Further, there are typically some attributes which are not observable, namely for experience and credence goods (Darby and Karni 1973; Nelson 1970). Hence, information surrogates may be the only available information source or go along with reduced cognitive costs.

Attribution theory offers an additional reason for reverting to surrogates, and, hence, transferring attributes from one entity to another (Heider 1958). Founded in the context of social behavior, the theory claims that people attempt to understand the behavior of others based on the information available (Aronson et al. 2014; Heider 1958). The same principle applies for consumer behavior: consumers search for underlying causes for events or changes in the environment, resulting in affective responses toward the respective entities (e.g., retailer, endorser) and a consequent behavior (e.g., rewards or

punishments (Anagnostou, Ingenbleek, and van Trijp 2015; Janakiraman, Meyer, and Morales 2006)). Thus, one entity can be used as an information surrogate for another to satisfy the need for explanation and causation.

Signals are one form of information surrogates, defined as “observable characteristics attached to the individual that are subject to manipulation by him” (Spence 1973, p. 357). In a marketing context, signals can be used to “convey information credibly about unobservable product quality to the buyer” (Rao, Qu, and Rueckert 1999, p. 259). In the context of marketing-related spillover effects, potential signals are, for instance, an established brand name, use of an expert spokesperson, or reference to regional origin or belongingness (Bloemer, Brijs, and Kasper 2009; Dean 1999; Rao and Rueckert 1994).

Whether an object is referred to as an information surrogate in a certain situation further depends on its diagnostic power, i.e., the perception of the attached information’s accessibility and relevance. According to the accessibility-diagnostics framework (Feldman and Lynch 1988), diagnosticity is defined as “the degree to which the respondent perceives that the answer to the first question correctly identifies how the second should be answered” (p. 424), depending on a person’s individual mental networks (Broniarczyk and Alba 1994; Roehm and Tybout 2006). Accessibility refers to the likelihood of mental activation of a certain construct within a given context, for instance, determined by the time since the most recent activation took place (Feldman and Lynch 1988). Hence, if an entity is cognitively accessible and perceived to be diagnostic, or informative about, another one, it is less effortful to transfer existing attributions and observations than to form new ones (Feldman and Lynch 1988; Roehm and Tybout 2006).

The third driver of attribute transfer, i.e., peoples' preference for harmony, is founded in balance theory (Heider 1958). Essentially, this theory states that people prefer balanced mental states, defined as "a situation in which the relations among the entities fit together harmoniously" (p. 204), over disharmony. Balance theory claims that in the case of imbalance, "the situation will tend to change in the direction of balance" (p. 207). To achieve harmony among relations, people can use different strategies; one is to change their attitude toward the relationship that causes disharmony, such as the attitude toward a person or an activity. For instance, in the context of sponsorship, one may regard a certain brand as unhealthy (e.g., a fast food brand), while a sports event is associated with healthiness. If the brand is used to sponsor the event, this new relation causes cognitive disharmony. In order to achieve a balanced state, people may reconsider their earlier attitudes and, as one potential solution, conclude that the brand's products might be not as unhealthy as assumed. Thus, to overcome states of disharmony, people align their attitudes toward related entities by transferring characteristics of one to the other.

Driven by those three mechanisms, people are likely to transfer information such as attributes or traits of one entity to another associated entity, resulting in spillover effects.

All in all, after comparing theoretical explanations provided in disparate research domains, it was determined that the underlying processes and motivations that drive spillover effects are very similar. People store knowledge in the form of associative networks, and these networks enable the transfer of attributes between mentally connected objects (e.g., brands, celebrities, sponsored events, etc.). If a respective association exists, human needs for cognitive efficiency, understanding of their surroundings, and preference for a harmonious state drive the process of either aligning

attitudes of two entities or using one as an information surrogate for the other – both of which result in spillover effects. It was found that these underlying principles apply in all investigated domains i.e., brand extension, different forms of co-branding, and CoO-effects.

7. Conclusion & General Discussion

Spillover effects are at the core of a variety of marketing activities and have been the subject of multiple studies. However, existing research has predominantly been conducted from specific perspectives, lacking a holistic view on underlying processes and determinants affecting spillover mechanisms. This paper contributes to the overall understanding of spillover effects by I) reviewing spillover research of disparate marketing domains to outline specific characteristics as well as some general determinants, and II) developing a general framework of underlying processes that is based on a structured review of theoretical foundations outlined in the analyzed papers.

The review of research in different domains revealed some disparate characteristics of the overall relation between partnering entities, e.g., their hierarchy and interdependency, which can affect procedural issues such as the direction of spillover effects (i.e., reciprocal for partners of equal strength, in contrast with unilateral for partners of differing strength), as well as managerial issues, such as control and inherent risks.

Additionally, the literature analysis revealed certain determinants that equally affect spillover effects in different research domains. Fit-related moderators determine the likelihood of whether a cognitive association between two entities will emerge, as well as the strength of it. These factors are of high relevance for spillover effects to occur and benefit from higher levels of fit. A second group of variables relevant in all research

domains are brand- (i.e., entity-) related moderators, which determine the actual content (e.g., certain attributes) transferred, as well as whether positive or negative information, affects, or beliefs spill over. Thirdly, consumer-related moderators (e.g., involvement, expertise) determine cognitive and motivational processes underlying spillover effects. The strength of the traits identified as motivational drivers for making inferences differs between consumers; these traits are both personal characteristics (e.g., high need for causation) and contextual factors (e.g., expertise in a product category), which may affect whether consumers are likely to use one entity as an information source for assessing another, leading to spillover effects.

Furthermore, a structured overview of the basic functioning of spillover as a two-step process consisting of I) the formation of a mental connection between two entities as a necessary precondition, and II) the transfer of information between these two related entities, has been provided. It was found that the first step can be explained by information processing principles such as storing information in forms of associative networks based on perceived similarity. The transfer process is driven by the key mechanisms of economic efficiency, a need for causation, as well as a general preference for harmony and balanced mental states. Under the condition of accessibility and diagnosticity, these drivers lead to the use of information surrogates and the alignment of attributes between related entities, resulting in spillover effects. This foundation underlies spillover effects in all analyzed research domains.

The findings of this research contribute to existing research as they outline diverse characteristics of spillover effects in different domains, and establish a sound understanding of the processes that underlie spillover in all the investigated marketing areas. The developed conceptual model of this overall spillover process can be used by researchers of the different domains to provide a theoretical context for their empirical

data, which has been claimed to often be neglected in marketing research (Rotfeld 2014). Building on the model of this research, scholars can position their specific projects within a broader spillover framework.

Further, the overview and comparison of spillover effects in disparate research fields can provide stimulation for future research; scholars interested in one research domain in the context of spillover effects may find interesting results in others and test their relevance within their own field. For instance, future research on endorsement or sponsorship might further examine feedback or reciprocal effects; empirical results on potential positive spillover from brand to endorser or sponsored entities could offer insights on how to strengthen a brand's bargaining position and reduce expenditure when engaging in respective partnerships. In the CoO context, potential negative spillover effects from brands to a country might impair a region's overall image. Implications of such research findings could be relevant for public policy makers, e.g. by recommending restriction on the use of regional labels regarding the fulfillment of minimum quality standards or safety conditions to protect a country's overall image, and to prevent other brands of the same origin from negative spillover effects. Also, this paper revealed certain motivational and cognitive drivers of the spillover process, which can be integrated in empirical assessments to gain a deeper understanding of "superficial" outcome variables.

Finally, this framework can provide guidance when investigating consumer inferences in other research areas where the perspective of spillover has not yet been applied but may be of relevance (e.g., effects caused by product awards).

Following critical examination of the utilized methodological approach, some limitations should be mentioned. The choice of journals used as a literature base was selective and, therefore, incomplete. There are numerous additional studies within each

research domain that could be added to future analysis. Also, the review and interpretation process was conducted by an individual person, thereby including certain subjective interpretations and assessments. However, by focusing on top-quality journals and seminal papers, and striving to make the procedure of analysis as clear as possible, the researcher hopes to have established a rigorous fundament for holistic analysis of spillover processes in marketing activities.

As spillover mechanisms are of core relevance to many marketing efforts, with companies often facing considerable expenses to establish beneficial alliances, enhancing the theoretical understanding of these mechanisms and generating practical implications provide an interesting field for future research.

C The Bright and Dark Sides of Sustainability Labeling – Exploring Unintended Effects on Non-Certified Bystander Products

Abstract

Although there is mutual consent regarding the positive effects of certifications such as organic or fair trade logos, knowledge about the potential effects of certifying only select products within a brand's product line remains scarce. A series of experiments reveals a detrimental impact on preferences for these non-certified products, which occurs because perceptions of product attributes associated with the certification suffer from this strategy. However, perceptions and choice shares of competing product lines remain unaffected. By examining the underlying processes, a profound understanding is gained of how the certification of select products affects the way consumers perceive uncertified products of the same brand family in a three-fold manner – via changes in the reference framework, spillover from improved perceptions of the certified product, and skepticism resulting from a less clear brand image. The findings of this research emphasize the need to consider implications for the whole product portfolio when deciding about the implementation of certification strategies.

Additional note:

» Parts of this paper were presented at the Winter American Marketing Association (AMA) Conference, Orlando, FL, February 2017 (VHB JQ3: D):

Wulf, Linda, Sören Köcher, and Ulya Faupel (2017), "Side Effects of Food Quality Labels on Non-Certified Products".

Overview of Studies and Key Findings

Study	Product Category	Certification	DV	Mediators / Moderators	Key Findings	Hypotheses	
Pilot study (field experiment)	Peanuts	Organic label	Choice shares	–	<ul style="list-style-type: none"> » unintended side effects on same brand's bystander (decreasing shares of preference) » consumers' preferences for competing offers remain unaffected » intra-brand cannibalization (gains of target at the expense of own bystander) 	–	–
Study 1 (online experiment)	Coffee	Fair trade	Perceived fairness; choice shares	<ul style="list-style-type: none"> - Mediator: Bystander evaluation (fairness) - Moderator: Brand (same brand vs. competing brand) 	<ul style="list-style-type: none"> » partial certification impairs product evaluations (fairness perceptions) of own bystander, which in turn reduces the products' choice shares » no negative effect on consumers' evaluations/ choice shares of competing products 	1	√
Study 2 (qualitative interviews, online experiment)	Yoghurt	Organic label	Perceived Quality	<ul style="list-style-type: none"> - Target fairness perception - Brand meaning clarity 	<ul style="list-style-type: none"> » reference effect: partial certification impairs perceptions of bystander product » spillover effect: enhanced evaluation of target product spills over to consumers' evaluation of bystander products » inconsistency effect: partial certification reduces brand meaning clarity, which in turn decreases consumers' bystander evaluations 	2a	√
						2b	√
						3a	√
						3b	√
						3c	√

1. Introduction

Imagine you are in a grocery store to buy a jar of jam. From the abundant choices on the shelf, you concentrate on the products offered by two brands: Brand A and Brand B. On closer examination, you notice that the two product lines differ, in that one of Brand A's jams bears an organic label, while none of Brand B's products are certified. According to extant research, the organic label is likely to enhance consumers' assessment of the certified product, but what about the other product alternatives available in the choice set? Do Brand A's non-certified jams benefit or suffer from the presence of the organic option? How about Brand B's products? Could your perception of these competitive products also be affected by the presence of Brand A's organic jam? Finally, which product would you buy?

At a time when consumers are growing increasingly health consciousness, and are aware of factors such as quality, food safety, and the development of green and ethical consumerism practices (Cho 2015; Moussa and Touzani 2008; Purohit 2012), many companies offer certified products to profit from these behavioral trends. A large body of research has been devoted to the impact of such certifications on consumer behavior in various product categories, leading to consensus about the positive effects of certifications on certified products (e.g., Amos, Pentina, Hawkins, and Davis 2014; Dean and Biswas 2001; Linder et al. 2010; Sörqvist et al. 2013), while also identifying some boundary conditions (Luchs, Naylor, Irwin and Raghunathan 2010; Newman, Gorlin, and Dhar 2014; Sen and Bhattacharya 2001).

From a practical perspective, however, it must be considered that the use of such labels typically entails extensive certification costs (Dabbert, Lippert, and Zorn 2014; Veldstra, Alexander, and Marshall 2014). Many brands therefore decide to certify only select products within their assortment, and offer these certified alternatives in addition

to their uncertified products (a strategy referred to as ‘partial certification strategy’ in this research), resulting in purchase situations like the one described in the initial scenario. Hence, portfolio-related considerations, i.e., consequences for other non-certified products of the same product line (i.e., own ‘bystander products’), are crucial when deciding about the utilization and design of a certification strategy.

Despite the abundant use of product certifications in practice, little is known about the resulting effects on non-certified products. An exception was provided by Anagnostou, Ingenbleek, and van Trijp (2015), who investigated spillover effects of sustainable products on the perception of mainstream goods. The authors found that offering organic fair trade coffee can impair consumer perception of non-certified mainstream products by challenging their legitimacy. Aside from these findings, knowledge about unintended consequences of product certifications on the non-certified product program remains scarce. In particular, whether consumers’ perceptions of non-certified items are always negatively affected, and whether these impaired perceptions can carry over to product preferences and behavioral intentions, remains an unexplored area. Further, cognitive processes underlying consumer evaluation of unlabeled products are still poorly understood; respective insights may provide important practical implications to use certification strategies in the most efficient way.

Therefore, this paper aims to look beyond the straightforward positive effects of certifications on labeled products in order to outline potential side effects on consumer preferences (behavioral level) and perceptions (cognitive level) of non-certified bystander products of the same product line. First, products of the same brand and products offered by a competing brand are examined to expose potential differences between intra- and cross-brand effects (Pilot Study and Study 1). This distinction is of particular relevance as sustainability labels are often employed to differentiate between

products of competing brands intending to gain market share (Esty and Winston 2006; James, Rickard, and Rossman 2009); however, the risk of cannibalizing one's own products must also be considered. Second, a mixed-methods approach is applied to gain deeper insight into the process underlying changes in consumer perception of bystander products caused by a partial certification strategy (Study 2). Thereby, this research provides important theoretical contributions and practical implications concerning the far-reaching effects of certification labels by adding the perspective of bystander effects.

2. Overview of Studies

To empirically examine how a partial certification strategy may affect consumer preferences and perceptions of non-certified bystander products within a product line, three experimental studies were conducted (Figure 10).

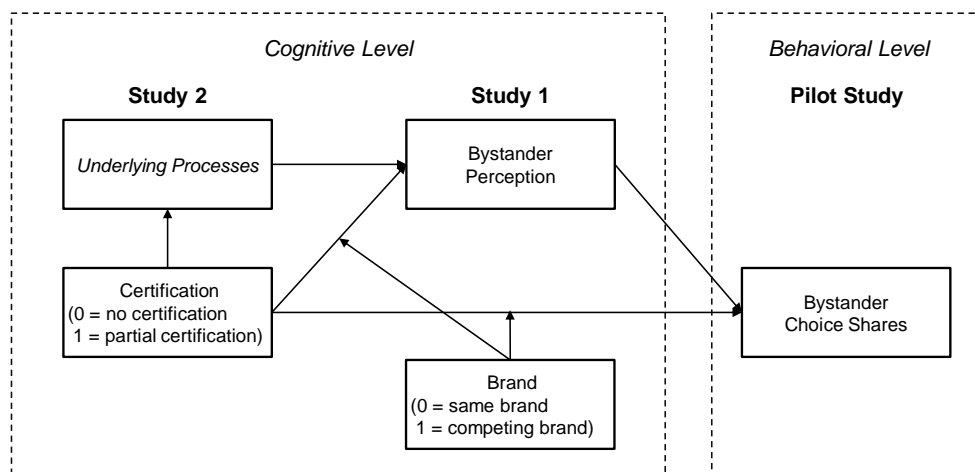


Fig. 10: Paper 2 – Overall Research Design

First, a field study (Pilot Study) aimed to investigate how partial certification within a product line affects consumer preferences. By manipulating whether a choice set included an organic option, this study measured actual choices to focus on observable

behavioral effects. Data analysis revealed a negative effect on preferences of the uncertified bystander product offered by the same brand (intra-brand cannibalization), but not on choice shares of competing products.

To explain these findings, an online experiment (Study 1) assessed whether the observed effects of a partial certification strategy on choice shares can be rationalized by impaired perceptions of product attributes associated with the respective certification (mediation effect), and whether these effects differ for products of the same versus of competing brands (moderation effect). The results revealed that, for bystander products of the same brand, the negative effect on preferences is fully mediated by impaired attribute perceptions, while neither a direct nor an indirect negative effect occurred for competitive brands.

Finally, the researcher strove to understand which psychological processes drive change in how consumers perceive label-related attributes of bystander products from the same product line. Therefore, a mixed-methods approach was applied to derive hypotheses based on qualitative interviews, which were then tested in an online experiment (Study 2). Overall, three underlying processes (i.e., bystander effects) that explain changes in consumers' perceptions of bystander products were found, namely, a direct negative reference effect, an indirect positive spillover effect via enhanced perceptions of the certified product, and an indirect negative inconsistency effect caused by a less-clear brand meaning that increases skepticism toward a brand's intentions.

This multi-stage approach allowed for the investigation of bystander effects, on both a behavioral as well as a cognitive level, resulting from a partial certification strategy. By combining field data with qualitative and quantitative results, the researcher was able to gain a detailed understanding of how certifying certain products in a product line affects a brand's non-certified bystander products.

3. Pilot Study

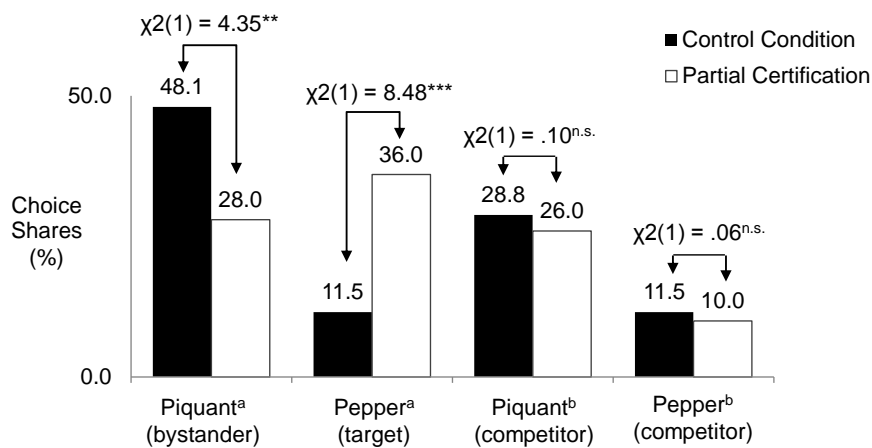
For an initial exploration of the effects of a partial certification strategy on customers' choice behavior, a field experiment was conducted using peanuts and an organic label with two alternating groups (no certification versus partial certification). The study aimed to investigate whether and how product preferences change as a consequence of this certification strategy.

3.1. Method and Data Collection

The study took place as part of a summer event at the university, where visitors encountered a tasting booth offering four different sorts of peanuts. The choice set included products of two different brands: Alesto and Bravo, with two flavors available – i.e., piquant and pepper peanuts by each brand. In the control condition, none of the products were certified, whereas in the partial certification condition, Alesto's pepper flavored peanuts, i.e., the target product, were presented with an organic label. Hence, the piquant-flavored peanuts by Alesto represented the own bystander, while the other two sorts by Bravo acted as the competing products. To prevent time and sequence effects, the scenario setting was changed every 30 minutes and the order of products on the shelf was adjusted. Participants were invited to inspect the different choice options and try that which they found most appealing; afterwards, demographical data was collected. Over a period of three hours, a sample of 102 visitors ($M_{\text{age}} = 25.2$ years ($SD=9.5$), 62.7% female, 86.3% students) participated in the experiment; they were debriefed after completion of the study.

3.2. Results

In the control condition ($n = 52$), 48.1% of the participants preferred the piquant flavored and 11.5% the pepper-flavored peanuts by Alesto, while 28.8% chose the piquant-flavored and 11.5% the pepper-flavored nuts by Bravo (Figure 11). In contrast, in the partial certification condition ($n = 50$), it was found that, due to the organic label on the certification's target product, i.e., the pepper flavored peanuts by Alesto, the target's choice shares significantly increased to 36.0% ($\chi^2(1) = 8.447, p < .01$), but the bystander's, i.e. the piquant-flavored peanuts by Alesto, choice shares declined to 28.0% ($\chi^2(1) = 4.351, p < .05$). Interestingly, visitors' preferences for the two competing products by the other brand remained almost unchanged; 26.0% of the participants chose Bravo piquant ($\chi^2(1) = .104, n.s.$) and 10% opted for Bravo pepper ($\chi^2(1) = .063, n.s.$).



brands: ^aAlesto ^b Bravo

*** $p < .01$, ** $p < .05$, n.s. = not significant

Fig. 11: Paper 2 – Pilot Study: Peanuts Experiment

3.3. Discussion

This exploratory study showed that a partial certification strategy can induce unintended side effects on a non-certified bystander product within the same product line, as reflected by the decreasing shares of preference. Notably, consumer preferences for competing offers remained unaffected. Hence, from the focal brand's perspective, certifying a select product does not lead to higher overall preference shares, but rather induces cannibalization effects within the own product line.

The main limitation of this preliminary study is that proper assessment as to whether the observed decrease in choice shares of the bystander product was predominantly driven by enhanced perceptions of the certified target product, or by impaired perceptions of the bystander product due to the selective certification strategy, cannot be performed. However, the fact that participants' preferences for the two competing products were unaffected suggests that consumer perception of the bystander product's appeal decreased not only relative to the target product, but also to these competing options. This limitation is addressed in Study 1 through more detailed investigation of the changes in product perceptions.

4. Study 1

In order to further validate and explain the initial findings, an online experiment was conducted with two goals in mind: first, to determine whether an attenuated evaluation of bystander products is responsible for the documented reduction in shares of preference in the partial certification condition; second, to explain the differences between the effects on the same brand's bystander products and those of a competitor brand.

4.1. Hypotheses

It has been argued that product evaluations, such as quality and value judgements, are comparative; i.e., they are formed in a competitive context and in comparison with other products (Huber, Payne, and Puto 1982; Kirmani and Baumgartner 2000; Steenkamp 1990).

This argument agrees with the value function proposed in prospect theory (Kahneman and Tversky 1979), which states that “the carriers of value are changes [...] rather than final states” (p.277), meaning that the same level of an attribute (e.g., wealth) can be experienced differently depending on its context (e.g., current assets). This principle is compatible with the frame-of-reference approach used by Helson (1964) in Adaptation-Level Theory, reasoning that “all judgments (not only judgments of magnitude) are relative, i.e., based on the relation of stimulation to prevailing adaptation level” (p.126).

Both theories suggest that the presence of a superior product (i.e., a certified target product) can alter the reference point used by consumers to assess other available product options. In particular, the same product (i.e., the bystander product) may appear less (or more) attractive when the context for judgment comprises an extremely positive (or negative) stimulus, as it appears on a relatively lower (higher) end of the reference range.

Within the context of this research, it is inferred that if an alternative within a given product line is enhanced by a certification (i.e., the target product), the reference used to assess alternative non-certified products (i.e., own bystander products) is shifted upward. The certification mark indicates superiority of the labeled product regarding specific attributes relevant to the certification’s meaning. For instance, a fair trade mark may increase perceptions of morality and fairness of the certified product.

Consequently, evaluations of apparently inferior, i.e., uncertified, products are likely to be negatively impacted due to their relatively lower position in the altered context of reference.

With regard to the relation between evaluation and behavior, the theory of planned behavior suggests that the attitude toward an object influences one's behavioral intentions (Ajzen 1991; Fishbein and Ajzen 1975). Accordingly, Moussa and Touzani (2008) proposed an influence of perceived product quality on purchase intentions in the context of quality labels. Following this argumentation, it was expected that the negative impact of a partial certification strategy on the bystander's choice shares, as documented in the pilot study, can be explained by impaired perceptions of product attributes that are associated with the certification label. Therefore, the following hypothesis was proposed:

H1: Perceptions of certification-related product attributes mediate the relationship between certification strategy and consumers' preferences of unlabeled bystander products of the same product line, such that partial certification (versus no certification) leads to less positive product evaluations, which, in turn, reduce the products' choice shares.

The initial study revealed a negative effect on choice shares of the bystander, but not on participant preferences for the competing offers. This finding is in line with the similarity hypothesis (Tversky 1972), which states that new products take disproportionate shares from similar alternatives rather than dissimilar ones. Regarding underlying consumer perceptions, associative network theory (Anderson 1983; Collins and Loftus 1975) and categorization theory (Loken and Ward 1990) describe how

people create mental associations between similar objects, and how beliefs about one are transferred to another. In this process, the concept of similarity is of crucial importance, whereby which objects are perceived as similar and subsequently used as a reference for comparison is highly dependent on context (Stapel and Winkielman 1998; Tversky 1977).

Due to a high degree of feature overlap between products of the same line and their shared affiliation, a mental association is more likely to emerge between these products rather than products of competing brands. Thus, consumers may use the certified target product as a reference when evaluating a bystander within the same product line, but not necessarily when evaluating a competitor's product. Under the assumption that the mental connection between a certification's target and a competing product of a different brand's product line should be comparatively weak, it was not expected that the higher standard of the certified product indicated in the partial certification condition is used as reference for evaluating a competitor's offer, thus, influencing neither its evaluation nor its choice shares. Consequently, it was assumed:

H2a,b: Partial certification does not have a negative influence on (a) consumers' evaluations and (b) choice shares of competing product lines.

4.2. Method and Data Collection

To test the proposed hypotheses, a 2×2 (certification: no versus partial x brand: same brand versus competing brand) between-subjects online experiment was conducted. Participants were presented with a choice set consisting of three filter coffees; two of them belonging to a focal and one to a competing brand (all manipulations in Appendix B). In order to provide a clear delineation, the brand logo was visible for participants

and highlighted in the scenario descriptions. Participants were randomly assigned to one of the four conditions and asked to evaluate either the bystander (same brand) or the competing product (competing brand). Under the partial certification conditions, one focal brand coffee included a fair trade label. After a short introduction, respondents were asked to indicate their perceptions of a label-related attribute, i.e., perceived product fairness (Anagnostou et al. 2015; Brown and Dacin 1997; $\alpha = .93$; all items in Appendix C) as well as their preference within the given choice set. Responses were assessed on 7-point scales, anchored by “strongly disagree” (1) and “strongly agree” (7). To prevent sequence effects, the order of products was randomized. In sum, the answers of 283 students ($M_{\text{age}} = 21.5$ years ($SD=3.0$), 72.4% female), invited via social media platforms on a voluntary basis, were used for analysis. Any gender or age differences were accounted for by including both variables as covariates.

4.3. Results

The proposed effects were tested using conditional process analysis (Hayes 2013; Preacher and Hayes 2008), with bias-corrected confidence intervals (CIs), and 10,000 bootstrap samples. The estimated model included certification strategy (0 = no certification; 1 = partial certification) as an independent variable, preference for the uncertified product (either of the same or the competing brand, depending on the scenario) as the dependent variable (0 = not selected; 1 = selected), and perception of a label-related product attribute (i.e., product fairness) as a mediator of the relationship. Further, brand (0 = same brand; 1 = competing brand) was used as moderator of both the direct and indirect effect of certification strategy on preferences (PROCESS Model 8).

As consumers' preferences were based on choices (selected versus not selected), binary logistic regression models were used for parameter estimation. The regression on choice shares of the uncertified product revealed significant certification \times brand interaction ($Wald \chi^2 = 3.014, p < .10$), indicating that the effect of certification strategies on choice shares of unlabeled products is dependent on their brand affiliation. A spotlight analysis revealed that, for own bystander products of the focal brand, the certification of another product within the same line reduced consumers' preferences ($M_{Control} = 32.9\%$ versus $M_{Fairtrade} = 11.9\%$, $\chi^2 = 17.974, p < .01$). However, when the unlabeled product belonged to a competing product line, there was no such negative effect ($M_{Control} = 30.7\%$ versus $M_{Fairtrade} = 27.3\%$, $\chi^2 = .407, n.s.$; Figure 12, A). These results replicate the findings of the field study and support H2b.

It was further postulated that attenuated perceptions of label-related attributes, i.e., product fairness, can explain the effect of certification strategy on decreased consumer preferences for bystander products. A regression with perceived fairness of the unlabeled product as the dependent variable revealed a significant certification \times brand interaction ($\beta = .49, t(277) = 1.77, p < .10$). Thus, the impact of partial certification on perceptions of fairness differed based on the brand of the unlabeled product. While perceptions of the same brand's products were significantly impaired ($M_{Control} = 3.45$ versus $M_{Fairtrade} = 2.94, \beta = -.52, t(277) = -2.62, p < .01$), fairness perceptions of competitive products remained unchanged ($M_{Control} = 2.94$ versus $M_{Fairtrade} = 2.91, \beta = -.03, t(277) = -.15, n.s.$; Figure 12, B), thereby supporting H2a.

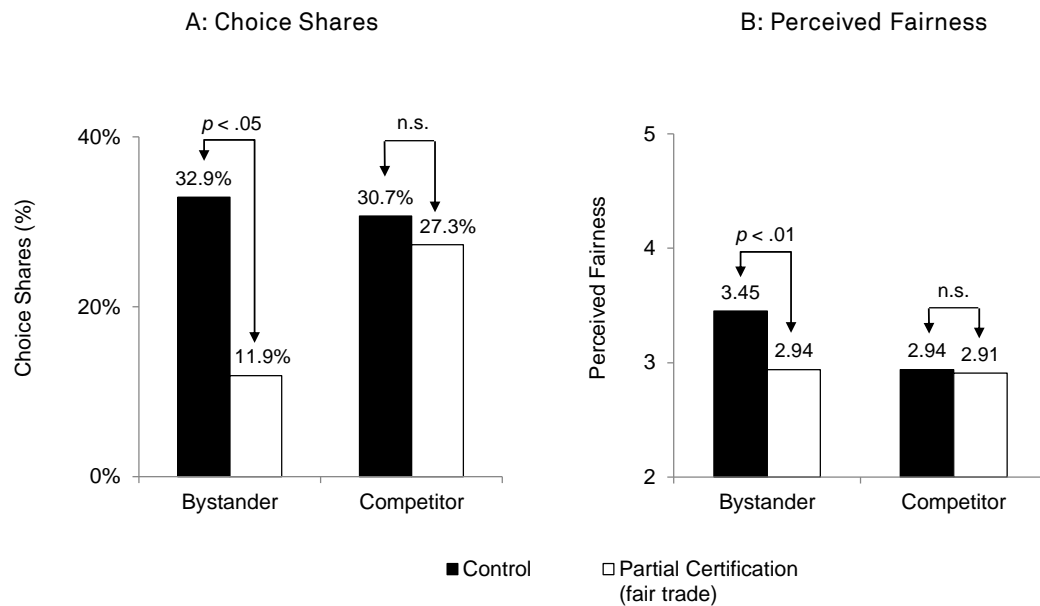


Fig. 12: Paper 2 – Study 1: Effect of Partial Certification on Choice Shares and Fairness Perceptions

Regarding the hypothesized mediation effect (H1), conditional process analysis revealed a significant indirect negative effect of certification strategy through fairness perceptions on preferences for the same brand's bystander product ($B = -.31$, $SE = .15$, $CI_{95}: -.6817$ to $-.0716$). In line with H1, fairness perceptions fully mediated the observed negative effect of certifying another product in a brand's product line on preferences for that brand's uncertified bystander. In contrast, for products of the competing brand, no significant indirect effect emerged ($B = -.02$, $SE = .12$, $CI_{90}: -.2213$ to $.1810$; Figure 13). The index of moderated mediation (Hayes 2015) provided by the PROCESS macro confirmed that these indirect effects significantly differed from each other ($Index_{ModMed} = .30$, $SE = .20$, $CI_{90}: .0234$ to $.6713$). Thus, H1, H2a and H2b were supported (detailed results in Table 2).

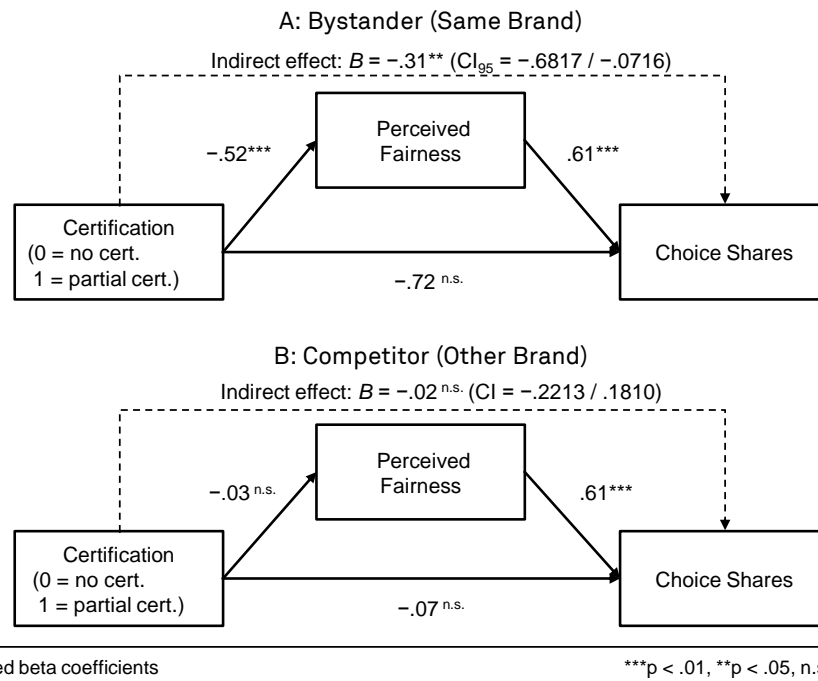


Fig. 13: Paper 2 – Study 1: Moderated Mediation Analysis

Fair trade certification of only a select coffee within a product line decreased consumers’ fairness perceptions of other alternatives offered by the same brand, which in turn reduced choice shares of these uncertified products. This effect did not occur for products of a competing product line, where neither fairness perceptions nor choice shares were found to be impaired by the other brand’s partial certification strategy.

Table 2: Paper 2 – Study 1 Regression Coefficients, Standard Errors, Model Summary Information, Relative Indirect Effects

Study 1 <i>Antecedent</i>	<i>Consequent</i>					
	Perceived Fairness			Choice Shares		
	Coeff.	SE	<i>p</i>	Coeff.	SE	<i>p</i>
Constant	4.237	.550	< .01***	-5.623	1.420	< .01***
Certification	-.273	.138	.049**	-.394	.321	.220
Perceived Fairness	–	–	–	.609	.142	< .01***
Brand	-1.003	.438	.023**	-.680	.975	.486
Certification x Brand	.487	.275	.078*	.645	.638	.312
Certification Same Brand	-.517	.198	< .01***	-.717	.475	.131
Certification Competitor	-.029	.192	.879	-.071	.429	.868
Age	-.031	.024	.197	.103	.051	.042**
Gender	-.086	.155	.577	.486	.337	.149
	$R^2 = 0.04$			Nagelkrk = 0.16		
	$F(5,277) = 2.468, p < .05$					
	*** < .01, ** < .05, * < .10					

Relative Indirect Effects of Certification on Choice Shares through Perc. Fairness						
	<i>Effect</i>	<i>SE (boot)</i>	<i>Boot LLCI</i>	<i>Boot ULCI</i>	<i>Level of CI</i>	
Brand	<i>Same Brand</i>	-.318**	.154	-.6817	-.0716	95,00
	<i>Competitor</i>	-.018	.123	-.2213	.1810	90,00
Unstandard. β -coefficients; 10,000 bootstrap samples, bias corrected bootstrap intervals						

4.4. Discussion

Study 1 replicated the results obtained from the pilot study, and extended the understanding of potential side effects induced by partial product certifications within product lines. This strategy can reduce choice shares of bystander products, which can be

explained through impaired perceptions of label-related product attributes, such as fairness perceptions.

In line with extant theories (prospect theory, Kahneman and Tversky 1979; adaptation-level theory, Helson 1964) it can be assumed that, in the partial certification condition, this effect is caused by a higher reference level due to the presence of a certified option, used as an anchor for evaluating the own bystander product. However, due to a relatively low similarity and, therefore, absence of reference effects from the target product, competing products remain unaffected. From a brand perspective, the findings emphasize that certifying a single product in a product line may not be exclusively beneficial; the gains of a certified target product are realized mainly through intra-brand cannibalization effects, rather than by the gain of shares from competing products.

5. Study 2

The first two studies demonstrated that partial certifications can induce negative side effects on bystander products of the same line. More precisely, perceptions of label-related attributes were found to be the crucial factor, as they are impaired by a respective certification strategy. As such effects did not occur when considering competing products, this research henceforth concentrated on bystander products of the same brand. Building on reference-based approaches (Kahneman and Tversky 1997; Helson 1964), Study 1 identified a diluting effect caused by a shift of the reference used to assess the bystander product. However, it would be interesting to reveal any further process components that underlie the altered product perceptions found in Study 1. An understanding of such mechanisms might allow for defining of specific measures to prevent the observed diluting effects.

As prior research has not sufficiently addressed this issue, a mixed-methods design was adopted to gain explorative as well as explanative insights. The researcher began by conducting qualitative interviews to explore how consumers perceive a respective situation when only one product in a line is certified. The findings were combined with literature from related research fields to derive hypotheses, which were then tested in an online experiment.

5.1. Qualitative Study and Hypotheses Development

To better understand what determines consumer perceptions of an uncertified product when a labeled option of the same product line is present, 14 qualitative interviews were conducted with participants of varying age, gender, education, profession, and self-reported expertise on product certifications (Table 3), accounting for different consumer types. All respondents were addressed by personal recruitment and debriefed about the study objectives following the interviews. A semi-structured interview guideline was utilized to ensure a certain structure based on the research interest, while simultaneously remaining flexible to “allow room for the respondent’s more spontaneous descriptions and narratives” (Taylor 2014, p. 1008). As data collection and analysis were carried out in an interrelated process, potentially relevant aspects identified in earlier interviews were used in addition to the guideline to direct the next interviews (Corbin and Strauss 1990).

After a short introduction phase on general buying behavior in grocery stores, participants were presented with different choice sets consisting of three products of the same category, two of which belonged to a focal brand and one to a competing brand. In the first setting, none of the products was certified; participants were asked how they would evaluate each product and which criteria they would use for assessing the different

alternatives. In the second step, participants were shown the same choice set, differing only in that one product of the focal brand was now certified. Participants were then asked to describe the changes, how these might affect their perceptions, especially those of the same brand's bystander product, and what thoughts came to their minds in general. To stimulate discussion and thorough explanations, combinations of different product categories, such as fruits, coffee, chocolate, juices, and toothpaste, and different certifications as well as diverse brands, were used. All interviews were audio recorded and transcribed, lasting between 23 and 54 minutes, with a mean duration of 36 minutes (Table 3).

Table 3: Paper 2 – Demographic Data of Interview Participants

	Gender	Age	Education	Proficiency	Expertise (1 = very high, 5 = none)	Interview Duration
I1	m	54	secondary school	retired	3	32 min
I2	f	27	university degree	employed	3	31 min
I3	f	29	university degree	student	4	44 min
I4	f	49	Abitur	employed	2	42 min
I5	f	51	secondary school	employed	2	43 min
I6	f	24	university degree	student	3	26 min
I7	m	26	secondary school	employed	3	45 min
I8	f	32	university degree	student	3	23 min
I9	f	26	university degree	student	2	30 min
I10	m	26	university degree	student	2	33 min
I11	f	61	secondary school	retired	2	34 min
I12	f	56	secondary school	employed	2	54 min
I13	m	54	secondary school	employed	3	31 min
I14	m	27	Abitur	student	2	28 min

A structured-thematic qualitative content analysis was used as a primary method of data analysis (Kuckartz 2012; Schreiner 2014). In order to organize the different steps, structure the output and increase transparency of the proceedings, qualitative data analysis software was used (MAXQDA; Creswell 2015, Kuckartz 2010). In the first step, one researcher read all transcripts multiple times, marked relevant segments and developed memos to record the first ideas of the concepts, their properties and relations (Corbin and Strauss 1988). In the second step, thematic main categories were developed. This step of categorization, “the process of classifying or labeling units of data” (Spiggle 1994, p. 493), aimed to identify “a chunk or unit of data (e.g., a passage of text of any length) as belonging to, representing, or being an example of some more general phenomenon” (ibid.).

Considering the particular objective of this research, three categories that affect consumer perceptions of bystander products were identified. The first category, named as ‘Reference’, included participants’ ideas regarding how a comparison between certified and bystander products takes place, and how the presence of the former is likely to harm the latter due to this direct reference. A second category summarized quotes about how a certification can be used to signal a brand’s overall qualities or characteristics, how products of the same brand are likely to be perceived as similar, and thereby, how the uncertified product may benefit from the certified one. This category was labeled ‘Spillover’. Finally, participants repeatedly described how a partial certification strategy caused them to wonder about a brand’s overall values and intentions, resulting in negative perceptions of inconsistency and incredibility. Quotes referring to this issue were clustered in a category named “Inconsistency/Skepticism”. A coding sheet defined the scope of each category, and was afterwards used by two independent operating researchers to categorize the interview transcripts.

After this independent coding process, the text passages categorized by the two researchers were compared, revealing a high inter-coder agreement. Text passages that were only coded by one researcher or coded as belonging to different categories were discussed and either added or deleted with the agreement of both researchers. This multi-person involvement was designed to ensure objectivity during the coding process and regarding its output, which was used for the consequent hypotheses development.

After all interviews were coded and discussed accordingly, text passages belonging to the same category were compiled through use of the text retrieval function offered in MAXQDA; the generated tabular display offered a structured overview of all coding that belonged to a category, sorted by source (i.e., interview respondents). In addition, the provided code matrix browser was applied to visualize the exact counts for different codes across the entire sample (Kuckartz 2010) as an indicator of overall frequencies and consistency. These outputs were used to facilitate data interpretation, i.e., “assessing the intentions and inferences of those one is studying [...], making sense of experience and behavior, and seeing or understanding some phenomenon in its own terms, grasping its essence” (Spiggle 1994, p.492).

Overall, analysis and interpretation of the qualitative data expanded the understanding of underlying processes that may affect consumer perception of uncertified bystander products. In addition to the negative reference effect, an indirect positive impact via enhanced target perceptions that spill over to the bystander product, and an indirect negative effect due to perceived inconsistency and a less clear brand image, were revealed as the factors potentially affecting consumer perceptions (see Figure 14). Each way is described in more detail in the next section. These qualitative findings were used to deduce hypotheses to be tested in a subsequent quantitative study.

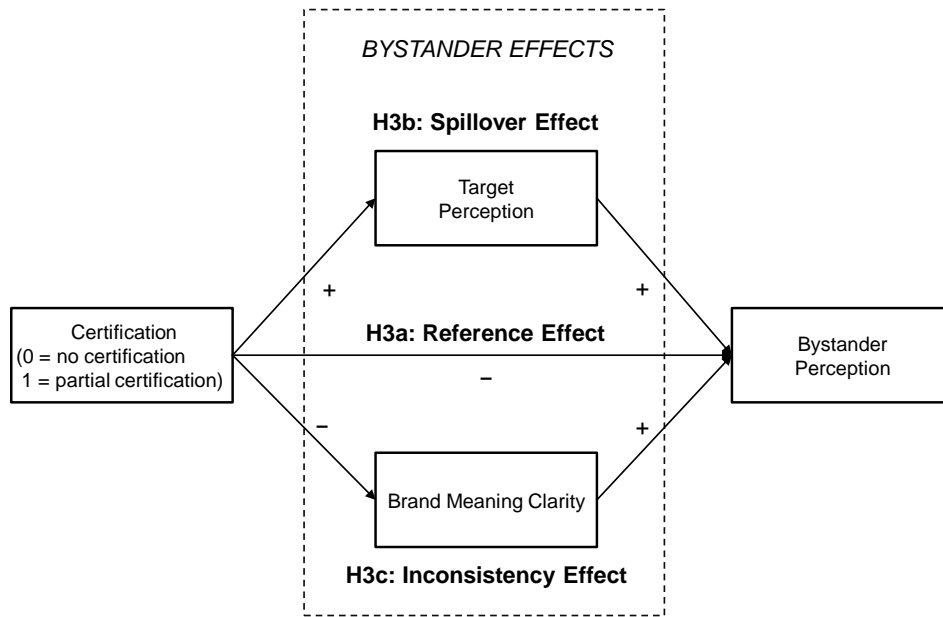


Fig. 14: Paper 2 – Study 2: Conceptual Model of Bystander Effects

5.1.1. Negative Reference Effect

In line with the previous assumption, one reaction to the change to include a certified product within the choice set was for participants to reassess their evaluation of the uncertified bystander. The offering of a certified product appeared to shift the reference framework used by consumers to assess the bystander product:

“I would definitely evaluate it [the bystander product] as lower. Because I would have to leave some upward room for the organic product, because I would assume this should be better.” (I7)

The presence of a certain label within the choice set draws attention to characteristics related to the label; hence, the absence of this characteristic in the unlabeled product is more obvious compared with a situation when no product is certified:

“Now I know that one of [well-known coffee brand]’s products is certified and that makes me wonder why the other product is not. Beforehand I did not know. Well, if [the

brand] *doesn't certify its products in general, I'm fine with that. They do not certify. But if I now see that one is certified and one is not, I wonder about the reason why.*" (I3)

The direct comparison with the "better" target product is likely to affect consumers' perceptions of the bystander product:

"Thinking from a contrast perspective, one might also say that even if it is the same brand, there are obviously such differences that the other product is not certified as well." (I6)

These arguments outlined by interview participants support the previous assumptions based on prospect theory (Kahneman and Tversky 1979) and adaptation-level theory (Helson 1964) about a negative reference effect. Therefore, it is expected that perceptions of bystander products will incur a direct negative effect from a partial certification strategy.

H3a: Partial certification (versus no certification) impairs perceptions of the own non-certified bystander product.

5.1.2. Positive Spillover Effect

Along with this direct negative effect, participants also named potential positive consequences. Fundamentally, people assume comparable standards of quality for products of the same brand. Therefore, certifying one product of a product line can lead consumers to transfer characteristics from the certified product to bystander products and, thereby, enhance their perceptions of those items as well:

"Well, what I wonder is that because it is the same brand [...], how big can differences in quality be? Theoretically, I would think rather small, so I guess I would

perceive the other product as more positive. [...] Because I think the standard of quality should be comparable within products of one brand.” (I6)

“Maybe in a way of positive free-riding, that one says the other [bystander] coffee cannot be that bad if this [target] has been certified as very good. The affiliated product won’t be that bad either.” (I13)

Participants explained that positive assumptions towards a certified product can be beneficial for the brand overall, because people attribute positive motives or qualities of the brand as responsible for this certification. Such enhanced brand perceptions are then likely to be transferred to other products of the same brand as well, even if they are not explicitly certified:

“I’d say it indicates the quality of the whole brand, that one product has been certified.” (I9)

“One would assume that if [the brand] trades with its products in a fair way that will probably be true for its other products as well.” (I3)

A related research field is that of spillover effects, a term referring to the transfer of attributes or traits between associated entities (Ahluwalia, Unnava, and Burnkrant 2001; Spry, Pappu, and Cornwell 2011). Spillover effects are enabled through the mental associations people create between similar objects (Anderson 1983; Loken and Ward 1990; Paper 1). Studies on spillover effects demonstrate the transfer of attitudes between products of the same or partnering brand; i.e., positive (negative) stimuli for one object induce positive (negative) consequences for the other (e.g., Balachander and Ghose 2003; Dahlen and Lange 2006; Erdem and Sun 2002; Lei, Dawar, and Lemmink 2008; Simonin and Ruth 1998). Following this argument, it is likely that positive evaluations of labeled target products, gained due to the certification, will spill over to a positive evaluation of a bystander product of the same product line. Therefore, it is

expected that there will be an indirect positive effect on the perceptions of bystander products due to a partial certification strategy.

H3b: Perceptions of the target product’s certification-related product attributes mediate the relationship between certification strategy and perceptions of bystander products, such that partial certification (versus no certification) leads to more positive target evaluations, which, in turn, improve consumer evaluations of bystander products.

5.1.3. Inconsistency and Brand Meaning Clarity

A further adverse reaction identified during the interviews was that participants were suspicious about the inconsistency of the overall brand’s policy when faced with a situation where only one product was certified while the other was not:

“The question that naturally arises is why does [well-known juice brand] as a brand have some products that are certified and others that are not?” (I9)

“That would make me wonder, what a strange brand is that? One coffee is produced as fair trade, and for the other coffee, they don't pay fair wages?” (I13)

It is apparent that consumers expect consistent behavior from a brand, including in its communication, values, and, consequently, also its certification strategy, as the latter is viewed as related to a brand’s overall values and policy. If consumers perceive some form of inconsistency, it is likely to raise skepticism toward the brand, its overall meaning, and intentions:

“I think you can do this either completely or not at all. You either produce fairly or you don't. As a whole company. It is my mission statement or not. But it cannot be my mission statement for one but not the other [product].” (I9)

“And then I start to doubt [the brand] on the whole, or become suspicious.” (I3)

“For me, that means that they just want to greenwash, that they want to establish a green image.” (I9)

These findings reflect a basic preference for consistency and balanced states, i.e., situations “in which the relations among the entities fit together harmoniously” (Heider 1958, p. 204). A study in the context of corporate social responsibility activities by Wagner et al. (2009) found how information inconsistency increases perceived corporate hypocrisy in consumers, which has a negative impact on overall attitudes toward the company. A construct related to consistency is clarity of positioning, also referred to as brand meaning clarity (Chien, Cornwell, and Pappu 2011), which refers to the extent to which people know what to expect from an entity (Erdem and Swait 1998). Extant research has demonstrated that perceived transparency on the part of a company results in greater brand credibility, quality perceptions (Erdem and Swait 1998), or firm equity (Simmons and Becker-Olsen 2006). Product certifications often not only signal a certain standard of quality, but also reflect the brand’s overall values (e.g., care for sustainability). Perceptions of those values are likely to affect consumers’ evaluations of the brand and product overall. Following this argument, it is expected that the inconsistency present in a partial certification scenario will reduce perceived brand meaning clarity, resulting in attenuated evaluations of the bystander product.

H3c: Brand meaning clarity mediates the relationship between certification strategy and perceptions of bystander products, such that partial certification (versus no certification) leads to lower perceived clarity, which, in turn, decreases consumers’ bystander evaluations.

5.2. Hypotheses Test

5.2.1. Research Method

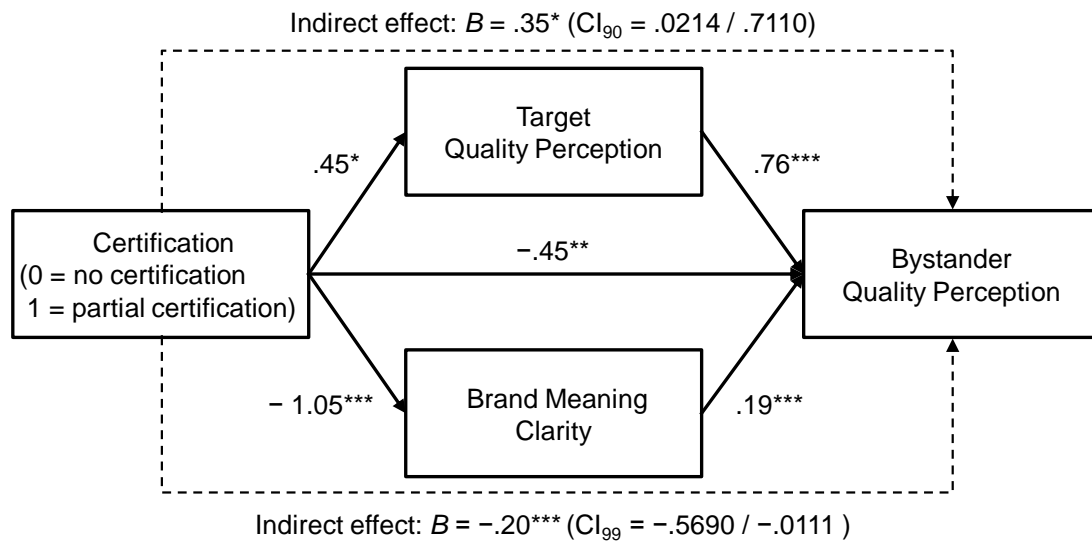
To test the proposed hypotheses, a single-factor between-subjects online experiment (no certification versus partial certification) was conducted. Participants were presented with three products of a yoghurt assortment, whereby two products belonged to a focal brand and one was a competing product, aiming to provide a realistic buying setting. In the control condition, none of the products were certified, while in the partial certification condition one yoghurt of the focal brand bore an organic label. The certification is provided by an independent party and, due to its familiarity, commonly used by consumers as a quality signal (Larceneux, Benoit-Moreau, and Renaudin 2012). A total of 85 students ($M_{\text{age}} = 22.7$ ($SD=4.2$), 69.4% female), invited via social media platforms to participate on a voluntary basis, were randomly assigned to one of the two conditions. In both groups, participants' quality perceptions (Anagnostou et al. 2015; Buchanan et al. 1999) of the target product ($\alpha = .82$) and the bystander product ($\alpha = .72$) were measured, as well as perceived brand meaning clarity (Chien et al. 2011; Erdem and Swait 1998; $\alpha = .80$). Furthermore, respondents' overall awareness of quality (Ailawadi, Pauwels, and Steenkamp 2008; $\alpha = .81$), along with their gender and age, were documented and used as covariates.

5.2.2. Results

To investigate the derived hypotheses, a parallel mediation analysis was conducted using the PROCESS SPSS macro (Hayes 2013), with bias-corrected CIs and 10,000 bootstrap samples. The estimated model included certification strategy (0 = no certification; 1 = partial certification) as the independent variable, perceived quality of the bystander product as the dependent variable, and perceived brand meaning

clarity and perceived quality of the target product as parallel mediators (PROCESS model 4).

The results supported the proposed three-fold effect of certification strategy on perceived quality of the bystander product. First, a direct negative effect of a partial certification strategy on bystander perception ($\beta = -.45$, $SE = .19$, $t(78) = -2.33$, $p < .05$) was found, supporting H3a. Second, in line with H3b, certification was found to positively affect quality perceptions of the target product ($\beta = .45$, $SE = .26$, $t(80) = 1.73$, $p < .10$), which, in turn, positively spilled over to bystander quality perceptions ($\beta = .76$, $SE = .08$, $t(78) = 9.79$, $p < .01$). The indirect effect of certification strategy on bystander perception mediated by target perception was positive and statistically significant, as the CI around the estimates excluded zero ($B = .35$, $SE = .21$, CI_{90} : .0214 to .7110). Third, perceived brand meaning clarity was found to be negatively affected by partial certification ($\beta = -1.05$, $SE = .29$, $t(80) = -3.60$, $p < .01$). Perceived clarity, in turn, positively affected bystander quality perceptions ($\beta = .19$, $SE = .07$, $t(78) = 2.66$, $p < .01$). Consequently, in support of H3c, it was found that there is an overall indirect negative effect of partial certification on bystander quality perception mediated by brand meaning clarity perceptions when using an organic label ($B = -.20$, $SE = .10$, CI_{99} : $-.5690$ to $-.0111$; Figure 15, detailed results in Table 4).



Unstandardized beta coefficients

*** $p < .01$, ** $p < .05$, * $p < .10$ n.s. = not significant

Fig. 15: Paper 2 – Study 2: Parallel Mediation Analysis

5.2.3. Discussion

Overall, the investigation of underlying cognitive processes induced by a partial certification strategy establishes a better understanding of how partial product certifications can affect customer decision making in different co-occurring, partly opposing ways. Extending the findings of Study 1, it was found that there is not only a direct adverse impact caused by changes in the cognitive reference framework (reference effect), but also an indirect positive effect via improved evaluation of the target product (spillover effect), as well as an indirect negative effect due to less clear brand meaning (inconsistency effect).

Table 4: Paper 2 – Study 2 Regression Coefficients, Standard Errors, Model Summary Information, Relative Indirect Effects

Study 2	<i>Consequent</i>								
	Perceived Quality Target			Brand Meaning Clarity			Perceived Quality Bystander		
<i>Antecedent</i>	Coeff.	<i>SE</i>	<i>p</i>	Coeff.	<i>SE</i>	<i>p</i>	Coeff.	<i>SE</i>	<i>p</i>
Constant	4.056	1.040	< .01***	6.346	1.158	< .01***	1.028	.803	.204
Certification	.454	.262	.087*	-1.052	.292	< .01***	-.451	.193	.022**
Perceived Quality Target	–	–	–	–	–	–	.762	.078	< .01***
Brand Meaning Clarity	–	–	–	–	–	–	.186	.070	< .01***
Quality Awareness	.003	.141	.982	-.071	.157	.653	-.033	.091	.718
Age	.004	.032	.895	-.032	.035	.375	-.020	.020	.339
Gender	-.217	.292	.459	.327	.325	.317	.218	.192	.259
	R ² = 0.049			R ² = 0.176			R ² = 0.654		
	F(4,80) = 1.029, <i>p</i> = .398			F(4,80) = 4.264, <i>p</i> < .01			F(6,78) = 24.532, <i>p</i> < .001		
*** < .01, ** < .05, * < .10									
Relative indirect effects of Certification on Perceived Quality Bystander									
through	<i>Effect</i>	<i>SE (boot)</i>	<i>Boot LLCI</i>	<i>Boot ULCI</i>	<i>Level of CI</i>				
Perceived Quality Target	.346*	.210	.0214	.7110	90,00				
Brand Meaning Clarity	-.196***	.100	-.5690	-.0111	99,00				
Unstandardized β -coefficients			10,000 bootstrap samples, bias corrected bootstrap intervals						

6. General Discussion

As a result of consumers' increasing awareness for quality, health, and green consumption issues, many brands offer certified options in addition to their standard assortment, in order to meet these new requirements and benefit from the ongoing economic growth of the respective markets. While extant research has identified a variety of positive effects resulting from product certifications for the certified product, this paper explored beyond these conclusions by focusing on the non-certified product program. Hence, this research provides important theoretical contributions and managerial implications.

6.1. Theoretical Contributions and Practical Implications

By investigating the effects of a partial certification on non-certified products within a product line, this research contributes to extant findings in the field of sustainability seals (e.g., Heng, Peterson, and Li 2016; Linder et al. 2010; Sörqvist et al. 2013; Thøgersen, Jørgensen, and Sandager 2012) by adding the perspective of bystander effects and, thereby, establishing a more expansive portfolio perspective to assess a certification's overall effectiveness. This research consistently demonstrates how a marketing strategy with positive intention, such as adding certified sustainable products to a product line, does not only induce positive effects on the target object that benefits from the treatment, but can also lead to negative effects on bystander products.

These findings support earlier results by Anagnostou et al. (2015) about how offering organic fair trade coffee can reduce perceived legitimacy of uncertified options in the eye of the consumer. Moreover, some limitations outlined by Anagnostou et al. (2015) are addressed in this research by combining different methodological approaches,

utilizing diverse product categories and sustainability certifications, and testing whether changes in consumer attitudes lead to different preferences and choices.

Specifically, using data from a field study, qualitative interviews and online experiments, this research offers new insights into how consumer preferences and perceptions of uncertified products are affected by a partial certification strategy. More precisely, it was found that certification of only some products attenuates consumer perceptions of attributes associated with the respective certification label of products that do not bear that certification, which then carry over to consumers' product preferences and behavioral intentions.

In line with the similarity hypothesis (Tversky 1972), such harmful effects do not occur for products of competing product lines, as mental associations with the certified product are assumed to be lower, preventing negative reference effects. Thus, benefits in preference gained by the certified product are found to be mainly acquired at the cost of loss of preference for the same brand's bystander products; this indicates strong intra-brand cannibalization, which must be considered when deciding whether to employ a specific certification strategy. Moreover, the competitive advantage that often motivates product certifications cannot be achieved as consumer preferences and attitudes toward competing products remain unchanged.

These insights should be of particular relevance for marketing managers, especially due to the increasing use of certification labels as a marketing tactic (e.g., prominently communicated in TV advertisements and on product packaging), and the entailed high costs of employing a product certification strategy. The findings reveal that, from a brand's overall perspective, the impact of product certifications is not as straightforward as one might assume. This emphasizes the need to consider the far-reaching implications of certification strategies with respect to the whole product program,

thereby preventing negative bystander effects and intra-brand cannibalization, and to reconsider the benefits anticipated as a result of product diversity and competitive advantage.

Further, by examining the cognitive processes activated in buying situations where a partial certification is present, this research establishes a more profound understanding of the effects on consumer perceptions of unlabeled bystander products. The findings reveal a three-fold effect via changes in the reference framework, spillover from improved perceptions of the certified product, and skepticism induced by a less clear brand image conveyed due to the certification of only selected products. Thus, this research demonstrates how the psychological mechanisms of spillover and reference effects, which are well known and researched in other marketing domains (e.g. Baucells, Weber, and Welfens 2011; Baumeister, Scherer, and Wagenheim 2015; Laughhunn, Payne, and Crum 1980; Magnusson, Krishnan, Westjohn, and Zdravkovic 2014; Ross 1991), play an important role in the context of sustainability certifications – they affect how consumers perceive a brand’s uncertified standard assortment when a certified option is present. Consequently, knowledge of these mechanisms, their functioning and determinants might be helpful to ascertain how to prevent the unintended side effects, and offer opportunities for marketing interference. The model on bystander effects proposed in this research offers a well-founded starting point for relevant investigations and extensions.

6.2. Limitations and Future Research Directions

This research has some limitations, yet creates several opportunities for future research. The focus was on basic effects within a limited range of product categories and certification labels within the FMCG context. Hence, it would be interesting to validate

and extend the identified basic effects to different settings of product categories, labels, and contexts.

Additionally, the functioning of certifications and the resulting cognitive mechanisms can be considered highly complex procedures; it is possible that the identified effects are pronounced differently in other settings. Thus, an exploration of moderators for the formation, strength, and direction of the documented competing underlying cognitive processes should be conducive to generating a better understanding of when and why the identified effects emerge.

To optimize a certification's overall outcome, identifying methods for enhancing positive spillover effects, while reducing negative reference and inconsistency effects, should be of high relevance for practitioners. Extant research on spillover effects in other contexts (e.g., sponsoring, CoO, brand extension) demonstrated a range of product-, context- and consumer-related moderating influences, such as perceived fit between two entities, familiarity and expertise, context involvement, and type of information processing (Chen, Mathur, and Maheswaran 2014; D'Antone and Merunka 2015; Mazodier and Merunka 2012; Sichtmann and Diamantopoulos 2013; Simmons and Becker-Olsen 2006). Therefore, a promising opportunity for prospective research is the investigation of whether these and other moderating effects are of relevance in the context of product certification.

6.3. Conclusion

Overall, the findings demonstrate that the functioning of product certifications is a complex concept; aside from the intended positive effects on consumer perceptions of certified target products, negative bystander effects on uncertified alternatives of the same brand can occur. This more expansive perspective allows for the assessment of a

certification's overall benefit with regards to the brand portfolio in its entirety. A worthwhile field for future research, with highly relevant practical implications, is further investigation of the conditions under which positive spillover effects can be enhanced and negative reference and inconsistency effects can be diminished.

D How to Avoid Negative Bystander Effects of Product Certifications? An Empirical Examination of Moderating Determinants

Abstract

In order to meet consumers' increasing demand for sustainable products, many brands offer certified options in addition to their standard assortment. This strategy has been shown to impair the same brand's uncertified bystander products, on a cognitive as well as a behavioral level. Specifically, bystander evaluation is affected in a three-fold manner, i.e., by a negative reference effect, positive spillover, and a negative inconsistency effect. To derive practical implications on how to prevent the negative effects, this paper seeks to identify moderators for each. Through the use of a mixed-methods approach, several factors that influence the strength and direction of bystander effects are revealed, including a brand's control over which products are certified, brand reputation, fit between brand and certification, and price difference between certified and uncertified product. Finally, shelf-placement is revealed as an operative mean to prevent or promote the occurrence of bystander effects. These insights offer important managerial implications suitable for specific certifications and settings.

Additional note:

» Parts of this paper were presented at

- the 45th Academy of Marketing Science (AMS) Annual Conference, San Diego, May 2017:

Wulf, Linda, and Sören Köcher (2017), “The Bright And Dark Sides Of Product Certifications – Exploring Side Effects On Consumers’ Perceptions Of Non-Certified Products.”

- the 2017 Summer American Marketing Association (AMA) Conference, San Francisco, CA, August 2017 (VHB JQ3: D):

Wulf, Linda, Sören Köcher, and Hartmut H. Holzmüller (2017), “When certifying sustainability can backfire – Assessing side effects of sustainability labels on non-certified products of the same brand.”

The conference submission received the ‘Best Paper Award Sustainability and Corporate Social Responsibility’ of the Summer American Marketing Association (AMA) Conference, San Francisco, CA, August 2017.

Overview of Studies and Key Findings

Study	Product Category	Moderator	DV	Moderating Effect on ...			Hypotheses	
				Reference Effect	Spillover Effect (via target perception)	Inconsistency Effect (via brand meaning clarity)		
1	Yoghurt	Control	Perceived quality	–	Higher positive spillover effect from consumer test label (low control condition)	Inconsistency effect only in case of high control (organic label)	1	√
2	Juice	Brand reputation	Perceived naturalness	–	Higher spillover effect for low-reputation brands (higher benefit)	No difference between high- and low-reputation brands	2a 2b	√ x
3	Mineral Water	Fit	Perceived quality	–	No difference between high and low fit	Negative inconsistency effect only in high fit condition	3a 3b	x x
4	Jam	Price difference	Perceived naturalness	Higher negative reference effect when there is a price difference	No difference between same price and price difference condition	–	4a 4b	√ x
Field Study	Yoghurt	Shelf-placement	# Sales	» Higher sales of bystander product when positioned next to certified target product (vs. separate positioning) » Retailer's private label represents weak reputation setting → positive effect found on evaluations carries over to buying behavior			5	√

1. Introduction

The use of sustainability certifications such as organic labels, fair trade logos, etc. has become ubiquitous, especially with regard to food products (Langer, Eisend, and Kuß 2008). To benefit from consumers' growing health consciousness and awareness for quality, as well as the development of green and ethical consumerism practices, companies offer certified products that address these new requirements. Oftentimes, such certified options are added to the existing assortment, so that product lines include both certified and non-certified products (this strategy of certifying only select products of a certain line is referred to as 'partial certification'; the certified product represents the 'target product', while uncertified products are referred to as 'bystander products').

The previous article (Paper 2) established a rigorous understanding of how such a partial certification strategy affects consumers' perceptions of the product line's uncertified bystander products. A series of experiments revealed a detrimental impact on preferences for these non-certified products, which occurs because perceptions of product attributes associated with the certification suffer from this strategy. Further, underlying cognitive processes that play a role when consumers are confronted with a respective buying situation were identified. If only one product in a line is certified, a shift occurs in the reference used to assess the non-certified bystander, causing a negative reference effect. In addition, improved perceptions of the certified target positively spill over to the bystander due to the products' shared brand affiliation and mental associations. Finally, skepticism induced by a less clear brand image negatively affects how bystander products are evaluated (Paper 2).

The identification of these underlying mechanisms provides a discerning understanding of the multiple ways in which consumer perceptions of bystander products are affected. The next step of this dissertation will focus on deriving specific

practical implications that may help brand managers prevent the observed diluting effects of a partial certification strategy, which is common practice especially in the FMCG market, and possibly identify conditions under which the positive spillover effect can outweigh negative reference and inconsistency effects. Therefore, this paper aims to identify and test different determinants that might affect the strength and direction of the three cognitive effects found in the basic research model.

To do so, a mixed-methods approach, defined as “combining or integration of qualitative and quantitative research and data in a research study” (Creswell 2013, p.14f.), is followed. Such a design “is useful when the quantitative or qualitative approach, each by itself, is inadequate to best understand a research problem and the strengths of both quantitative and qualitative research (and its data) can provide the best understanding” (Creswell 2013 p. 20). In order to overcome limited theoretical information, explore potential determinants, and ensure integration of relevant variables in the quantitative experiments based on empirical results, an exploratory sequential model is applied. This design studies a problem by first exploring it through qualitative data collection and analysis, enabling the researcher to gain new insights and a better understanding of contextual factors influencing the perception of product certifications and their effect on bystander products. In the second phase, the qualitative results are developed into measures for an experiment (Creswell 2015).

In this case, the researcher began by using the qualitative data collected in the 14 interviews that were conducted to develop the basic model (Paper 2). The interview transcripts were reanalyzed to derive potential factors that might determine the strength of one or more of the identified basic effects. In addition, existing research on quality seals and sustainability labels, consumers’ use of signals, and spillover effects was used to support the qualitative findings and develop research hypotheses. Each potential

moderator was then tested in an online experiment. Finally, real data collected in a field experiment conducted in a food discounter store provided additional insights with a greater degree of external validity.

Overall, four different moderators are identified; namely, a brand's control over certifying its product assortment, brand reputation, perceived fit of brand and certification, and price difference between certified and non-certified product. The degree to which each of these determines the strength of the previously identified bystander effects is also revealed. Further, it is demonstrated how different shelf-placements of certified and non-certified alternatives within a store can be used to optimize the effect of a certification on bystander products. These findings contribute to extant research in the context of sustainability labels by enhancing understanding of the portfolio-related consequences of certifying only select products within a brand's assortment. Building on the empirical results of this research, practical implications are derived and conditions under which a partial certification strategy can be beneficial for the whole product line are outlined. These insights should be of significant relevance for brand managers when deciding about the employment of a certification strategy in order to maximize overall benefits and prevent harmful effects on the own uncertified portfolio.

2. Qualitative Study

The initial objective of the qualitative interviews was to understand how consumers evaluate an uncertified product when a labeled product of the same brand is present within a given choice set. However, during the interviews, participants also referred to some boundary conditions or specifications under which the effects might be especially strong or weak, and attempted to explain these assumptions. To analyze this particular

information, qualitative data analysis software (MAXQDA; Kuckartz 2010) was used for a qualitative content analysis (Kuckartz 2014). Following coding of the data according to different determinants named by the interview participants, three categories emerged as being of significant relevance: the type of certification and respective consequences for the brand's control over which of its products are certified, brand reputation, and perceived fit between brand and certification. Building on extant research about consumers' use of the price as a quality signal (e.g., Rao and Monroe 1989; Zeithaml 1988), the price difference between certified target and uncertified bystander products was added as a fourth potential moderator. Each factor is discussed in the following section, and hypotheses are developed based on the qualitative findings as well as former research.

2.1. Control

First, it appears that a brand's ability to actively influence which of its products are certified affects consumers' perception of a partial certification strategy as inconsistent or not. Thereby, the interview participants distinguished between high or low brand control. For instance, in case of sustainability or organic labels, a brand can actively decide whether it wants to meet a certification's required standards (i.e., high control). An example for a low control certification are consumer test labels (CT), where independent external sources test and certify products whereupon the brand itself has no influence on which of its products are tested (Krischik 1998).

“I think it is a difference whether it is externally or internally certified, and for fair trade I would say, well, not any brand can claim to be fair trade. Obviously there are respective criteria which have to be fulfilled, but the brand itself affects it actively, if

they deliberately meet the requirements. And regarding [CT], I think it is completely external.” (I6)

“This one [organic] is rather active from the company's side, and this is rather passive [CT].” (I8)

Consequently, if the level of control is high, the brand is responsible for employing a partial certification strategy (versus certifying all products of a product line), whereas, in the case of a consumer test label, it is rather a matter of coincidence which products of a line are certified (low internal control); thus, the brand cannot be ‘blamed’ for not certifying its other products. Interestingly, consumers seem to be aware of these differences and, therefore, derive different inferences from different certifications.

“If [CT] compares 20 toothpastes, I consider it as coincidence which, well, not only coincidence, but it is a coincidence that it is exactly this product by [brand].” (I9)

“I would think it is probably only a matter of coincidence that this one product has been chosen to represent a certain product line.” (I6)

“Every product can be fair trade, but not every product can be certified as very good by [CT].” (I13)

These assumptions can be related to the concept of perceived behavioral control (Ajzen 1991), referring to “the extent to which performing the behavior is up to the actor” (Ajzen 2002, p.672). The interview participants proposed that if the brand’s control is high (e.g., in case of sustainability labels), certifying only select products appears as inconsistent and is likely to reduce brand meaning clarity, i.e., the extent to which people know what to expect from an entity (Erdem and Swait 1998). On the other hand, if behavioral control is low (e.g., in case of consumer test marks), this effect is diminished as the brand cannot be held responsible.

H1: High (versus low) perceived control of a brand to actively influence which of its products are certified increases the negative effect of a partial certification on brand meaning clarity.

2.2. Brand Reputation

A second moderator investigated was the brand's overall reputation. Participants of the interviews appeared less skeptical in terms of 'greenwashing' intentions if they were presented with a partial certification strategy used by a brand they did not know. As an explanation, participants stated that their associations with unknown brands were less fixed than for those of familiar brands with stronger reputations, which made them less suspicious when confronted with a partial certification.

"I don't yet have a fixed image here [unknown brand]. And therefore I would perceive it favorably." (I13)

"Well, what I would find strange would be if I see a product of a well-known brand which has not been organic or fair trade for ages suddenly bearing a label." (I9)

"For brands I don't know, it makes a good impression, you see the fair trade logo and think it seems to be all right, that should be a good brand." (I13)

Furthermore, extant research has found the impact of organic labels on perceived overall product quality to be weaker when the brand has high (versus low) brand equity (Larceneux, Benoit-Moreau, and Renaudin 2012). The reasoning is that product certifications constitute a specific type of brand, and certifying a product can therefore be regarded as a form of co-branding (Larceneux et al. 2012). Research on co-branding has demonstrated that an alliance between two favorably evaluated brands does not lead to more approving evaluations of the co-branded product, as positive attitudes are

redundant in this case and a ceiling effect is likely to emerge (Larceneux et al. 2012; Park, Jun, and Shocker 1996). In contrast, a brand with a weaker reputation has more to gain from an association with a certification, which should lead to more benefits from the alliance (Park et al. 1996). Thus, brand reputation was expected to moderate the effect of partial certification on target perception. Further, building on the interview results, brand meaning clarity was expected to be more negatively affected by a partial certification strategy for brands with high reputation because consumers have a more fixed set of associations for these brands, compared with brands with which they are less familiar.

H2: High (versus low) brand reputation a) reduces the positive effect of a partial certification strategy on target perceptions and b) increases the negative effect on perceived brand meaning clarity.

2.3. Fit

A central construct in the brand alliance context is fit, describing how “congruent (i.e., as going together”; Simmons and Becker-Olsen 2006, p.155) two entities are perceived to be. Extant research has demonstrated the critical importance of fit, which leads to positive effects on evaluations, attitudes, loyalty or affective reactions (e.g., Lanseng and Olsen 2012; Mazodier and Merunka 2012; Xiao and Lee 2014). However, in research on product certifications, there appears to be a lack of focus on the fit construct (Haenraets, Ingwald, and Haselhoff 2012).

In the interviews, the relevance of fit was repeatedly mentioned as potentially having an impact on bystander effects. In particular, certain labels are perceived to more or less fit with a certain brand, depending on consumer expectations or associations with the

brand. It seems that if perceptions of fit are low, consumers become skeptical and assume egoistic or greenwashing intentions to be the core reason for product certifications.

“For products offered by Nestlé [...], I think the use of organic labels or fair trade labels is ridiculous. These companies have 100% only greenwashing intentions and want to fool consumers.” (I9)

“Because one associates that McDonald’s is a fast food restaurant [...] it just doesn’t fit together.” (I4)

“For me, it definitely depends on the type of label, [...] it definitely depends on the brand, on what prehistory that brand has, what is its overall mission statement, and if [...]. I think it can also harm a certification. [...] At least its credibility. Like, if there is a fair trade logo on a Unilever product [...], I would wonder whether fair trade can really be fair trade, because for me that is mutually exclusive.” (I9)

Following this argument, it is likely that perceived fit between a certification and a brand determines the strength of the certified target product’s benefit. Due to the increased skepticism on the part of consumers in the case of perceived misfit, it was expected that there would be a stronger negative effect of a partial certification strategy on brand meaning clarity. On the other hand, this negative effect should be smaller if people think the use of a certification makes sense or is adequate for a certain brand, i.e., in a high-fit setting.

H3: High (versus low) perceived fit between a brand and a certification a) increases the positive effect of a partial certification on target evaluations, and b) decreases the strategy’s negative effect on brand meaning clarity.

2.4. Price Difference

Although prices were not mentioned by the interview participants as a potential determinant, it is reasonable to assume that a better understanding of pricing effects can offer highly relevant practical implications for the design of a certification strategy; therefore, price is included among the considerations. In practice, certified products are often more expensive than non-certified alternatives. Therefore, it was assessed whether these price differences have an impact on the strength of bystander effects.

Extant research has demonstrated that consumers use price as an extrinsic cue to assess product quality (e.g., Rao and Monroe 1989; Zeithaml 1988). Similar to the price-perceived quality relationship, the principle of “you get what you pay for” might be applied by consumers to certification-related attributes, such as a product’s perceived naturalness or healthiness. Thus, a higher price of the certified target product is likely to cause consumers to infer even higher levels of naturalness, healthiness, etc. because they use the price as an additional extrinsic signal for overall assessment of the product (Burnkrant 1978; Dodds, Monroe, and Grewa 1991; Olson and Jacoby 1972).

Moreover, in line with assimilation contrast theory (Hovland et al., 1953), higher prices are also likely to increase the perceived difference between certified, more expensive products in contrast with those that are uncertified and less expensive. In addition to the certification, a price difference further shifts the overall reference frame consumers use to assess the offered alternatives within a given choice set upward, causing the uncertified and cheaper bystander products to appear in a lower position, compared to the certified and more expensive target product, within the given reference range (Helson 1964; Kahneman and Tversky 1979). It was expected that this shift of reference would further increase the negative reference effect caused by a partial certification on bystander perceptions.

H4: Higher prices of certified products (versus equal prices of certified and uncertified products) increase a) the positive effect of a partial certification strategy on perceptions of the target product and b) the direct negative effect on bystander perceptions.

The overall conceptual model is summarized in Figure 16.

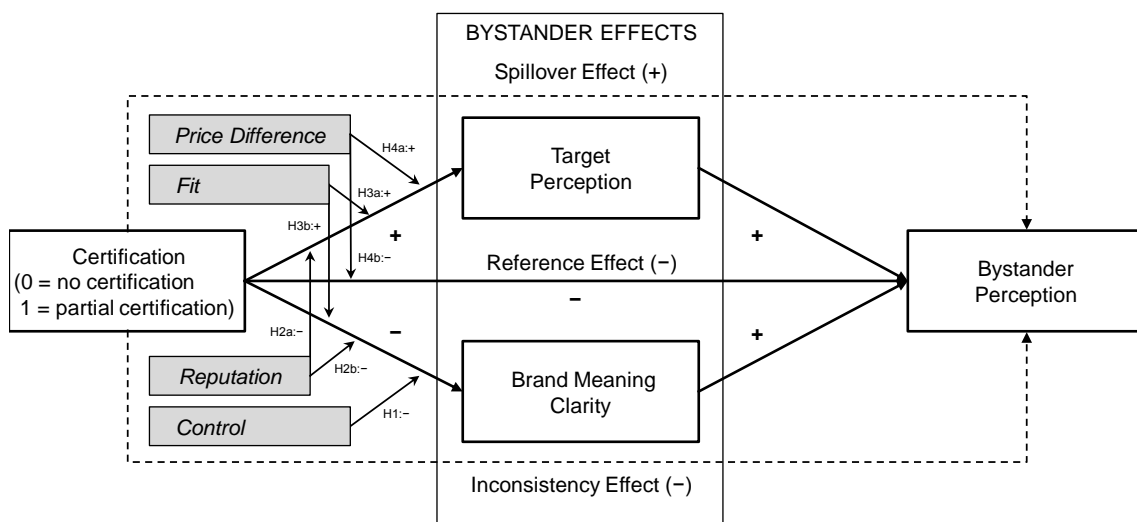


Fig. 16: Paper 3 – Overall Conceptual Model

3. Study 1: Control

3.1. Research Method and Data

To test the proposed hypothesis regarding a brand's control over which of its products are certified, Study 1 used a single factor between-subjects design with a three-fold multicategorical independent variable (no certification versus partial certification with organic label versus partial certification with consumer test label). A total of 128 students ($M_{age} = 22.8$, 73.4% female) completed the study.

Participants were confronted with a choice set of yoghurts; in the control condition, none of the presented products were certified, whereas in the manipulation conditions, one of the focal brand's yoghurts bore a certification mark (organic versus consumer test label), representing a partial certification scenario. Participants were randomly assigned to one of the three conditions. Following the scenario descriptions, participants shared their perceptions of attributes related to the certification (quality perception (Anagnostou et al. 2015; Buchanan et al. 1999)) of the target product ($\alpha = .81$) and the bystander product ($\alpha = .72$), as well as perceived brand meaning clarity (Chien, Cornwell, and Pappu 2011; Erdem and Swait 1998; $\alpha = .73$), on established scales. Furthermore, respondents' overall quality awareness (Ailawadi, Pauwels, and Steenkamp 2008; $\alpha = .79$), gender, and age were included as covariates. All responses were assessed on a 7-point scale, anchored by "strongly disagree" (1) and "strongly agree" (7).

3.2. Results

A pretest ($n = 40$) revealed that the brand's perceived control (Sparks, Guthrie, and Shepherd 1997; $\alpha = .79$) is significantly higher for organic labels than for consumer test labels ($M_{\text{organic}} = 4.73$ vs. $M_{\text{CT}} = 3.48$, $p < .05$), supporting the qualitative findings that consumers are indeed familiar with the differences in label policies. At the end of the main study, as manipulation check, participants were asked whether one of the products had been certified, and if so, what kind of certification it was. Only those who answered correctly were included in the data analysis.

To investigate the derived hypotheses, a mediation analysis was conducted with a multicategorical independent variable (Hayes and Preacher 2014) using the PROCESS SPSS macro (Hayes 2013), with bias-corrected confidence intervals (CIs) and 10,000

bootstrap samples. The estimated model included certification strategy (0 = no certification; 1 = partial certification with organic label; 2 = partial certification with consumer test label) as the multicategorical independent variable, perceived quality of the bystander product as the dependent variable, and perceived brand meaning clarity and perceived quality of the target product as parallel mediators (PROCESS model 4). As the method employs a combination of dummy codes to represent the different certification strategies in relation to a reference group, the reported effects of the two partial certification strategies describe impacts compared to the reference group of no certification.

The results support the previously identified three-fold effects of a certification strategy on perceived quality of the bystander product (Paper 2). First, both partial certification strategies were found to have a direct negative effect on bystander quality perception ($B_{\text{Organic}} = -.51$, $SE = .18$, $t(120) = -2.81$, $p < .01$; $B_{\text{CT}} = -.45$, $SE = .18$, $t(120) = -2.48$, $p < .01$; see Figure 17, detailed results in Table 5, 6).

Second, both certifications were found to positively affect quality perceptions of the target product ($B_{\text{Organic}} = .49$, $SE = .24$, $t(122) = 2.05$, $p < .05$; $B_{\text{CT}} = 1.01$, $SE = .24$, $t(122) = 4.25$, $p < .01$), which, in turn, positively spill over to bystander quality perceptions ($B = .76$, $SE = .07$, $t(120) = 11.46$, $p < .01$). Both indirect effects of certification strategy on bystander perception, mediated by target perception, were positive and statistically significant, as the CI around the estimates excludes zero ($\beta_{\text{Organic}} = .37$, $SD = .19$, $CI_{95\%}: .0133$ to $.7588$; $\beta_{\text{CT}} = .76$, $SD = .20$, $CI_{95\%}: .3916$ to 1.1795). Interestingly, the positive effect on target quality perception was significantly stronger when using the consumer test label compared to the organic label ($\Delta = .52$, $SE = .23$, $t(122) = 2.25$, $p < .05$), resulting in a higher indirect effect as well ($\Delta = .40$, $SD = .16$, $CI_{95\%}: .1078$ to $.7221$).

Third, perceived brand meaning clarity was found to be negatively affected by partial certification. However, this effect is only significant for the organic label ($B_{\text{Organic}} = -1.02$, $SE = .28$, $t(122) = -3.64$, $p < .01$) and not for the consumer test label ($B_{\text{CT}} = -.29$, $SE = .28$, $t(122) = -1.05$, n.s.). These latter effects of an organic label and a consumer test label differ from each other significantly ($\Delta = .72$, $SE = .27$, $t(122) = 2.65$, $p < .01$), supporting H1. Perceived clarity, in turn, positively affects bystander quality perceptions ($B = .13$, $SE = .06$, $t(120) = 2.32$, $p < .05$). Consequently, it was found that there is an overall negative indirect effect of a partial certification strategy on bystander quality perception mediated by brand meaning clarity perceptions when using an organic label ($\beta_{\text{Organic}} = -.13$, $SD = .07$, $CI_{95}: -.3385$ to $-.0345$), but not when using a consumer test label ($\beta_{\text{CT}} = -.04$, $SD = .04$, $CI_{95}: -.1545$ to $.0184$).

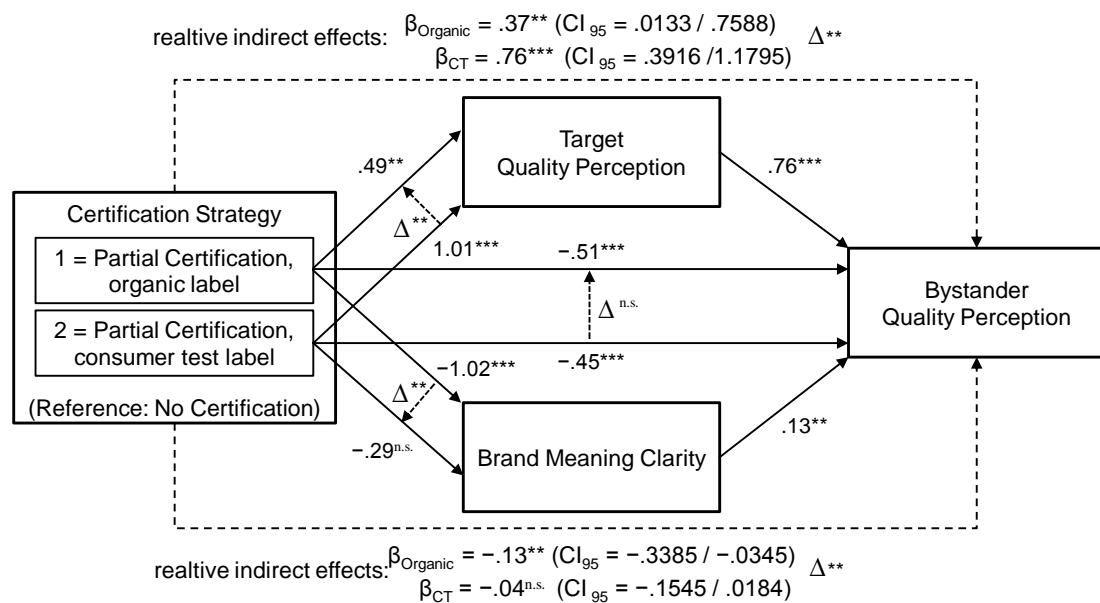


Fig. 17: Paper 3 – Study 1: Moderating Effect of Certification Type (Control)

Table 5: Paper 3 – Study 1: Regression Coefficients, Standard Errors, Model Summary Information

Study 1		<i>Consequent</i>								
		Perceived Quality Target			Brand Meaning Clarity			Perceived Quality Bystander		
<i>Antecedent</i>		Coeff.	<i>SE</i>	<i>p</i>	Coeff.	<i>SE</i>	<i>p</i>	Coeff.	<i>SE</i>	<i>p</i>
Constant		4.460	.752	< .01***	4.755	.885	< .01***	.716	.624	.253
	Organic Label	.487	.238	.043**	-1.019	.280	< .01***	-.511	.182	< .01***
Certification	Consumer Test	1.009	.237	< .01***	-.295	.280	.294	-.450	.181	.014**
	Δ	.522	.232	.026**	.724	.274	< .01***	.061	.169	.719
Perceived Quality Target		–	–	–	–	–	–	.757	.067	< .01***
Brand Meaning Clarity		–	–	–	–	–	–	.130	.056	.022**
Quality Awareness		-.040	.105	.702	-.094	.124	.448	-.047	.074	.529
Age		.010	.022	.640	-.007	.026	.797	-.001	.015	.990
Gender		-.123	.220	.578	.390	.260	.136	.043	.156	.783
		R ² = 0.140			R ² = 0.139			R ² = 0.600		
		<i>F</i> (5,122) = 3.977, <i>p</i> < .01			<i>F</i> (5,122) = 3.952, <i>p</i> < .01			<i>F</i> (5,120) = 25.688, <i>p</i> < .01		
		*** < .01, ** < .05, * < .10								

Table 6: Paper 3 – Study 1: Relative Indirect Effects

Relative Indirect Effects of Certification on Perceived Quality Bystander						
through		<i>Effect</i>	<i>SE (boot)</i>	<i>Boot LLCI</i>	<i>Boot ULCI</i>	<i>Level of CI</i>
Perceived Quality Target						
Certification	<i>Organic Label</i>	.368**	.193	.0133	.7588	95,00
	<i>Consumer Test</i>	.764***	.199	.3916	1.1795	95,00
Brand Meaning Clarity						
Certification	<i>Organic Label</i>	-.133**	.074	-.3385	-.0345	95,00
	<i>Consumer Test</i>	-.038	.042	-.1545	-.0184	95,00
Unstandardized β -coefficients, 10.000 bootstrap samples, bias corrected bootstrap intervals						

3.3. Discussion

Study 1 demonstrates that the basic effects of a partial certification strategy on a product line's uncertified bystander differ by type of certification. Consumers are aware that companies have significant influence on which of their products are certified with a sustainability label, because they are free to fulfill the respective requirements and thereby control the number of certified options within their assortment. In contrast, consumer test labels are not as easy to control from a company perspective, as the products to be tested and certified are determined externally.

As consumers are familiar with this principle, they do not hold a brand responsible for certifying only select products with a consumer test label. In contrast, they consider this specific certification of a target product chosen as a matter of coincidence to be a positive indicator of the product line. Due to these differences in label policies, it was found that a partial certification has a negative effect on brand meaning clarity only in

cases where the brand has considerable control and is attributed as responsible for the selective labelling (i.e., when using an organic label).

In addition, a significant difference was found with regard to the positive spillover effect. While certified target products benefit from both the organic and consumer test label (in line with former research on positive effects of product certifications; e.g., Amos, Pentina, Hawkins, and Davis 2014; Dean and Biswas 2001; Sörqvist et al. 2013), this positive effect was significantly stronger for the consumer test label. An explanation might be that while organic labels are not only, and not necessarily always (Newman, Gorlin, and Dhar 2014), associated with quality, but also a variety of sustainability-related matters, consumer test labels clearly focus on quality issues. Thus, the latter appears to serve as an even stronger indicator of a product's quality.

Due to the strong positive spillover and the absence of a negative inconsistency effect, the use of a consumer test label induced positive bystander effects; these labels are therefore considered beneficial for both target and bystander products.

4. Study 2: Brand Reputation

4.1. Research Method and Data

Study 2 aimed to test the influence of brand reputation on bystander effects and was completed with a 2 x 2 design (certification: no versus partial; brand reputation: low versus high). 135 students ($M_{\text{age}} = 22.4$, 73.5% female) participated and were presented with a choice set consisting of three different juices. Control and manipulation conditions were designed just as in Study 1, whereby the target juice was certified with an organic label. Participants were randomly assigned to one of the four conditions. Again, perceptions of attributes related to the certification (perceived naturalness (Camus 2004) of the target ($\alpha = .80$) and bystander ($\alpha = .79$)), as well as perceived

brand meaning clarity (Chien et al. 2011; Erdem and Swait 1998; $\alpha = .78$) were noted. Furthermore, respondents' overall eco consciousness (Sörqvist et al. 2013; $\alpha = .82$), gender, and age were used as covariates.

4.2. Results

In the scenario descriptions, brand reputation was manipulated through the use of comparison between a well-known to a fictive brand. A manipulation check of perceived brand reputation (Chaudhuri 2002, $\alpha = .92$) revealed significant differences between the two ($M_{\text{RepHigh}} = 5.60$ vs. $M_{\text{RepLow}} = 2.87$, $p < .001$). Further, participants were asked again whether and which one of the products presented had been certified.

To test the hypotheses, a combination of PROCESS models 4 and 7 was used to investigate parallel mediation (model 4), as well as moderation of the different paths (moderated mediation, model 7). The estimated model included certification strategy (0 = no certification; 1 = partial certification) as the independent variable, perceived naturalness of the bystander product as the dependent variable, and brand meaning clarity as well as perceived naturalness of the target product as parallel mediators. Brand reputation (0 = low; 1 = high) was used as moderator of both indirect effects.

Regarding the hypothesized effect of brand reputation on target perceptions, a regression on perceived naturalness of the target juice product revealed a significant certification x reputation interaction ($B = 1.15$, $SE = .41$, $t(127) = 2.84$, $p < .01$; detailed results in Table 7, 8), indicating that the effect of partial certification on target evaluation depends on the brand's reputation. More precisely, for lesser-known brands, a significant positive effect was found on perceived naturalness of the target ($B = 1.47$, $SE = .28$, $t(127) = 5.26$, $p < .01$; Figure 18), while the effect for high reputation brands turned out to be not significant ($B = .32$, $SE = .29$, $t(127) = 1.10$, n.s.); this finding

supported H2a. Also, there was a significant difference between the indirect effect of a partial certification strategy through target perceptions on bystander perceptions for brands of weak compared to strong reputation ($\text{Index}_{\text{ModeratedMediation}} = -.7458$, $\text{CI}_{99} = -1.4425$ to $-.0989$). In terms of a moderating effect of reputation on brand meaning clarity, no significant interaction of certification and reputation was found ($B = .17$, $\text{SE} = .41$, $t(127) = .40$, n.s.); the effect of partial certification assessed through brand meaning clarity on bystander perceptions was negative regardless of the brand's reputation ($\beta_{\text{RepHigh}} = -.05$, $\text{SD} = .04$, $\text{CI}_{90} = -.1599$ to $-.0020$; $\beta_{\text{RepLow}} = -.08$, $\text{SD} = .07$, $\text{CI}_{90} = -.2317$ to $-.0003$). Thus, H2b was not supported.

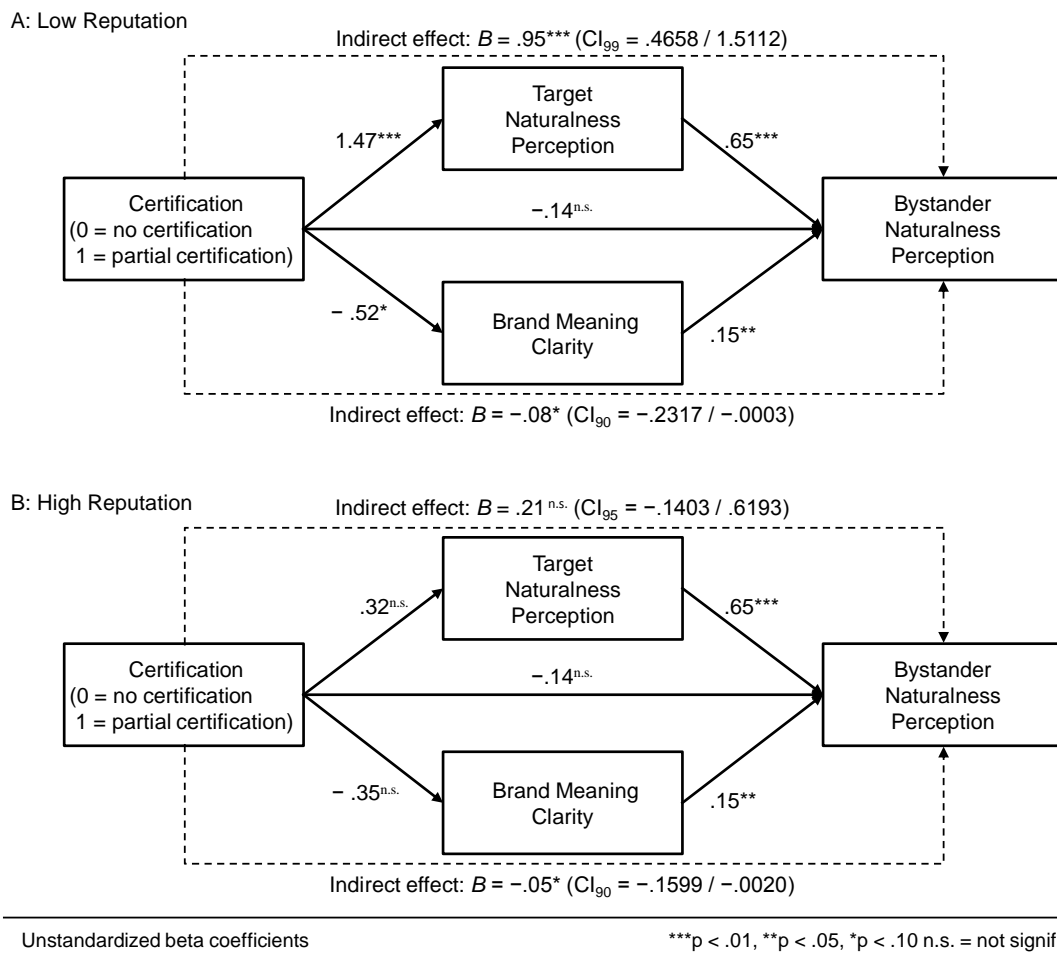


Fig. 18: Paper 3 – Study 3: Moderating Effect of Brand Reputation

Table 7: Paper 3 – Study 2: Regression Coefficients, Standard Errors, Model Summary Information

Study 2	<i>Consequent</i>								
	Perceived Naturalness Target			Brand Meaning Clarity			Perceived Naturalness Bystander		
	Coeff.	SE	<i>p</i>	Coeff.	SE	<i>p</i>	Coeff.	SE	<i>p</i>
<i>Antecedent</i>									
Constant	.946	.905	.298	5.256	.765	< .01***	1.212	.670	.084*
Certification	.897	.201	< .01***	-.435	.209	.040**	-.142	.170	.404
Brand Reputation	.921	.300	< .01***	-.520	.303	.088*	–	–	–
Certific. x Reputation	-1.153	.407	< .01***	.167	.413	.688	–	–	–
Certific. low reputation	1.474	.281	< .01***	-.519	.302	.088*	–	–	–
Certific. high reputation	.321	.291	.272	-.352	.287	.222	–	–	–
Naturalness Target	–	–	–	–	–	–	.647	.067	< .01***
Brand Meaning Clarity	–	–	–	–	–	–	.149	.068	.030**
Ecological Awareness	-.193	.071	< .01***	-.185	.070	< .01***	.043	.057	.456
Age	.016	.027	.561	-.037	.026	.157	-.042	.021	.045**
Gender	.174	.232	.455	-.057	.229	.805	.071	.180	.695
	$R^2 = 0.299$			$R^2 = 0.217$			$R^2 = 0.534$		
	$F(7,127) = 7.736, p < .01$			$F(7,127) = 5.012, p < .01$			$F(6,128) = 24.414, p < .001$		
	*** < .01, ** < .05, * < .10								

Table 8: Study 2 – Indirect Effects

Relative Indirect Effects of Certification on Perceived Naturalness Bystander					
Through Naturalness Target	<i>Effect</i>	<i>SE (boot)</i>	<i>Boot LLCI</i>	<i>Boot ULCI</i>	<i>Level of CI</i>
Brand Reputation					
<i>low</i>	.953***	.200	.4658	1.5112	99,00
<i>high</i>	.207	.195	-.1463	.6193	95,00
Index of Moderated Mediation					
	<i>Index</i>	<i>SE (boot)</i>	<i>Boot LLCI</i>	<i>Boot ULCI</i>	<i>Level of CI</i>
	-.7458***	.2561	-1.4425	-.0989	99,00
Through Brand Meaning Clarity	<i>Effect</i>	<i>SE (boot)</i>	<i>Boot LLCI</i>	<i>Boot ULCI</i>	<i>Level of CI</i>
Brand Reputation					
<i>low</i>	-.078*	.069	-.2317	-.0003	90,00
<i>high</i>	-.053*	.045	-.1599	-.0020	90,00
Index of Moderated Mediation					
	<i>Index</i>	<i>SE (boot)</i>	<i>Boot LLCI</i>	<i>Boot ULCI</i>	<i>Level of CI</i>
	.0249	.0695	-.0550	.1752	90,00
Unstandardized β -coefficients	10,000 bootstrap samples, bias corrected bootstrap intervals				

4.3. Discussion

The findings of Study 2 are in line with earlier results that showed greater benefits from certification labels for brands with lower equity (Larceneaux et al. 2012). In these cases, certification resulted in stronger positive spillover effects, which therefore benefited consumer perceptions of the bystander product. In contrast, the negative inconsistency effect caused by a partial certification strategy occurred for brands of both strong and weak reputation. Thus, regardless of whether consumers are familiar with a brand or

not, certifying only select products of in a line causes uncertainty with the brand and thereby harms perceptions of their uncertified bystander products.

5. Study 3: Fit

5.1. Research Method and Data

The objective of Study 3 was to assess the effect of perceived fit between a brand and a certification on bystander effects. Therefore, a 2 x 2 design (certification: no versus partial; fit: low versus high) was used. As product category, mineral water was chosen – a market which has recently seen the introduction of organic offerings. To manipulate the degree of fit, a negative example repeatedly named in the interviews, the brand “Nestlé” using organic labels, was applied as low fit condition. In contrast, the brand “Vio”, which already offers organic beverages such as lemonades, was selected as a high fit manipulation. To ensure that different levels of perceived brand-certification fit exist between these manipulations, a pretest (n=60) was conducted, revealing significant differences in consumers’ fit perceptions (Sichtmann and Diamantopoulos 2013; $M_{\text{FitHigh}} = 3.83$ vs. $M_{\text{FitLow}} = 3.00$, $p < .05$).

In the main experiment, 212 students ($M_{\text{age}} = 22.2$, 73.4% female) were randomly assigned to one of the four scenarios, and responded to scales capturing their quality perceptions of the target ($\alpha = .86$) and the bystander product ($\alpha = .84$), as well as perceived brand meaning clarity ($\alpha = .83$). Furthermore, respondents’ overall quality awareness ($\alpha = .86$), eco consciousness ($\alpha = .84$), general attitude towards quality labels (Buxel 2010; $\alpha = .88$), gender and age were included as covariates.

5.2. Results

Within the experiment, participants were asked for their fit perceptions again ($M_{\text{FitHigh}} = 4.31$ vs. $M_{\text{FitLow}} = 3.38$, $p < .01$) and, additionally, whether one of the products presented had been certified as a manipulation check.

Once again, a combination of PROCESS models 4 and 7 was used to test the hypotheses and simultaneously investigate parallel mediation (model 4) and moderating effects (model 7). The estimated model included certification strategy (0 = no certification; 1 = partial certification) as the independent variable, perceived quality of the bystander product as the dependent variable, and perceived brand meaning clarity as well as perceived quality of the target product as the parallel mediators. Brand-certification fit (0 = low; 1 = high) was used as moderator of the indirect effects.

Regarding the hypothesized moderating effect of fit on target perceptions, a regression on perceived quality of the organic target water revealed a significant positive effect as a result of both certification ($B = .372$, $SE = .18$, $t(203) = 2.08$, $p < .05$) and fit ($B = .827$, $SE = .29$, $t(203) = 2.85$, $p < .01$). However, their interaction was not significant ($B = -.32$, $SE = .361$, $t(203) = .89$, n.s.; detailed results in Table 9, 10), indicating that the effect of partial certification on target evaluation does not significantly differ based on how well brand and certification are perceived to fit. Therefore, H3a was not supported.

Regarding the moderating effect of fit on brand meaning clarity, a significant certification x fit interaction ($B = -.702$, $SE = .33$, $t(203) = -2.12$, $p < .05$) was found. Specifically, for the low fit condition, there was a positive, albeit non-significant, effect on brand meaning clarity ($B = .30$, $SE = .23$, $t(203) = 1.30$, n.s.; Figure 19), while the effect for high fit brands was significantly negative ($B = -.40$, $SE = .24$, $t(203) = -1.67$, $p < .10$). Consequently, considering that brand meaning clarity positively affects

bystander quality perceptions ($B = .10$, $SE = .05$, $t(204) = 2.08$, $p < .05$), an overall (non-significant) positive indirect effect of partial certification on bystander perceptions was found in the case of low fit ($\beta_{\text{FitLow}} = .03$, $SD = .03$, $CI_{90}: -.0042$ to $.1114$), while the indirect effect was significantly negative in the high fit condition ($\beta_{\text{FitHigh}} = -.04$, $SD = .04$, $CI_{90}: -.1386$ to $-.0003$). The index of moderated mediation reveals that these effects differ significantly from each other ($\text{Index}_{\text{ModeratedMediation}} = -.0702$, $CI_{90} = -.2110$ to $-.0035$). This finding is the opposite of the proposal in H3b, which, therefore, could not be supported.

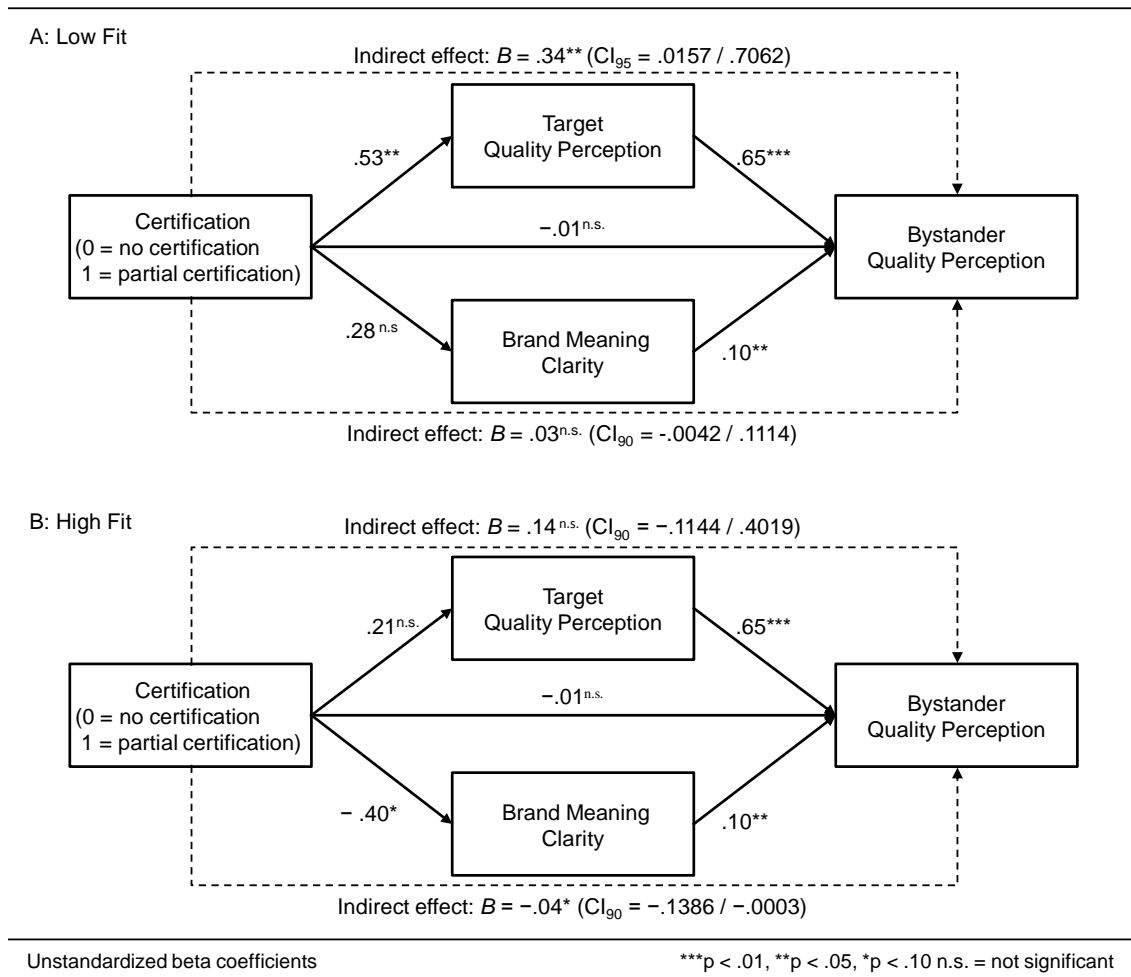


Fig. 19: Paper 3 – Study 3: Moderating Effects of Brand–Certification Fit

Table 9: Paper 3 – Study 3: Regression Coefficients, Standard Errors, Model Summary Information

Study 3	<i>Consequent</i>								
	Perceived Quality Target			Brand Meaning Clarity			Perceived Quality Bystander		
	Coeff.	SE	<i>p</i>	Coeff.	SE	<i>p</i>	Coeff.	SE	<i>p</i>
<i>Antecedent</i>									
Constant	2.315	.819	< .01***	3.554	.733	< .01***	2.357	.547	< .01***
Certification	.372	.178	.038**	-.053	.167	.753	-.012	.125	.925
Fit	.827	.290	< .01***	1.482	.254	< .01***	–	–	–
Certification x Fit	-.320	.361	.376	-.702	.332	.036**	–	–	–
Certification x low fit	.532	.245	.031**	.298	.229	.194	–	–	–
Certification x high fit	.212	.262	.421	-.404	.242	.097	–	–	–
Perc. Quality Target	–	–	–	–	–	–	.647	.048	< .01***
Brand Meaning Clarity	–	–	–	–	–	–	.100	.048	.039**
Quality Awareness	-.045	.092	.623	.136	.085	.109	-.077	.063	.227
Attitude Quality Labels	.080	.066	.228	-.070	.061	.255	-.079	.046	.088*
Age	-.005	.024	.846	-.050	.022	.023**	-.027	.016	.095*
Gender	.170	.207	.413	-.224	.192	.245	-.047	.144	.744
	$R^2 = 0.296$			$R^2 = 0.384$			$R^2 = 0.591$		
	$F(8,203) = 10.658, p < .01$			$F(8,203) = 15.816, p < .01$			$F(7,204) = 42.134, p < .01$		
	*** < .01, ** < .05, * < .10								

Table 10: Paper 3 – Study 3: Indirect Effects

Relative Indirect Effects of Certification on Perceived Quality Bystander					
Through Quality Target	<i>Effect</i>	<i>SE (boot)</i>	<i>Boot LLCI</i>	<i>Boot ULCI</i>	<i>Level of CI</i>
Fit					
<i>low</i>	.344**	.176	.0157	.7062	95,00
<i>high</i>	.137	.157	-.1144	.4019	90,00
Index of Moderated Mediation					
	<i>Index</i>	<i>SE (boot)</i>	<i>Boot LLCI</i>	<i>Boot ULCI</i>	<i>Level of CI</i>
	-.2072	.2379	-.5909	.1851	90,00
Through Brand Meaning Clarity	<i>Effect</i>	<i>SE (boot)</i>	<i>Boot LLCI</i>	<i>Boot ULCI</i>	<i>Level of CI</i>
Fit					
<i>low</i>	.030	.034	-.0042	.1114	90,00
<i>high</i>	-.040*	.039	-.1386	-.0003	90,00
Index of Moderated Mediation					
	<i>Index</i>	<i>SE (boot)</i>	<i>Boot LLCI</i>	<i>Boot ULCI</i>	<i>Level of CI</i>
	-.0702	.0605	-.2110	-.0035	90,00
Unstandardized β -coefficients 10,000 bootstrap samples, bias corrected bootstrap intervals					

5.3. Post-analysis

To explain these counterintuitive results, the initial assumptions on fit between certification and brand were reconsidered, with the aim of identifying how this construct was determined. Considering the interviews, there appeared to be no rational argument for why, according to the participants, Nestlé and organic labels do not fit together; in contrast, this perception seems to stem from an overall skepticism towards the brand's general CSR image, caused by negative publicity or affective reasons.

“For products offered by Nestlé [...], I think the use of organic labels or fair trade labels is ridiculous. These companies have 100% only greenwashing intentions and want to fool consumers. [...] I would not trust these firms, I don’t trust them. [...] This accounts especially for Unilever and Nestlé, because I have seen some reports about them or have informed myself.” (I9)

Thus, one possible explanation for the unexpected findings may be that the measures of fit reflect consumer perceptions of the brand’s image as relevant to CSR, with a depleted CSR brand image resulting in decreased perceptions of fit with a positively-evaluated sustainability certification. Similar to the results on moderating effects of brand reputation (Study 2), one might argue that brands with a negative image benefit more strongly from the positive image of a well-known certification such as an organic label.

To test this explanation, data related to brand reputation, collected in the initial pretest for both brands used in the study ($n = 60$) – i.e., participants answers to the statements: “this is a well-known brand” and “this brand has high esteem” – was reanalyzed to test whether these items had an effect on the reported fit perceptions. T-tests revealed significant differences between the two brands for both items, with Nestlé recording greater prominence ($M_{\text{Nestlé}} = 6.77$ vs. $M_{\text{Vio}} = 6.23$, $p < .01$), while there were higher esteem perceptions for Vio ($M_{\text{Nestlé}} = 4.30$ vs. $M_{\text{Vio}} = 5.20$, $p < .05$). A regression on fit showed that only the latter, i.e., perceived brand esteem, significantly affected consumers’ fit perceptions of the brand using an organic label ($\beta_{\text{prominence}} = -.23$, $SD = .26$, $t = -.903$, n.s.; $\beta_{\text{esteem}} = .43$, $SD = .12$, $t = 3.58$, $p < .01$).

These findings support the outlined explanation of the counterintuitive study results: Variances found in certification-brand fit perceptions are determined in part by differences in brand esteem, with lower esteem resulting in reduced fit. As esteem

perceptions were significantly lower for Nestlé, this brand was perceived as not fitting with the well-known organic label. However, it must be considered that this explanation is based only on the pretest sample and the available data on general brand esteem, without any explicit relation to CSR; therefore, this aspect should be investigated more thoroughly in future research. Regardless, these findings offer a first explanation for the unexpected positive effects in the low-fit condition: Brands of lower esteem benefit from the positive image of an organic label, which is similar to the findings on brand reputation (i.e., brands with a weaker reputation benefit more from a certification than those with a considerable reputation).

5.4. Discussion

In contrast with the hypothesized effects, Study 3 revealed that lower fit between brand and sustainability labels has a positive effect on consumer perceptions of bystander products. However, as discussed in the previous section, it is reasonable to assume that these findings can be explained by how the fit construct was determined, i.e., by brand-image related perceptions. Brands with a less positive image are perceived as less fitting with the positively attributed certification mark; similar to low-reputation brands (Study 2), brands with a less-positive image benefit from bearing such a label, leading to the conclusion that a partial certification strategy leads to positive effects for the brand's whole product line.

6. Study 4: Price Difference

6.1. Research Method and Data

In order to examine the effects of price differences between certified and uncertified products on bystander effects, Study 4 involved the use of a three-fold multicategorical

design (no certification versus partial certification with same price of target and bystander product versus partial certification with higher price of target product) within the product category of jam. As students are assumed to be highly sensitive to price, distortions were avoided through recruitment of a sample of 132 consumers of diverse demographics ($M_{\text{age}} = 29.1$, 89.4% female), employment, and monthly expenditure on foods. Their perceptions of naturalness of the target ($\alpha = .94$) and bystander product ($\alpha = .89$), as well as perceived brand meaning clarity ($\alpha = .82$) were captured. In addition, respondents' overall quality awareness ($\alpha = .88$), attitude toward quality labels ($\alpha = .89$), age, gender, profession, and monthly expenditure on food were used as covariates.

6.2. Results

As a manipulation check for price differences presented in the scenario descriptions, participants were asked whether one of the products was certified and whether there were any price differences. Again, only the data from those with correct answers was used for analysis.

Using PROCESS model 4 to test parallel mediation with a multicategorical independent variable, the estimated model included certification strategy (0 = no certification; 1 = partial certification with same price of target product; 2 = partial certification with higher price of target product) as the multicategorical independent variable, perceived naturalness of the bystander product as the dependent variable, and perceived brand meaning clarity and perceived naturalness of the target product as parallel mediators. Again, the reported effects of the partial certification strategies were relative to the reference group of no certification.

H4 assumed that higher prices of the certified product affect both target perceptions and the direct reference effect on bystander perceptions. A regression on perceived naturalness of the target jam revealed that partial certification has a positive effect with the same price ($B = 1.18$, $SE = .33$, $t(123) = 3.60$, $p < .01$; Figure 20, detailed results in Table 11, 12), as well as with a higher price ($B = .67$, $SE = .34$, $t(123) = 1.97$, $p = .05$). Consequently, both indirect effects on bystander perception through target perception were found to be significantly positive ($\beta_{\text{SamePrice}} = .72$, $SD = .19$, CI_{99} : .2222 to 1.2328; $\beta_{\text{HigherPrice}} = .41$, $SD = .20$, CI_{95} : .0323 to .8235). However, positive effects on the target's naturalness perceptions did not differ significantly ($\Delta = -.51$, $SE = .33$, $t(123) = -1.55$, n.s.), indicating that a higher price did not increase perceptions of naturalness in the organic jam. Thus, H4a was not supported. Regarding the direct reference effect, a significant negative effect was found when the certified product is more expensive ($B = -.60$, $SE = .17$, $t(121) = -3.43$, $p < .01$), but not when it is of the same price as the uncertified item ($B = .03$, $SE = .17$, $t(121) = .18$, n.s.). This finding is in line with H4b.

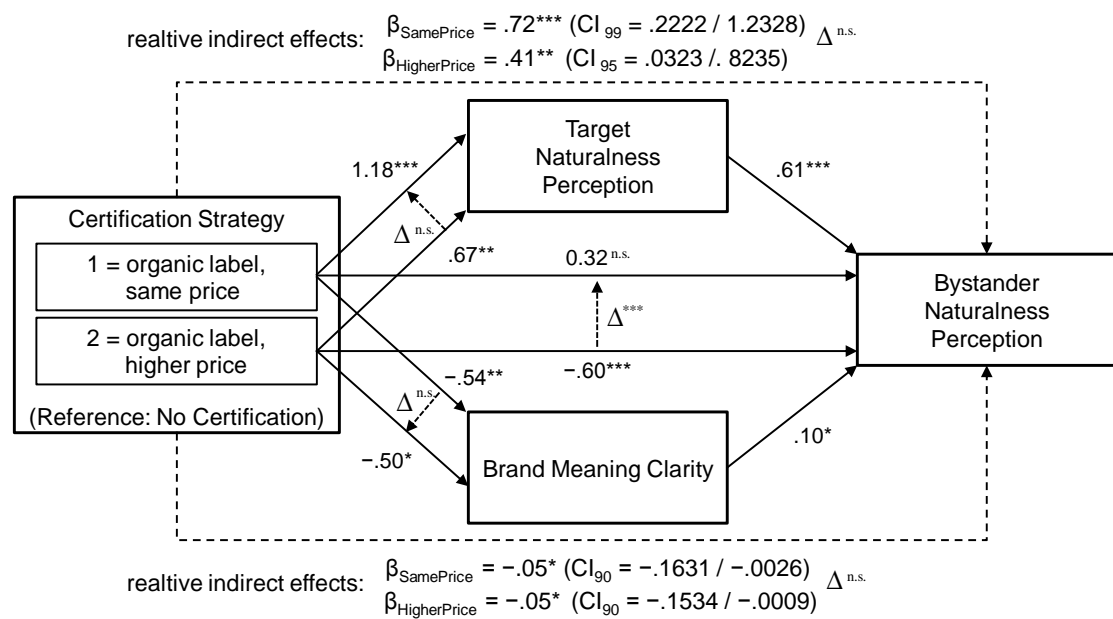


Fig. 20: Paper 3 – Study 4: Moderating Effect of Price Difference

Table 11: Paper 3 – Study 4: Regression Coefficients, Standard Errors, Model Summary Information

Study 4		<i>Consequent</i>								
		Perceived Naturalness Target			Brand Meaning Clarity			Perceived Naturalness Bystander		
<i>Antecedent</i>		Coeff.	<i>SE</i>	<i>p</i>	Coeff.	<i>SE</i>	<i>p</i>	Coeff.	<i>SE</i>	<i>p</i>
Constant		2.545	1.178	.033**	2.146	.943	.025**	.743	.600	.218
	Organic same price	1.181	.328	< .01***	-.538	.263	.043**	.032	.174	.856
Certification	Organic higher price	.672	.342	.050**	-.496	.273	.072*	-.596	.174	< .01***
	Δ	-.510	.330	.124	.041	.264	.876	.628	.164	< .01***
Naturalness Target		–	–	–	–	–	–	.610	.045	< .01***
Brand Meaning Clarity		–	–	–	–	–	–	.097	.056	.088*
Quality Awareness		-.183	.171	.286	.139	.137	.312	.053	.085	.537
Label Attitude		.071	.107	.504	.824	.085	.383	-.117	.053	.029**
Age		.030	.018	.101	.043	.015	.004*	.014	.009	.147
Gender		.675	.458	.144	.330	.367	.370	.116	.228	.613
Profession		-.051	.115	.662	-.123	.092	.186	-.010	.057	.860
Food Spendings		-.112	.142	.432	-.025	.114	.824	-.088	.070	.210
		R ² = 0.162			R ² = 0.143			R ² = 0.694		
		F(8,123) = 2.965, <i>p</i> < .01			F(8,123) = 2.559, <i>p</i> < .05			F(10,121) = 27.478, <i>p</i> < .01		
*** < .01, ** < .05, * < .10										

Table 12: Paper 3 – Study 4: Indirect Effects

Relative Indirect Effects of Certification on Perceived Quality Bystander						
through		<i>Effect</i>	<i>SE (boot)</i>	<i>Boot LLCI</i>	<i>Boot ULCI</i>	<i>Level of CI</i>
Perceived Naturalness Target						
Certification	<i>Organic same price</i>	.720***	.194	.2222	1.2328	99,00
	<i>Organic higher price</i>	.409**	.202	.0323	.8235	95,00
Brand Meaning Clarity						
Certification	<i>Organic same price</i>	-.052*	.047	-.1631	-.0026	90,00
	<i>Organic higher price</i>	-.048*	.045	-.1534	-.0009	90,00
Unstandard. β -coefficients		10,000 bootstrap samples, bias corrected bootstrap intervals				

6.3. Discussion

Study 4 revealed how pricing affects the strength of bystander effects caused by a partial certification strategy. In practice, certified products are often more expensive than non-certified alternatives. The results of this study demonstrate how this price difference enforces the negative reference effect on evaluation of bystander products, because it further increases the perceived difference between the target and bystander item. Further, higher prices do not strengthen the positive effect of a label on consumer perceptions of the target product. It appears that the price-quality heuristic, often used by consumers when evaluating alternatives, is not necessarily transferable to other attributes, such as a product's naturalness.

7. Field Study

Having identified and tested different moderators through use of online experiments, the researcher hopes to overcome some limitations of this method, especially its relatively low degree of external validity (i.e., the generalizability of an observed causal relationship to other persons, times, or settings (Calder, Phillips, and Tybout 1982; Roe and Just 2009)). Therefore, a field experiment that allowed for analysis of actual (rather than self-reported) buying behavior in a real shopping environment (i.e., within a food discounter's store) was conducted. Applying a multimodal research design of different experimental approaches has been recommended as "a way to reduce tensions between internal and external validity" (Roe and Just 2009, p.1270). Further, as consumers bought the chosen products with their own (real) money and their behavior was documented secretly, this field setting represented a maximum degree of realism and should prevent biases such as social desirability, satisficing, or acquiescence which are common in survey research (Krosnick 1999).

Slightly different from the earlier experiments, this study investigated the effect of two different shelf-placements of certified target and bystander products, i.e., either next to each other or separated, instead of manipulating whether a certified option is available or not. Thereby, it aimed to derive practical implications about how a product line that includes a partial certification could be most effectively managed on the operational level.

7.1. Hypotheses Development

The overall principle of bystander effects relies on a relation or cognitive association between the bystander and target product (Paper 1, 2). Such a connection is a necessary condition for the emergence of spillover effects (associative network theory, Anderson

1981). Furthermore, reference effects can only occur if two entities are placed in the same reference category (Helson 1964), wherefore they must be thought of as together in terms of comparison or evaluation. Finally, for a feeling of inconsistency to arise consumers need to notice that one product of a product line is certified and another is not; they will not perceive such an assortment as inconsistent if they do not recognize the shared brand affiliation.

Occurrence of Bystander Effects. The idea behind this field experiment is that a spatial separation of bystander and target products, enacted by placement on different shelves, might attenuate the cognitive association of the two products and, thereby, prevent the occurrence of bystander effects. According to the accessibility diagnosticity framework (Feldman and Lynch 1988), accessibility in memory is (among other things) determined by retrieval cues that can be externally provided by priming or contextual cues. In the given research context, it is assumed that spatial closeness, i.e., the placement of bystander and target product next to each other on the shelf, enhances the cognitive accessibility of the relationship and associations between those two products. On the other hand, spatial separation should cause distraction; the abundance of other products offered in a grocery store is likely to occupy consumers' limited working memory capacities (which is typically the first searched when making judgments (Feldman and Lynch 1988)) and should, thereby, reduce the accessibility of the target-bystander association. Consequently, bystander effects are less likely to occur when the non-certified product is assessed under this separation condition.

Direction of Bystander Effects. As the study was conducted in cooperation with a food discounter, the researcher attained permission to use products of the retailer's own

private-label assortment for the analyses. Research on private labels, also referred to as store brands, has demonstrated that consumer evaluations of store brand products are based on extrinsic cues such as price and packaging (Richardson, Dick, and Jain 1994), resulting in lower overall quality perceptions and preferences of store brands compared to national brands (Beneke 2013; DelVeccio 2001; Richardson et al. 1994). Further, consumers are assumed to be less familiar with private labels in comparison with national brands due to fewer product-related experiences such as advertising exposure (Alba and Hutchinson 1987). Familiarity is, in turn, related to risk perceptions of a product, with higher risk expectations decreasing private brand proneness (Richardson, Jain, and Dick 1996). Thus, the private-label assortment analyzed as part of this study represented a brand with comparably low consumer expectations. Following the earlier reasoning (Study 2), such a brand is likely to benefit from an alliance with a strong certification mark (Larceneaux et al. 2012). In Study 2, it was demonstrated that, for brands of weak reputation, positive spillover effects of a partial certification strategy outweigh the impact of negative reference and inconsistency, resulting in overall positive bystander effects. In line with this finding, it was assumed that, in the given context of a private-label assortment, the bystander product should benefit from the positively attributed sustainability label when its shared affiliation with the target product was accessible at the time of consumer decision making. Therefore, it was expected that spatial closeness – which increases the accessibility of the cognitive bystander-target association – should lead to positive bystander effects, reflected in higher (relative) sales of the bystander within a given sub-assortment.

Regarding sales numbers of the target product, extant research has found a generally greater loyalty among consumers preferring organic food (Marian et al. 2014); for instance, organic consumers are more resistant to alternative deals and are less price

sensitive (Rungie and Laurent 2012). Thus, preferences for the organic product should not be affected by shelf-positioning. Consequently, it was expected that, in the case of spatial closeness, the bystander product would take shares away from other non-organic alternatives, i.e., competing products, within a given sub-assortment due to positive bystander effects. Following this argumentation, it is assumed:

H5: Close shelf-positioning (versus separation) of a certified target and non-certified bystander product leads to higher relative sales of the bystander product at the expense of competing product shares.

7.2. Research Method and Data

Yoghurt was selected as the product category because there were very similar organic and non-organic products, in terms of packaging and design, offered within the retailer's private-label assortment (aiming to minimize confounding effects). As a reference product, sales data on a yoghurt offered by a competing brand of comparable design and with the same content quantity was collected in addition to that of the retailer's private-label certified and standard yoghurts. Thus, the analyzed sub-assortment consisted of three products in total.

Sales data of the three yoghurts was collected over a period of two weeks. In the first data collection phase, the spatial distance condition, the competing product and the bystander item were placed next to each other on the shelf, while the organic yoghurt was placed on a distant shelf next to other organic dairy products. In the second phase, the organic product was placed between the competing and the same brand's target products, thereby representing the closeness condition. Both data collection phases took

place at the beginning of a month (April and May, respectively), excluding any national holidays; weather conditions were also very similar.

During the data collection phase, insufficient product availability occurred temporarily. Specifically, there were two days on which the organic yoghurt was either sold out, or only a single flavor of the whole assortment was available from noon onwards. In that case, the intended manipulation was not sufficiently present. Therefore, the respective days were excluded from the analysis to ensure no effect on consumer choices due to the lack of availability.

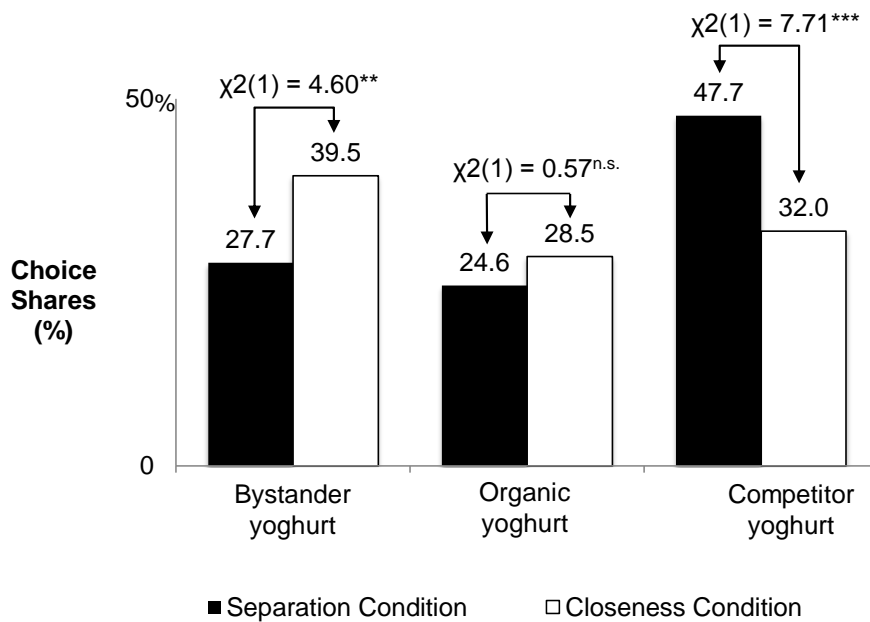
7.3. Results

Comparing the two weeks of data collection, total sales of the analyzed sub-assortment (i.e., the sum of all three products' total sales) differed significantly (172 versus 130 sold products). However, the study's research interest was not focused on total sales (which are affected by too many factors to control for the defined study design), but on distribution of consumer preferences within the two conditions. Therefore, to account for the differences in total sales, relative sales numbers of each product ($\#sales_{\text{productX}} / \#sales_{\text{sub-assortment}}$) were used for analysis to compare whether consumer preferences for the three products were equally distributed within the two scenarios, or whether they were affected by the different placement strategies.

In line with the hypothesis, a χ^2 -test revealed a significant relationship between consumer preferences and placement strategy ($\chi^2(2) = 8.15, p < .05$), indicating that preferences were differently distributed if the organic yoghurt was placed next to, versus away from, the same brand's uncertified bystander product.

As expected, preferences for the organic product remained almost unchanged ($\chi^2(1) = .57, n.s.$), representing 24.6 % of sold products within the analyzed sub-assortment

(32/130) in the separation condition, compared with 28.5% (49/172) in the close condition (Figure 21). In contrast, preferences for the non-organic bystander product were significantly affected by the placement strategy ($\chi^2(1) = 4.60$, $p < .05$). When the organic yoghurt was placed on a distant shelf, the bystander yoghurt recorded preference shares of 27.7% (36/130), whereas when placed next to the organic yoghurt, preferences increased to 39.5% (68/172). As hypothesized, this gain came at the expense of preferences for the competing product; while its choice shares were 47.7% (62/130) in the separation condition, they significantly decreased to 32.0% (55/172) in the close condition ($\chi^2(1) = 7.71$, $p < .01$). These findings supported H5.



** $p < .05$, *** $p < .01$, n.s. = not significant

Fig. 21: Paper 3 – Field Study: Effect of Shelf-Placement on Distribution of Customer Preferences

7.4. Discussion

Overall, this field study contributes to the earlier studies in several ways. First, it demonstrated how changes in product perceptions turn back on buying behavior.

Offering a high degree of external validity, these findings emphasize the relevance of the afore-mentioned results for practitioners. Further, the study provides insights into how operative measures, such as shelf-placement strategy, can be used by retailers to overcome negative or enforce positive bystander effects of a partial certification portfolio, depending on the specific characteristics of the setting (e.g., brand reputation).

In the specific context of a discounter's private-label assortment, the strategic positioning of a certified target next to the same brand's uncertified bystander product can induce positive effects for the latter with regard to consumer preferences. This finding is of particular practical interest because many retailers offer organic options within their private-label assortment.

A limitation of this study that should be mentioned again was the issue of product availability. As sufficient stock was considered as necessary for the manipulation to be effective, the two affected days and the respective sales data had to be excluded from the analysis, resulting in a certain loss of data. However, this restriction was necessary to avoid confusing out of stock effects on consumer choices.

8. General Discussion

At a time of increasing care for sustainability and green consumption as well as awareness and demand for high-quality, healthy nutrition, certification marks are used by many brands to signal the fulfilment of these new requirements, aiming to benefit from these trends and their consequences for consumer behavior. In the food market, labeled products are often added to the existing assortment, resulting in product lines including both certified and uncertified alternatives. While numerous studies have demonstrated largely positive effects as a result of product certifications, little is known about the consequences of such a partial certification strategy on the non-certified

offerings of the same product line. Having established a thorough understanding of how perceptions of bystander products are affected on a basic level (i.e., negative reference effect, positive spillover effect, negative inconsistency effect; Paper 2), this paper extends the basic model by outlining several moderators that determine the strength and direction of the different effects on bystander evaluations induced by a partial certification strategy.

8.1. Theoretical Contribution

The documented insights substantially contribute to extant research on product certifications (e.g., Heng, Peterson, and Li 2016; Linder et al. 2010; Sörqvist et al. 2013) by adding the more expansive perspective of bystander effects. Thereby, psychological phenomena that are well known in other marketing domains, i.e., spillover and reference effects, are revealed to be of relevance in the context of product certifications. This research consistently demonstrates how such mechanisms affect consumer evaluations of unlabeled bystander products if a certified alternative of the same brand is available.

Through use of a combination of qualitative interview data, online experiments and a field study, this paper demonstrated the robustness of the basic model developed initially (Paper 2). The model was extended by gaining insights about specific conditions under which a partial certification strategy is likely to harm consumer perceptions of uncertified bystander products, as well as when such a strategy can lead to beneficial effects for the whole product line.

All studies conducted within this paper support the proposed three-fold basic effects of a partial certification on evaluations of the bystander product, i.e., negative reference effect, positive spillover effect, and negative inconsistency effect. As the studies

featured different product categories, different certification-related attributes (i.e., quality, naturalness), and both student as well as non-student samples, the findings demonstrate a certain robustness of the basic model.

Regarding determinants of these basic effects, it was found that a brand's control over certification of its products significantly affects whether consumers perceive a partial certification strategy as inconsistent or not. Thus, for certifications with low control, such as consumer test labels, the negative inconsistency effect diminishes, while it is present for sustainability labels, in which case the brand's level of control is perceived as high. Consumers appear to be familiar with these differences in certification policies (at least for the prominent certifications used in this research) and therefore make different inferences from different labels.

Considering brand reputation, certified products only benefit brands with a weak reputation, which is in line with the earlier findings of Larceneux et al. (2012). However, regarding the effect on brand meaning clarity and its mediating effect on bystander perceptions, partial certification is found to have a negative effect regardless of the brand's reputation.

Moreover, pricing determines the identified negative reference effect; specifically, a higher price for the target product further increases the perceived difference between the certified and uncertified products. Therefore, a price difference additionally attenuates consumer perceptions of bystander products.

Finally, the results of the field experiment reveal how different shelf-placement of bystander and target items can affect bystander effects. For the case of weaker-image brands (i.e., a discounter's private label), spatial closeness can promote consumers' inference making and, thereby, benefit the entire product line. The use of real sales data in this field setting also demonstrates how the moderating effects identified on the

cognitive (i.e., evaluative) level are reflected in actual buying behavior, underlining the practical relevance of the insights gained. Identifying and explaining the effects of the documented determinants substantially enriches existing research in the field of product certifications.

8.2. Managerial Implications

The insights gained in this paper present practical implications for brand managers deciding about the employment of a certification strategy. In particular, the results offer insight as to when a partial certification strategy is likely to be beneficial or harmful for bystander products, with regard to the type of certification, brand characteristics and pricing, and how the shelf-placement can be used as an operational mean to prevent or promote the occurrence of bystander effects.

8.2.1. Consumer Test Labels

Regarding the type of certification, it was found that consumer test labels generally induced positive effects for the product line as a whole. On one hand, they enhanced quality perceptions of the target product in a more decisive manner than the use of organic labels. Therefore, strong positive spillover effects occurred for the bystander product. Furthermore, consumers are familiar with the certification policy of CTs, i.e., the label being provided by an external source and the brand having no active control over which of its products are tested. Hence, a product line that includes both certified and non-certified options did not raise consumers' skepticism, but was interpreted as a signal of the brand's overall quality. Consequently, no negative inconsistency effect arose. In practice, brand manager influence is limited to the choice of whether a consumer test mark should be presented on the tested product or not. Regarding that

decision, the results clearly indicate that products that have been tested and received a positive result should bear the test mark as a quality signal, which will benefit other products in the line as well.

8.2.2. Sustainability Labels

There are specific implications regarding the use of organic or fair trade labels, i.e., characteristics of the brand must be considered when anticipating bystander effects. In particular, brand reputation and image were found to determine whether the overall effect of a partial certification strategy on bystander evaluation was positive or negative. This variance can be explained by differences in the strength of positive spillover effects, which were significantly higher for weak-reputation brands because they benefited more from an alliance with a positively-associated certification. In line with these attitudinal-level results, sales of bystander products offered by a private-label brand were found to benefit from the presence of a certified option in the same product line.

Consequently, unknown brands, store brands, or brands that have a weak image of sustainability can apply the strategy of partial certification to support both the certified target product as well as the non-certified bystander. In contrast, brands with strong reputation have less to gain from this certification strategy; while the positive effects on consumer perception of certified products are less for these brands, there are negative effects for bystander products. Therefore, considering the costs and efforts of employing such a strategy, the net benefit is questionable for brands with strong reputations.

8.2.3. Pricing

A third determinant of the strength of bystander effects is pricing strategy. While it is common practice for certified products to be offered at a higher price, it was revealed

that, on an attitudinal level, this price difference does not further enhance consumer perceptions of the target product, but increases the negative reference effect on bystander evaluations; therefore, price difference has a negative impact on uncertified products of the same product line. These effects should be considered when deciding about pricing of a respective assortment, including both certified and non-certified options. While it is reasonable that a brand aims to maximize its overall profits, a moderate price difference might provide a balance between benefiting from consumers' willingness to pay for certified products (see Rödiger and Hamm 2015 for a review of research on consumer behavior regarding the price of organic food), and preventing negative effects on perceptions of bystander products. The latter might cause non-organic consumers in particular to change to competing products, because these are not negatively affected by the presence of a certified option (Paper 2).

8.2.4. Shelf-Placement

Finally, the field experiment offers insights into how different shelf-placement can influence the occurrence of bystander effects in general. Consumers are confronted with a variety of options in grocery stores; however, information processing and working memory capacities are limited, and spatial closeness of two products is therefore likely to 'remind' consumers of their shared affiliation by visually increasing the accessibility to this knowledge. As a necessary condition for bystander effects to occur is the association between two products, placing a certified target item next to the same line's uncertified option offers a method for promoting bystander effects, while placement on different shelves is likely to prevent that occurrence. Consequently, following the previous implications, spatial closeness should induce positive bystander effects and benefit brands of weaker reputation or sustainability image, while a separation is

beneficial for strong brands, as it prevents the occurrence of negative bystander effects. However, the fact that these findings stem from the FMCG context where consumer involvement is comparably low (Thøgersen, Jørgensen, and Sandager 2012) must be considered. It is possible that, in the case of increased involvement (e.g., due to a higher financial risk), spatial separation is not sufficient to prevent the occurrence of bystander effects because consumers will more thoroughly process the available information.

8.3. Limitations and Future Research

Some limitations of this research should be mentioned and addressed by future research. First, the results regarding perceived fit between a certification and a brand were unexpected, as it was found that bystander products of low-fit brands benefitted from a partial certification strategy, while effects were negative in the high-fit condition (Study 3). A possible explanation was that fit perceptions are partly determined by overall brand esteem perceptions (i.e., lower esteem resulting in lower fit). However, this explanation, as well as alternative, should be tested more thoroughly in future research.

Second, even while exploring bystander effects in different product categories, this research focused exclusively on the FMCG market. While this focus was part of the project design, future research should test whether the basic and moderating effects identified in this study are applicable to other contexts and product categories as well, or whether they must be adapted. Moreover, it would be interesting to examine the effects of different certifications, such as less-known labels or certifications provided by the manufacturer/ retailer. Legally required certifications with negative associations, such as genetically modified organism (GMO) labels, might also have an effect on other products of the same product line. Reversing the logic of the identified basic effects in the here-presented model, again both positive (reference effects) and negative

(spillover) effects are conceivable. Such insights would be of relevance for different parties, such as manufacturers, retailers, and policy makers.

Finally, there are some limitations with regards to the samples utilized. While both student (Study 2, 3) and non-student samples (Study 4, Field Study) were used, this paper concentrated on German consumers only. It was found that their overall knowledge about different certifications' policies was high, but that may be different in other countries. In that case, it is possible that certifications in general are a positive signal for a product line's overall quality. Furthermore, the perceived relevance of certifications may differ depending on the level of food safety or general standards of quality within a country, resulting in different bystander effects as well. Therefore, where this paper has concentrated on a specific country, it would be interesting to extend investigations to an international level, incorporating country-specific differences, considering that many product certifications are used globally.

Summary

In sum, the presented findings reveal that the impact of product certifications is not as straightforward as might be assumed. Rather, far-reaching implications for the entire portfolio must be considered when assessing the benefits of employing a certification strategy. Thereby, characteristics of the certification, brand, and buying conditions should be considered, as knowledge of these factors provides the opportunity to employ the most effective certification strategy within a specific context. This paper demonstrates that the functioning of product certifications is a pragmatic field for future research, offering important implications for practitioners.

E Conclusion

This thesis extends former research on product certifications by establishing a change of perspective, analyzing beyond the straightforward effects of certifications on labeled products to reveal potential side effects on non-certified products of the same line. To address this gap, this research has presented a theoretical foundation of spillover effects underlying a variety of marketing activities (Paper 1). Furthermore, it has empirically demonstrated how this mechanism, in addition to negative reference and inconsistency effects, impact consumers' perceptions of uncertified bystander products in situations where a certified alternative of the same brand is offered (Paper 2). These findings allow for a more extensive evaluation of a certification's overall benefit, which is of considerable relevance at a time when usage of partial certification strategies is common. Additionally, an understanding of different certification-, brand-, and context-related determinants offers appropriate managerial implications for specific certification conditions (Paper 3). The following chapter summarizes central empirical findings of this dissertation before theoretical (chapter 2) and managerial implications (chapter 3) are outlined. A subsequent discussion of limitations and future research directions (chapter 4) forms the conclusion of this thesis.

1. Summary of Findings

The use of product certifications has become ubiquitous in various product categories over the last decade. At a time when consumers are increasingly conscious of sustainable-, quality- and health-oriented consumption, many companies respond to these new demands by launching certified options in addition to their standard assortment. While considerable research has examined the effects of such certifications,

as well as some boundary conditions, the focus has been exclusively on the labeled products, neglecting consequences for other non-certified alternatives. The objective of this dissertation was therefore to close this gap by conceptually and empirically investigating the occurrence as well as determinants of such bystander effects.

In Paper 1, a holistic framework of spillover effects was developed based on a structured review of underlying theories, and synthesis of disparate literature streams focused on spillover. Therewith, this paper addressed general characteristics of spillover effects, the theoretical explanations for their occurrence, and whether there is a common process underlying spillover effects in different marketing domains (RQ1). Based on this analysis, the basic functioning of spillover was structured into a two-step process consisting of I) the formation of a mental connection between two entities as a necessary precondition, and II) the transfer of information between these two related entities. The first step was found to be explained largely by information processing principles, such as storing information in the form of associative networks based on similarity considerations. The transfer process is driven by the key motives of economic efficiency, a need for causation, and a general preference for harmony and balanced states. Under the condition of cue accessibility and diagnosticity, these motives lead to the use of information surrogates and the alignment of attributes between related entities, resulting in spillover. This basic principle underlies spillover effects in different research streams and integrates theoretical explanations from the studies investigated in this analysis. Thus, Paper 1 provided the theoretical framework for the subsequent investigation of bystander effects in the context of sustainability labeling.

Paper 2 and 3 addressed the question of whether there are any side effects on consumer perceptions of and behavioral intentions toward unlabeled bystander products induced by the employment of a partial certification strategy (RQ2). To do so, an initial

field study demonstrated how partial certification can have a detrimental effect on choice shares of the own bystander products, whereas competing products remain unaffected, resulting in strong intra-brand cannibalization effects. An online experiment revealed that these observed negative effects were caused by altered perceptions of product attributes which consumers associate with a specific certification (e.g., quality, fairness, naturalness). In line with the previously presented psychological mechanisms necessary for the occurrence of bystander effects (i.e., formation of a mental connection between two entities as a necessary precondition), this detrimental effect only occurred for bystander products of the same brand due to its stronger mental association with the certified target product, whereas evaluations of competing products were not affected (RQ3).

To understand these changes in consumer perceptions as well as underlying cognitive and affective mechanisms in more detail (RQ4), a mixed-methods approach offered new insight into how a partial certification strategy affects consumer evaluations of own unlabeled bystander products in a three-fold manner: Changes in the reference framework used to assess bystander products impair perceptions of the uncertified product's attributes, as it appears inferior compared to the certified product (reference effect). Simultaneously, enhanced perceptions of the target product spill over to the bystander because of their shared affiliation (spillover effect). Finally, consumers perceive a brand's meaning as inconsistent if it certifies only select products, which raises skepticism of the brand's overall intentions (inconsistency effect).

Finally, a series of online experiments and a field study were conducted to examine what determines the strength and direction of bystander effects, as well as to identify if there are any product- or brand-related, situational or certification-associated factors that influence these effects (RQ5).

Regarding the different basic effects, it was found that the degree of a brand's perceived control over certification of its products affects perceived inconsistency. For certifications with low control (e.g., consumer test labels), this negative effect is diminished, while it is present for sustainability labels as the brand's level of control is perceived to be high. This finding indicates that consumers are familiar with different certification policies and make inferences accordingly. Second, in line with research on brand alliances, it was shown that the target product only significantly benefits from bearing a sustainability label in the case of brands with a weak reputation, while this effect is attenuated when the brand itself has a strong reputation (i.e., a ceiling effect emerges). However, with relevance to the effect on brand meaning clarity and its mediating effect on bystander perceptions, partial certification is negative regardless of the brand's reputation. Results on fit between certification and brand were somewhat counterintuitive, indicating that a partial certification caused overall positive bystander effects for brands with low fit, compared with negative effects for brands with high fit perceptions. A possible explanation was outlined in the applied fit construct which may have been determined by overall brand image or esteem perceptions (i.e., low esteem resulting in low fit and a consequently higher brand benefit, similar to the findings on brand reputation). However, this explanation should be verified in future research. Fourth, price difference was found to harm perceptions of bystander products as it increases perceived differences between certified and uncertified products, resulting in increased negative reference effects.

Finally, a field study revealed how strategic shelf-placement can promote or prevent the occurrence of bystander effects for an assortment that includes both certified and uncertified alternatives. In particular, placing target and bystander products next to each other enhances customers' mental accessibility of the products' shared affiliation

(referring to the necessity for a mental connection between two entities for spillover to occur), and is therefore likely to promote bystander effects. In the given study, it was demonstrated how, for a brand of weaker reputation (discounter private-label brand), spatial closeness of the target and bystander products induced positive effects for the latter's preference shares at the expense of a comparable, uncertified competing product within the analyzed sub-assortment. In contrast, due to the abundance of products in a grocery store, separate placement of target and bystander items on distant shelves should attenuate the accessibility of their shared association and, thereby, prevent bystander effects.

Overall, in support of the external validity of the presented findings, the studies conducted in Paper 2 and 3 reveal that, among different data collection methods, sample structures, and methods of analysis, as well as for using different certification-related attributes (i.e., fairness, quality, naturalness) the identified three-fold impact of a partial certification strategy on consumer evaluations of bystander products is robust.

2. Theoretical Implications

This thesis raises several theoretical implications for different streams of literature. First, it contributes to research on spillover effects. Where extant research was rather context-specific (e.g., Bloemer, Brijs, and Kasper 2009; Martinez and Pina 2010; Miller and Allen 2012; Newmeyer, Venkatesh, and Chatterjee 2014), the dissertation aimed to develop a more holistic perspective by integrating findings from various marketing domains. An extensive review of disparate research streams where the phenomenon occurs (i.e., brand extension, co-branding, ingredient branding, celebrity endorsement, sponsorship, and CoO), as well as relevant theoretical explanations, allowed for the development of a general framework that summarizes the two-step spillover process

(formation of a mental connection, transfer of information between related entities) in different domains. This framework contributes to extant research as it enables researchers of various streams to classify their research projects within a broader context of spillover. Applying such a general perspective enables the assessment of how consumer perception formation and decision making are affected by specific marketing activities due to the transfer of information from one entity to another. Further, it offers orientation on relevant theories underlying these spillover processes, which may be of use when conceptualizing future research models.

The determinants identified in the analysis may also provide stimulation for future research, in that researchers from one stream may draw on others' findings and test the applicability within their own context. Finally, the framework can provide guidance when investigating consumer inference making in other research streams, where the perspective of spillover has not yet been applied, but may be of relevance.

Second, this dissertation contributes substantially to research on product certifications. Despite the multitude of extant literature on this topic (e.g., Berry et al. 2015; Heng et al. 2016; Grunert and Aachmann 2016; Linder et al. 2010; Sörqvist et al. 2013), previous research that investigates products not bearing a certification is scarce. Thus, important new insights are offered by examination of the side effects on uncertified bystander products. The results gained support primary findings from the Dutch market by Anagnostou et al. (2015), which outlined potentially harmful effects on uncertified alternatives in a buying situation where a certified option is present. In particular, a rigorous understanding is established of how a partial certification strategy impairs consumer perception of uncertified bystander products, and the way in which these impaired perceptions carry over to behavioral intentions and actual choices is demonstrated.

Moreover, the disclosure of different underlying cognitive mechanisms that play a role in this evaluation process enriches understanding of portfolio-related impacts of product certifications. More precisely, it is revealed that the well-established psychological mechanisms of spillover and reference effects are of relevance in the context of product certifications. Both effects have been the subject of research in different fields (e.g. Baucells, Weber, and Welfens 2011; Baumeister, Scherer, and Wagenheim 2015; Laughunn, Payne, and Crum 1980; Magnusson, Krishnan, Westjohn, and Zdravkovic 2014; Ross 1991). By revealing the contrary interplay in addition to a negative inconsistency effect in the process of bystander evaluation, understanding of how consumers make inferences from sustainability labels on other products of the same product line is improved.

3. Managerial Implications

A variety of practical implications can be derived based on the dissertation's empirical findings. While the insights on basic bystander effects provide general advice on what to consider when employing a partial certification strategy, the findings on moderating factors of these basic effects are especially conducive to obtaining specific managerial implications.

First and foremost, this dissertation has demonstrated how the effects of positively intended product certifications are not as predictable as might have been expected and can have consequences for the whole brand's portfolio. Thus, brand managers aiming to address consumers' increasing demand for sustainable products should not add a certified option to their standard assortment without due deliberation. It has been demonstrated how certified products may cause strong intra-brand cannibalization effects while not achieving any competitive advantage. Thus, considering certification

costs and effort to fulfill respective requirements, a thoughtful examination is advisable. Aside from this basic insight, some determinants can be considered to assess if a partial certification strategy is likely to be beneficial or harmful from a portfolio-perspective; certification- and brand-related factors are of particular relevance, as are considerations subject to managerial influence, i.e., pricing and shelf-placement.

3.1. Label Characteristics

In extant research, a common classification has been made according to the label provider, distinguishing between external third-party certifications provided by independent sources, versus internal labels from producers or retailers (Haenraets et al. 2012; Thogersen 2000). In the context of affecting other products of the same brand however, a further distinction appears to be of relevance, i.e., the question of whether a brand can actively influence which of its products are certified, or whether it depends on the decision of external sources with regard to testing and certifying a product. The former type of control applies to sustainability certifications such as organic or fair trade, where a company can deliberately decide to fulfill respective standards to gain certifications for its products, while the latter applies to certifications such as consumer test labels, where producers have no influence on whether or when a certain item is tested and certified (Krischik 1998). In this thesis, it was found that consumers are familiar with these differences in label policies; therefore, they make distinct inferences from different certifications.

Due to a brand's decreased control in the case of consumer test labels, a situation in which only select products bear such a seal does not raise any feelings of inconsistency on the part of the consumer. Rather, consumers use these labels as a quality signal for the whole product line, taking the certified product as exemplary of the entire brand's

characteristics and qualities. In practice, after a product has been tested, brand manager influence is limited to the choice of presenting a consumer test mark or not. The results of this research clearly indicate that products with a positive test result should bear the respective certification as a quality signal, and will thereby benefit other products in the line as well. In terms of sustainability labels, it is necessary to consider additional brand characteristics in order to derive managerial implications of value.

3.2. Brand Characteristics

For sustainability labels, this research revealed how brand reputation and its image determine whether the overall effect of a partial certification strategy on bystander evaluation is positive or negative. This distinction stems from differences in the strength of positive spillover effects, found to be significantly increased for weak-reputation brands, which benefit from an alliance with a positively-associated certification mark. In line with these results, it was found that relative sales of bystander products offered by a private-label brand benefit from placement of a certified option within the same product line which is placed next on the same shelf. Consequently, it is recommended for unknown brands, store brands, or brands with a poorer sustainability image to offer certified alternatives in addition to their standard assortment to induce positive spillover effects. In contrast, strong-reputation brands have less to gain from this certification strategy; positive effects are attenuated if a brand's image is already favorable, while negative effects for bystander products are more pronounced. Therefore, introducing sustainable options within a non-certified product line is not recommended for these brands.

3.3. Managerial Factors

Finally, two factors that are subject to managerial influence were identified. The first refers to pricing, where it was demonstrated how a price premium of the certified option further increases the negative reference effect on perceptions of bystander products, while not enhancing the positive effect on target evaluations. However, a method for overcoming this unintended side effect is to place certified and uncertified options away from each other within the store; such a distance was shown to prevent the occurrence of bystander effects. This placement strategy also offers a possibility for strong-reputation brands to overcome unintended impairing effects. On the other hand, weak-reputation brands should place certified and bystander products next to each other in order to promote positive spillover effects for the brand's entire assortment.

Overall, this dissertation offers a variety of managerial implications. Therefore, it is of high practical relevance at a time when adding certified options to one's standard assortment in order to respond to the consumer demand for sustainable, high-quality and healthy products constitutes widespread practice in the FMCG sector.

4. Limitations and Future Research Directions

This dissertation provides insight into the previously neglected effects of adding certified options to a non-certified assortment, as well as how that strategy affects consumer perceptions and behavioral intentions toward the uncertified products, which is a critical issue when assessing the overall benefit of a certification. The reported studies constitute a purposeful examination of bystander effects and also reveal a range of potential research avenues.

First, some of the presented results could be extended by testing additional facets and alternative explanations. As previously discussed, findings within the fit study were

somewhat counterintuitive; the provided explanation that the fit measure was determined by brand image should be thoroughly tested in a purpose-designed study.

Furthermore, it would be interesting to test how other operative measures (aside from shelf-placement) can be used to promote or prevent bystander effects. In particular, brands may introduce supplementary sustainable product lines that are more clearly distinguished from their standard assortment, e.g. in different packaging (visual delimitation) or naming (e.g., use of sub-brands). Such findings would offer additional scope for managerial interference to prevent unintended side effects from a partial certification strategy.

Aside from these specific amendments, various opportunities for future research are offered by testing the transferability of the findings within the FMCG context to other fields. Quality seals are used in numerous product categories, with examples including products for children, textiles, electronic devices, or financial products and services. Depending on the product category, purchase decisions are characterized by different factors, i.e., price level and respective financial risk, product complexity, buying frequency, and involvement (Jacoby and Kaplan 1972; Laurent and Kapferer 1985). These characteristics are likely to affect the relevance of product certifications for consumer decision making (Haenraets et al. 2012). Thus, it should be interesting to examine whether bystander effects induced by certification labels are impacted by such characteristics and, thereby, how they differ from those found in the FMCG context.

An additional potential research field is that of negative certifications, such as warning, GMO, or other labels referring to negative product characteristics; those certifications typically underlie regulatory restrictions aiming to inform consumers of potential risks and prevent incorrect handling of products (Torres, Sierra, and Heiser 2007; Wogalter, Kalsher, and Racicot 1993). Similar to studies on positive

certifications, recent studies on such certifications have concentrated on consequences for the certified products (e.g., MacKinnon et al. 2001; Veyssiere and Giannakas 2006; Wogalter et al. 1993), but neglected effects on uncertified bystander products. Considering that negative effects are often more influential than positive ones (negativity effect; Herr, Kardes, and Kim 1991; Mizerski 1982; Wright 1974), bystander effects induced by negative labels might be even stronger than those caused by positively-associated certifications. Resulting insights of such studies would be of relevance for producers and retailers as well as policy makers to prevent unintended side effects.

Overall, the broad range of application fields for implications resulting from research on bystander effects from product certifications should encourage future research to seek deeper insight into this phenomenon.

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Appendix

Appendix A: Literature Base (USB)

Appendix B: Study Manipulations

Appendix C: Items and Reliability Measures

Appendix D: Interview Transcripts (USB)

Appendix B: Study Manipulations

Paper 2 – Pilot Study Manipulation



No Certification

Partial Certification

Peanuts were presented in packages as well as in small trial bowls at a tasting booth (University Summer Festival)

Paper 2 – Study 1 Manipulation



Melitta Auslese
Klassisch

Melitta Auslese
Klassisch-Mild

Jacobs
Krönung

Melitta Auslese
Klassisch

Melitta Auslese
Klassisch-Mild
Fairtrade Produkt

Jacobs
Krönung

No Certification

Partial Certification

Paper 2 – Study 2 Manipulation



Zott Erdbeer
(150g)

Zott Himbeer
(150g)

Bauer Kirsch
(150g)

Zott Erdbeer
(150g)

Zott Himbeer Bio
(150g)

Bauer Kirsch
(150g)





No Certification

Partial Certification

Paper 3 – Study 1 Manipulation: Type of Certifications

			vs.				vs.			
Zott Erdbeer (150g)	Zott Himbeer (150g)	Bauer Kirsch (150g)		Zott Erdbeer (150g)	Zott Himbeer Bio (150g)	Bauer Kirsch (150g)		Zott Erdbeer (150g)	Zott Himbeer (150g)	Bauer Kirsch (150g)
No Certification				Partial Certification Organic Label				Partial Certification Consumer Test Label		

Paper 3 – Study 2 Manipulation: Reputation

		vs.		
No Certification, Low Reputation			Partial Certification, Low Reputation	
		vs.		
No Certification, High Reputation			Partial Certification, High Reputation	

Paper 3 – Study 3 Manipulation: Brand-Certification Fit

		vs.			vs.			vs.		
No Certification, Low Fit			Partial Certification, Low Fit			No Certification, High Fit			Partial Certification, High Fit	

Paper 3 – Study 4 Manipulation: Price Difference



vs.



vs.



Schwartau Fruttissima
Erdbeere (250g)
Preis: 1,99€

Schwartau Fruttissima
Himbeere (250g)
Preis: 1,99€

Schwartau Fruttissima
Erdbeere (250g)
Preis: 1,99€

Schwartau Fruttissima
Bio Himbeere (250g)
Preis: 1,99€

Schwartau Fruttissima
Erdbeere (250g)
Preis: 1,99€

Schwartau Fruttissima
Bio Himbeere (250g)
Preis: 2,29€

No Certification

Partial Certification Same Price

Partial Certification Higher Price

Appendix C

Items and reliability measures (Studies 2.1/2.2/3.1/3.2/3.3/3.4)

	Cronbach's Alpha
Perceived Fairness (Anagnostou et al. 2015; Brown and Dacin 1997)	.93 / - / - / - / - / -
<ol style="list-style-type: none"> 1. This coffee was traded under fair conditions. 2. This coffee is a socially responsible product. 3. This coffee was cultivated under fair working conditions. 	
Perceived Quality (Anagnostou et al. 2015; Buchanan et al. 1999)	Target - / .82 / .81 / - / .86 / - Bystander - / .72 / .72 / - / .84 / -
<ol style="list-style-type: none"> 1. This [product] has a good quality. 2. This [product] is better than other products. 3. This [product] is better than average products. 	
Perceived Naturalness (Camus 2004)	Target - / - / - / .80 / - / .94 Bystander - / - / - / .79 / - / .89
<ol style="list-style-type: none"> 1. This [product] is natural. 2. This product is made of natural ingredients. 3. This product does not contain any artificial ingredients. 4. This [product] is not artificial. 	
Brand Meaning Clarity (Chien et al. 2011; Erdem and Swait 1998)	- / .80 / .81 / .78 / .83 / .82
The brand... <ol style="list-style-type: none"> 1. ... clearly communicates what it stands for. 2. ... has an image that is easy to understand. 3. ... conveys a clear image in all its actions. 	
Perceived Control (Sparks et al. 1997, adapted)	Pretest: .79
<ol style="list-style-type: none"> 1. [Brand] has a high control over which of its products are certified with [certification]. 2. It is mostly up to [brand] which of its products are certified with [certification]. 	
Brand Reputation (Chaudhuri 2002)	- / - / - / .92 / - / -
<ol style="list-style-type: none"> 1. This is a well-known brand. 2. This is a popular brand. 3. This brand has high esteem. 	
Perceived Fit (Sichtmann and Diamantopoulos 2013, adapted)	Pretest: .84 - / - / - / - / .87, .84 / -
<ol style="list-style-type: none"> 1. The organic label fits with the image of [brand]. 2. To certify products with an organic label is logical for [brand]. 3. To certify products with an organic label is appropriate for [brand]. 	

Quality Awareness (Ailawadi et al. 2008) - / .81 / .79 / - / .86 / .88

1. Quality is important to me when I buy a product.
 2. High quality products are important to me.
 3. Quality is decisive for me while buying a product.
-

Eco Consciousness (Sörqvist et al. 2013) - / - / - / - / .82 / .84 / -

1. I often buy eco-labeled products.
 2. It is important to me to buy eco-friendly alternatives.
 3. I feel guilt when I buy non-eco-friendly alternatives.
-

Attitude towards Quality Labels (Buxel 2010) - / - / - / - / .88 / .89

1. If a product is certified with a quality label, I am more likely to buy it compared to a non-certified alternative at the same price.
 2. I purposely watch out for quality labels when I buy food products.
 3. When comparing two apparently identical food products, I would choose the one that bears a quality label.
-

All constructs were measured on a 7-point Likert-scale, anchored by “strongly disagree” (1) and “strongly agree” (7)
