Bundling as a strategy for a commodity service brand introduction. The impact of bundle partner image on quality and risk perception and the role of complementarity.

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Abstract

Increasing the quality perception and reducing the perceived risk of purchase improves the chances of success for new service introductions. This research investigated whether, for a new service brand introduction into the German residential electricity market, bundling with a stronger service brand enhances the perceived quality and reduces the perceived risk more than bundling with a weaker brand. In the goods category, it has been scientifically shown prior to this research that bundling with a stronger brand achieves this effect if the products are complementary. An academic knowledge gap in this area existed because this enhancement effect was yet to be evaluated empirically for services. This research applied price bundling to a new electricity service brand introduction via a survey experiment with potential customers rating electricity bundle offers. The research design was a 2*2 (brand image of bundle partner; complementarity) factorial design with analysis of variance (ANOVA) to test the research hypotheses. The results narrow the knowledge gap and contribute to professional practice by establishing that bundling with a stronger brand enhances the perceived quality and reduces the perceived risk ***also*** for services. The research furthermore demonstrated that complementarity is, independent of the bundle partner brand image, a factor to improve quality perception and to reduce the perceived risk of a new service brand.

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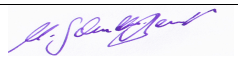
Signature of Individual Submitting:	
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Glossary of Terms

Brand – ‘A name, term, design, symbol or any other feature that identifies one seller’s good or service from those of other sellers’ (American Marketing Association, 2022)

Broadband Access – High-speed internet access based on fixed-line technology

Brand equity – Premium that a company generates based on the value of the brand

Brand extension – A new product is launched with an existing brand

Brand image – Ideas and associations a customer holds in mind about a brand

Bundling – ‘The practice of marketing two or more products and/or services in a single "package" for a special price’ (Guiltinan, 1987, p. 74)

Electric utility – A company in the electric power industry

Fixed costs – Costs that do not change with the number of products or services sold or produced

Grundversorgung – Default energy contract in Germany of the provider with the highest market share in the respective network area

Liberalisation – Removal or loosening of restrictions. Used here in conjunction with economic liberalisation of the energy and telco markets.

Marketing Mix – Framework for marketing activities. Structures activities into Product, Price, Place, and Promotion. Also known as McCarthy’s 4Ps

(Marketing) Strategy – ‘Game plan’ to achieve the company goals (Kotler, Keller and Lane, 2015, p. 74)

Monopoly market – A market structure with only one seller. The seller faces no competition.

Reservation price – The highest price a customer is willing to pay for a product or service

Transmission network – The naturalistic monopoly of electricity transportation networks

List of Abbreviations

Abbreviation	Meaning
(M)ANOVA	(Multivariate) analysis of variance
3C	Customer analysis, Competitor analysis, Company analysis
BDEW	German Association of Energy and Water Industries
B2B	Business-to-Business
B2C	Business-to-Consumer
BMJV	German Federal Ministry of Justice and Consumer Protection
BMWi	German Federal Ministry for Economic Affairs and Energy
CEER	Council of European Energy Regulators
DCE	Discrete choice experiment
Destatis	German Federal Statistical Office
EnWG	German Energy industry law
FIS	Finance and insurance services
GDP	Gross domestic product
ICS	Information and communication services
IHIP	Short for Intangibility, Heterogeneity, Inseparability, and Perishability
kWh	Kilowatt-hour
RSE	Rating scale experiment
STP	Market Segment, Target segment, desired Position
SVOD	Subscription video on demand
Telco	Telecommunication

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1 Introduction

This thesis evaluates the impact of the brand image of a bundle partner on a new service brand introduction. The work focusses on the German business-to-consumer (B2C) electricity market. Consumer behaviour research on bundling for new product and brand introductions has been a topic of high interest between 1991 and 2017. This thesis revives the tradition of research on consumer behaviour for bundling new product introductions because the impact of bundling for new services has not been investigated during this phase, and many open questions remain.

In this introductory chapter, bundling as a marketing technique for a new electricity service launch is presented together with the research questions. Then, the research aim and objectives are defined based on an identified knowledge gap. The next section details the importance of reaching the research aim for practitioners and the research community. The final section of this introduction explains the research process and the organisation of this work.

1.1 Bundling for service brand introductions

About 75% of the workforce in Germany is occupied in the service sector generating about 69% of the national GDP (Central Intelligence Agency, 2022). The residential electricity market in Germany is one of the biggest markets in this sector, with a high number of new service introductions (BMWi, 2018; BDEW, 2020; BMWi, 2021). New companies entering the residential electricity market have a challenge: They need to achieve customer growth, ideally in a short period (Handelsblatt, 2020). This is difficult because the market is not growing, electricity products cannot be differentiated via the price over the long-run, and the product itself is a commodity (Watson, Viney and Schomaker, 2002; Larsen, 2017; Rutter *et al.*, 2018; BDEW, 2022a). The latter are just some of the problems faced by the suppliers. Like in many other service markets, the customers in the electricity market face high uncertainty and are risk-averse in their choice of supplier. Therefore, customers rely on the brand as a quality signal for their buying decisions (Zeithaml, 1988; Thorun, Zimmer and Spindler, 2017; Wirtz and Lovelock, 2021). However, since the service brand to be introduced is new and unknown, it will not fulfil this signalling role.

One strategy of practitioners to overcome this hurdle of a new brand is to bundle the new product with a complementary existing one (Simonin and Ruth, 1995; Sheng and Pan, 2009). Three prominent examples from Germany for this strategy in the area of services are: (1) Deezer, a music streaming service, was launched in a bundle in 2014 with products from Vodafone, a premium telecommunications provider (Schwenger, 2014). (2) Buhl Wiso tax software is offered in a bundle with Deutsche Bank products (Deutsche Bank AG, 2022). (3) Vattenfall, one of the biggest German utilities, offers a bundle discount for using Emmi, a start-up electric scooter mobility service (Vattenfall Europe Sales GmbH, 2022).

The strategy to bundle a new service with an established one does not come for free for a service company. It generates efforts and process costs. Furthermore, it creates a reputational risk for the stronger bundle partner brand (Varadarajan, 1986; Stremersch and Tellis, 2002). Therefore, it can be assumed that it is easier for a new electricity service to bundle with a partner with a lower brand image compared to convincing a stronger brand to partner. In addition, potential services to bundle can come from various sectors, which have different levels of complementarity to a new electricity service.

Consequently, for a new electricity service company, the questions are:

1) Will bundling with a stronger service brand help a new electricity service company more by increasing its perceived quality and reducing its perceived risk during its introduction in the German market than bundling with a weaker brand?
2) What role does the complementarity of the bundled services play?

1.2 Research aim and objectives

It has been scientifically shown that bundling a new product with another can positively influence the evaluation of the new product in terms of quality perception and perceived risk (Simonin and Ruth, 1995; Sheng and Pan, 2009). Unfortunately, as detailed in the review of the existing literature, this enhancement effect has only been empirically tested for goods categories. Evaluating the effect on services has been completely overlooked in the academic world. This focus on tangible products is concerning because services possess different characteristics and are evaluated differently than goods (Zeithaml, 1981; Parasuraman, Zeithaml and Berry, 1985; Zeithaml, 1988; Berry, 2000). Services are

intangible, heterogenous in quality, inseparable in production and consumption, and their output is perishable (Lovelock and Gummesson, 2004). Furthermore, the corporate name is usually the brand reference rather than a specific product name (Novak and Lyman, 1998; Berry, 2000).

The difference these service attributes can make have been evaluated for brand extensions. Brand extensions rely on similar mechanisms like bundling, and researchers have differentiated in studies between goods and services (e.g.,Völckner *et al.*, 2010; Srivastava and Sharma, 2013). One of the most cited articles on services summarises the need for differentiation quite nicely: 'knowledge about goods quality, however, is insufficient to understand service quality' (Parasuraman, Zeithaml and Berry, 1985, p. 42). Complementarity has been identified as a factor and a moderator for the bundling enhancement effect (Simonin and Ruth, 1995; Sheng and Pan, 2009; Khandeparkar, 2014; Singh, 2017). In brand extension research, complementarity (a subcategory of fit) has also been identified as a moderator and an individual factor (Roswinanto, 2015).

Therefore, an academic research gap with high practical relevance exists. This **research aims** to address this research gap by investigating the impact of a strong service brand versus a weaker brand as a bundle partner on a new service. It also seeks to clarify the role of complementarity in this context.

To reach this research aim, **six research objectives** on the influence on quality, the influence on risk, and the role of complementarity need to be achieved:

Objective 1: Influence of brand image on perceived quality

> To determine if the perceived quality of a new electricity service is more positive if presented as a bundle with a higher brand image service compared to the presentation in a bundle with a lower brand image service.

Objective 2: Influence of brand image on perceived risk

> To determine if the perceived risk of a new electricity service is lower if presented as a bundle with a higher brand image service compared to the presentation in a bundle with a lower brand image service.

Objective 3: Influence of complementarity on perceived quality

To determine if the perceived quality of a new electricity service is more positive if presented as a bundle with a complementary service compared to the presentation in a bundle with a less complementary service.

Objective 4: Influence of complementarity on perceived risk

To determine if the perceived risk of a new electricity service is more positive if presented as a bundle with a complementary service compared to the presentation in a bundle with a less complementary service.

Objective 5: Influence of complementarity as a moderator

a) To show that the higher the complementarity of the services in a bundle, the stronger the influence on the perceived quality of the new electricity service.
b) To show that the higher the complementarity of the services in a bundle, the stronger the influence on the perceived risk of the new electricity service.

Objective 6: Offer recommendations for practitioners

To make recommendations to practitioners based on the findings of the academic research process.

The next section discusses the importance of achieving the research aim for managerial practice and the research community.

1.3 Rational of the research

This research contributes to professional practice and academia.

Services generate the majority of the GDP in Germany with a high number of new service introductions. The launch of a new service bears significant risks. A failure of a new service launch has high economic costs for the respective firm. Such failure is often associated with customers not buying the new service offer. Customer rejection of a new service offer is often related to uncertainty and the resulting higher risk perception and distrust in quality. If the perception of end-customers can be positively influenced, then the chances of success increase. Therefore, the research topic is of high relevance for service companies. The findings of this research help marketing professionals decide whether it is worth integrating bundling with high brand image partners into their

marketing strategies. It furthermore guides them on what kind of services in terms of complementarity they should consider as a bundling partner for their new service brand launches. This makes managerial decision-making more evidence-based and decreases the significant marketing risks for new service introductions.

On the academic side, research in this applied field of bundling has been sparse in general compared to its relevance in today's business world (Singh, 2017). By extending the knowledge from goods to services, this project uniquely contributes to the knowledge in the field. In essence, this research academically answers whether bundling of services can be regarded as a marketing strategy to actively signal high quality and limit perceived risk for new service brand introductions. It adds to the explanation on the role of complementarity in this strategy.

1.4 Organisation of the research

This empirical work follows a positivistic deductive research approach. The work has seven chapters. Following this introductory chapter, the available literature in the fields of new product and service introductions, bundling, and the electricity market is reviewed in chapter 2. The relevant knowledge is synthesized and developed into a theoretical framework with testable hypotheses in chapter 3. The research methodology to test these hypotheses is detailed in chapter 4. The developed methodology is practically tested in a pilot study which is reported in chapter 5. Based on the pilot study's learnings, the main study's data is collected and analysed in chapter 6. Chapter 7 discusses the results by linking them back to the literature review. Chapter 8 draws the overall conclusions of the research. Each new chapter starts with a short introduction on how the chapter is structured.

Figure 1.1 shows the organisation and structure of this work and the research process.

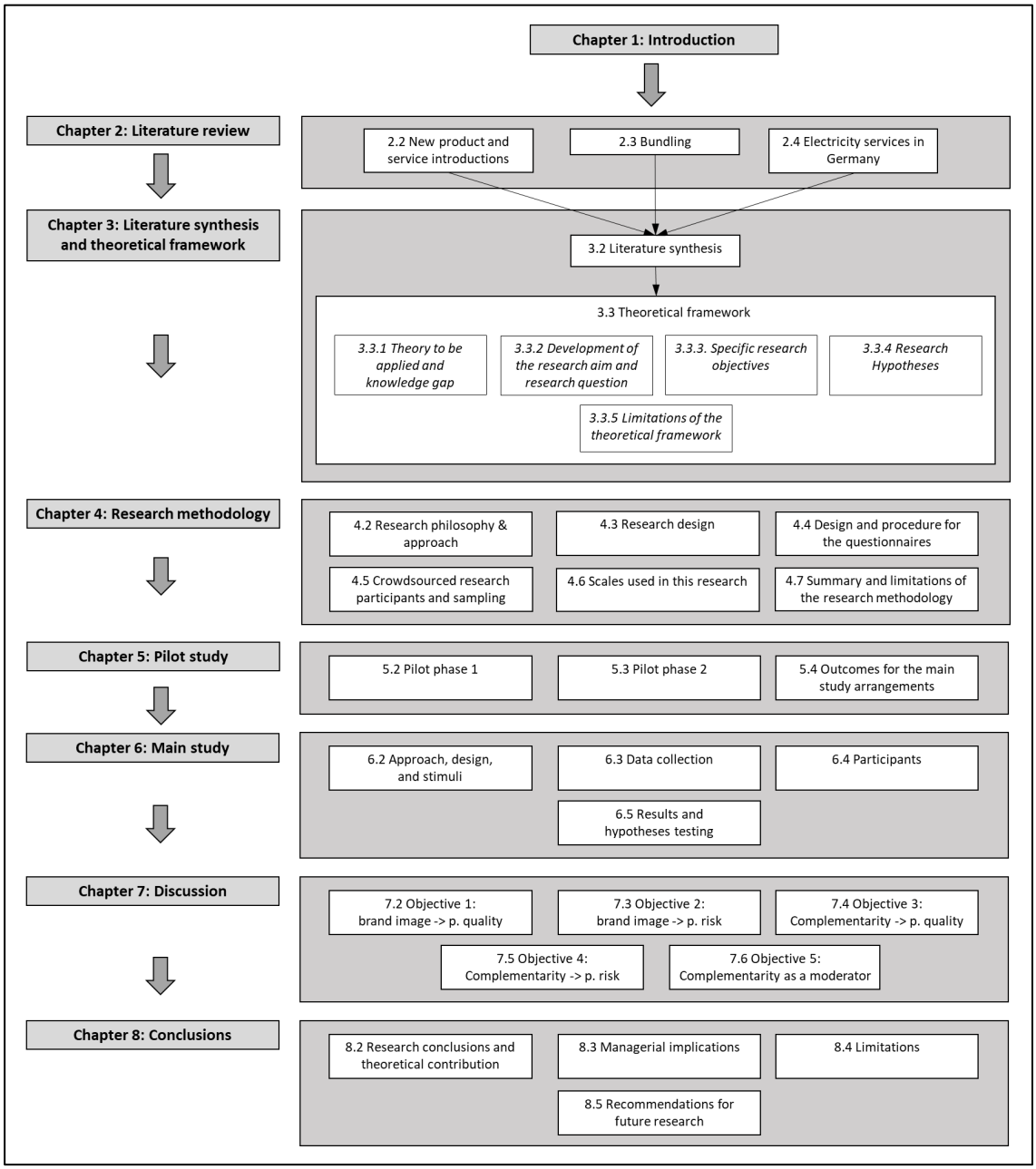

Figure 1.1 Organisation of this work

Following this introduction chapter, the relevant existing literature is reviewed in the next chapter.

2 Literature review

2.1 Introduction

The title of this research is: 'Bundling as a strategy for a commodity service brand introduction. The impact of bundle partner image on quality and risk perception and the role of complementarity'.

Therefore, in the following literature review, the three main areas (2.2) new product and service introductions, (2.3) Bundling, and (2.4) electricity services in Germany as the target commodity market are covered. Within these areas of theory, the relevant sub-topics, as shown in Figure 2.1, are individually explored. The review starts with the literature on new product and service introductions.

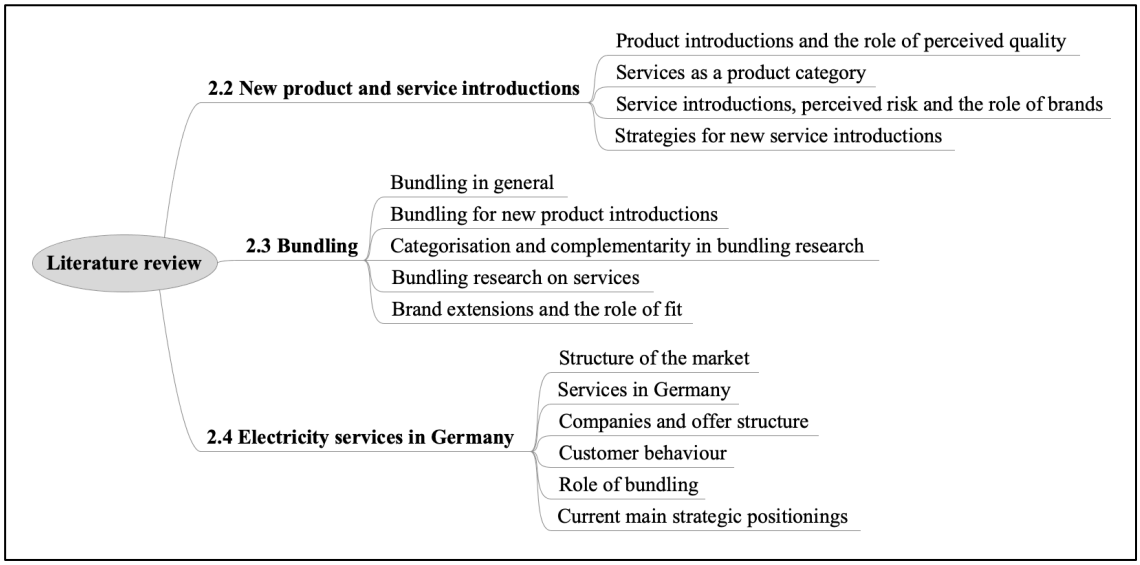

Figure 2.1 Overview areas of theory covered (developed for research)

2.2 New product and service introductions

2.2.1 Product introductions and the role of perceived quality

In today's ever faster-changing economy, innovations and new product launches are necessary to cater for the changing consumer demands (Kotler, Keller and Lane, 2015). Products in this context are defined as 'anything that can be offered to a market to satisfy a want or need, including physical goods, services, experiences, events, persons, places, properties, organizations, information, and ideas' (Kotler, Keller and Lane, 2015, p. 389).

New products are ‘those goods, services or ideas that are perceived new by at least some consumers’ (Singh, 2017, p. 8).

Developing and introducing these new products has risks associated from different dimensions, such as marketing, technology, finance, organizational, operational, or supply (Keizer, Halman and Song, 2002; Young H. Park, 2010). If marketing risks materialise, they can ‘lead to insufficient sales for the product to survive and be profitable’ (Mu, Peng and MacLachlan, 2009, p. 170). According to Kotler, Keller and Lane (2015), the failure rate for new products is above 50%.

A new product needs to attract customers to succeed in the marketing dimension. If high fixed costs are involved, customer growth must be achieved in a short time. Hence, customers need to purchase the product. The purchase decision is the last step in the prepurchase stage. The stages before the purchase consist of need awareness, information search, and evaluation of alternatives (Wirtz and Lovelock, 2021). In economic modelling, this consumer decision is an optimisation problem. Lancaster (1966) postulated that goods and services consist of different properties and characteristics that give a buyer utility. A new product sells if this utility comes at a sufficient price compared to the available alternatives. The evaluation of the product by the customer is based on product value. This product value is ‘the consumer’s overall assessment of the utility of a product based on perceptions of what is received and what is given’ (Zeithaml, 1988, p. 14). Part of what is received as product value is, according to Zeithaml (1988), the perceived quality of the product.

Quality is a multi-faceted concept. It can be defined from different angles and mean different things depending on the context. In the context of goods, it typically means a product delivered against a measurable norm. From an operations perspective, quality refers to delivery against internal service levels. In the service product environment, as defined in the next chapter, quality refers to meeting the customer’s expectations for the process of service delivery and the achieved outcome (Golder, Mitra and Moorman, 2012; Wirtz and Lovelock, 2021). This service quality is for the customer harder to evaluate than the quality of goods (Parasuraman, Zeithaml and Berry, 1985).

Perceived quality is, in contrast to objective quality, a subjective measure. It is the ‘consumer’s judgement about a product’s overall excellence or superiority’, and it is ‘a higher level abstraction rather than a specific attribute of a product’ (Zeithaml, 1988, p.

3). This positioning of perceived quality on a higher level of abstraction also explains why the quality perception can even be formed without a detailed inspection of the product itself. It can, for instance, also be based on the product's brand (Debanjan Mitra and Golder, 2006).

2.2.2 Services as a product category

Products, irrespective of whether they are new or established, can be classified by their durability and tangibility. Tangible goods can be nondurable (short in use and sold with a small markup, e.g., in a supermarket) or durable (longer in use and evaluated more thoroughly) (Kotler, Keller and Lane, 2015). The focus of this research is intangible products. Intangible products are also known as services, which are defined as:

> 'Any act or performance one party can offer to another that is essentially intangible and does not result in the ownership of anything. Its production may or may not be tied to a physical product.' (Kotler, Keller and Lane, 2015, p. 422)

Therefore, services can hardly be counted, measured, or verified prior to purchase. Furthermore, not only is the end-result important but also how it has been achieved (Parasuraman, Zeithaml and Berry, 1985). The differences of services are often summarised with IHIP, short form of Intangibility, Heterogeneity in quality, Inseparability of production and consumption, and Perishability of output (Lovelock and Gummesson, 2004). Contrary to goods, for services usually the corporate name itself is the brand reference rather than a specific product name (Novak and Lyman, 1998; Berry, 2000). It must be noted that the product classifications are not mutually exclusive. Services range from tangible goods with accompanying services to pure services with no tangible component (Kotler, Keller and Lane, 2015).

Lovelock and Gummesson (2004) argue that services are essentially a rental. The different service sectors can be classified into five categories: '(1) use of labor, skills, and expertise, (2–4) various degrees of use of goods and facilities (exclusive, defined, or shared), and (5) access and use of networks and systems' (Wirtz and Lovelock, 2021, p. 70). Services can also be categorised by the kind of relationship they form between the organisation and the customer or by their mode of service delivery (see Table 2.1). The relationship can either be a membership or no formal relationship. The mode of delivery can be a continuous one or be based on discrete transactions (Wirtz and Lovelock, 2021).

Table 2.1 Services categorised by customer relationship. Adapted from (Wirtz and Lovelock, 2021).

Mode of service delivery	Type of relationship between organisation and customer	
	Membership	**No formal relationship**
Continuous	Insurance Cable TV subscription Banking Telecommunications (added by author) **Utility (added by author)** Streaming (added by author)	Radio station Police protection
Discrete transactions	Travel on commuter ticket Repair under warranty Theatre series subscription	Mail services Toll highway Movie theatre

2.2.3 Service introductions, perceived risk, and the role of brand image

Services possess a high share of experience and credence attributes. These attributes can only be observed after purchase, after consumption, or sometimes not at all. Therefore, they are often difficult to evaluate, and consequently, consumers perceive a high level of uncertainty for services. This uncertainty increases the perceived risk for purchase decisions (Zeithaml, 1981; Wirtz and Lovelock, 2021). The risk in services can stem from different dimensions, such as functional, financial, temporal, physical, psychological, social, or sensory (Wirtz and Lovelock, 2021).

Perceived risk is often used as a variable to quantify this risk, which combines the aspects of the doubt when making a purchase decision and the possible negative results of this decision (Kaushik Mitra, Reiss and Capella, 1999). The perceived risk can be exceptionally high when the customer is a first-time purchaser, or the product is of high value, difficult to understand, or from an unfamiliar brand (Kotler, Keller and Lane, 2015; Bamossy and Solomon, 2016; Wirtz and Lovelock, 2021). The chances of a consumer buying an offered service increase if the customer's uncertainty and risk perception can be lowered (Wirtz and Lovelock, 2021).

The important role of a brand, which is defined as ‘a name, term, design, symbol or any other feature that identifies one seller’s good or service from those of other sellers’ (American Marketing Association, 2022), is to help simplify a customer’s decision process by influencing the quality perception for an offer and to reduce the customer’s perceived risk (Kotler, Keller and Lane, 2015).

The brand knowledge a customer holds in mind can be split into brand awareness and brand image. Brand awareness is defined as how easily customers recall the brand from the top of their minds. **Brand image** is the set of ideas and associations a customer holds about a particular brand (Keller, 1993). Therefore, the brand image ‘identifies the company or its product and differentiates it from its competitors’ (Novak and Lyman, 1998, p. 17). The additional value for a product or service achieved through a brand itself is defined as brand equity (Farquhar, 1989). To increase brand equity, companies need to develop a known brand with a high brand image. This brand image can be defined as ‘favorable, strong, and unique brand associations’ (Keller, 1993, p. 8). Such strong brands offer the advantage over low brand image companies that the brand can serve as a foundation for launching new products (Farquhar, 1989).

These brand definitions are valid for products in general. However, the view on brands was expanded to include the specific aspects of services. A strong and well-developed service brand helps the consumer to understand and evaluate services in the buying process. This is important because services have no physical aspects and are invisible to the consumer. They lack the branding and displaying opportunity of tangible goods. A strong service brand can act as a replacement for this physical appearance and guide the consumer and reduce the perceived consumer risk (Berry, 2000). The reliance on brands as a signalling attribute is especially high for services (Zeithaml, 1988; Wirtz and Lovelock, 2021).

To build a strong service brand, the process of service branding needs to be more holistic than the branding of goods because the overall corporation is viewed as the service provider (Berry, 2000; Dall’Olmo Riley and De Chernatony, 2000). Therefore, the brand management process should include the employee and the organizational perspective in addition to the customer perception (Brodie, Whittome and Brush, 2009). To build brand equity for services, ‘strong-brand service companies consciously pursue distinctiveness in performing and communicating the service, use branding to define their reason for

being, connect emotionally with customers, and internalize the brand' (Berry, 2000, p. 136).

The important role of brands must be considered when developing strategies for new service introductions.

2.2.4 Strategies for new service introductions

New service introductions are an innovation for service providers. Service innovations can be categorised into seven categories depending on their degree of innovation. The easiest innovation is a (1) style change, where processes and performance are stable. (2) Service improvements involve a small innovation of the service and are the most common form of service innovations. (3) Supplementary service innovations add elements to an existing core service. In a (4) process line extension, the supplier changes how a product is provided to the consumer. An innovation is classified as a (5) product line extension when a new product is added to the current portfolio. If firms introduce new processes that add benefits to the product, they are classified as (6) major process innovations. The rarest form of innovations in the service sector is (7) major service innovations, where a service provider introduces a new core product for new markets. They are radical and disruptive if they provide new service characteristics and use new processes. New technologies often drive these innovations (Wirtz and Lovelock, 2021).

Companies need to define a marketing strategy, or in the words of Kotler, Keller and Lane (2015, p. 74) a 'game plan', to reach their goals when innovating and launching a new service. In mature sectors, these goals usually include taking over market share from another player. Alternatively, a new market space can be opened up with a blue ocean strategy (W. Chan Kim and Mauborgne, 2005). The marketing strategy informs the composition of a firm's marketing mix, which McCarthy famously summarized in the 4 Ps as Product, Price, Place, and Promotion. Meffert, Bruhn and Hadwich (2018) added people as being particularly important for services to make it the 5 Ps for services, and Wirtz and Lovelock (2021) revised them to 7 Ps by adding Process and Physical environment to add these important aspects of service delivery. For commodity services, a particular subgroup of services as introduced in section 2.4.2, at least Meffert's 5 Ps are applicable (Bruhn and Zimmermann, 2022).

To structure the development of a marketing strategy to position a service, Wirtz and Lovelock (2021) suggest starting with what they call the 3 Cs analysis (Customers, Competitors, and Company) and then moving to STP (Segmentation, Targeting, and Positioning). Each of the items consists of multiple analysis steps. For customer analysis, firms need to analyse the market and the customer needs. The competitor analysis focusses on the players in the market and their individual strengths and weaknesses. The company analysis looks inward at its own positioning, brand image, and other sources of strengths, weaknesses, and value. From the customer analysis, the segmentation can be derived. This segmentation, the competitor analysis, and the company analysis form the bases for the potential target segment, which then defines the desired positioning in the market. Finally, the marketing strategy can be defined and operationalised from the company analysis and the desired target positioning.

The communicational aspect in the prepurchase stage, in the 4Ps referred to as promotion, is of special importance to this work. For a company, the strategy is 'to persuade target customers that their service product offers the best solution to meet those customers' needs relative to the offerings of competing firms' (Wirtz and Lovelock, 2021, p. 532). The communicational focus to achieve this can differ based on the marketing strategy and goal. Wirtz and Lovelock (2021) suggest that for a service marketing mix, firms need to actively signal high quality and reduce the perceived risk with different strategies, such as offering previews, granting trial periods, using advertising, or displaying credentials.

As presented in this section, bundling is a marketing strategy that can help signal high quality and reduce consumer uncertainty and perceived risk.

2.3 Bundling

2.3.1 Bundling in general

Bundling is the central area of theory to be applied in this research. The focus of this research is residential consumers. Therefore, the practice of businesses bundling products and services for consumers (B2C) is discussed. Business-to-business (B2B) bundling is disregarded.

Bundling is most commonly defined as 'the practice of marketing two or more products and/or services in a single "package" for a special price' (Guiltinan, 1987, p. 74). Stremersch and Tellis (2002) added that the products should be separate, meaning that

individual markets should exist for each of them. The combination of these definitions is applied as the concept of bundling for this study. Bundling is different from co-branding, where 'two or more well-known brands are combined into a joint product or marketed together'(Kotler, Keller and Lane, 2015, p. 409). It also differs from brand extensions, where a new product is launched with an existing brand (Keller, 1993).

The scientific investigation of bundling started in the 70s in the realms of economic research with questions about how bundling could be used in different market types to improve the own market position, improve utility for the customers, determine the ideal bundling form and price points, the impact of bundling on price elasticity and how these topics relate to questions of antitrust (Adams and Yellen, 1976; Schmalensee, 1982; McAfee, McMillan and Whinston, 1989; Whinston, 1990; Armstrong, 1993). The later streams focus more on social science experiments to uncover customers' behavioural reactions when confronted with bundles (Chiambaretto and Dumez, 2012). This behavioural research has focused either on the product or, more recently, also on the impact of the consumer mindset (Xia and Bechwati, 2021). This work contributes to the behavioural reactions research on bundling with a focus on the product.

Bundles are categorized into different dimensions. One differentiation is into pure and mixed bundling, depending on whether products are sold only in a bundled form (pure) or whether they also can be sourced individually (mixed) (Adams and Yellen, 1976). In a within-brand setup, all components in the bundle have the same brand. When different brands are combined, the bundle is referred to as a between-brand setup (Simonin and Ruth, 1995).

A bundle's focus can either be purely on price or also on product. Price bundling, also referred to as promotional bundling, focusses on advertising a discount. Product bundling requires the bundled products to be integrated in some way, which requires product development (Stremersch and Tellis, 2002; Sheng, 2004). This thesis focusses on price bundling because, for the launch of a new service brand, the entry barrier for such a service should be as low as possible, meaning that no further integration of the two services should be necessary.

Besides this degree of integration, Simonin and Ruth (1995) differentiate bundles by the degree of recognizability of the individual components into either implicit bundles or multi-product bundles. Components in a bundle can often be differentiated into a tie-in

product, an individual product of lesser importance, and the primary product (Stremersch and Tellis, 2002).

Furthermore, the application of price discounts differentiates bundles. In a mixed-leader bundle, a single product receives a discount if the other one is bought at the regular price. The mixed-joint bundle has an overall discount applied, and the products are presented symmetrically, or in other words, on an equal level (Guiltinan, 1987; Sheng and Pan, 2009).

Bundling can create a competitive advantage for companies from non-reproducible product combinations, lower costs, price discrimination, or service advantages (Paun, 1993). On the negative side, bundling generates additional costs and effort for companies in the bundling process and can harm the brand image of the stronger brand (Varadarajan, 1986; Stremersch and Tellis, 2002). From a customer perspective, bundles often carry the positive effect of a reduced price, reduced risk, more convenience, reduced search costs, or functional benefits (Guiltinan, 1987; Paun, 1993; Estelami, 1999; Harris and Blair, 2006; Jinhoo Kim, Bojanic and Warnick, 2008; Knutsson, 2011; Chiambaretto and Dumez, 2012).

However, according to Knutsson (2011), there is no agreement in the research world on whether bundles are in general preferred over individual products. Martins *et al.* (2021) showed in a direct empirical comparison that bundles are only preferred if high discounts are offered. This is in line with Paun (1993)'s prediction that individual products might be preferred over bundles in the case of a mature industry, when information technology has simplified the information gathering prior to purchase or when customers have gained experiences with the particular products. This fits with Harris and Blair (2006)'s assessment based on interviews and empirical experiments that the preference for bundles is higher when the bundle reduces search effort. In short, bundles are 'good for consumers who need help with purchases' (Harris and Blair, 2006, p. 508).

When constructing a bundle, marketers can use several behavioural research findings to design their bundle offers. The most relevant ones for this research are the following. Complementarity, as discussed in detail in section 2.3.3, between bundle components is a significant factor and moderator for the attractiveness and purchase intentions of bundles (Harlam *et al.*, 1995; Herrmann, Huber and Higie Coulter, 1997; Sheng, Parker and Nakamoto, 2007; Sheng and Pan, 2009). Bundles should not contain too many

components because a higher number of components makes a consumer decision more difficult. This potentially defers a buying decision (Agarwal Manoj and Chatterjee, 2003). As expected, bundle discounts positively impact purchase intention (Herrmann, Huber and Higie Coulter, 1997). In a cross-category bundle, a discount should be applied to the more hedonic component rather than to the utilitarian component or the overall bundle (Khan and Dhar, 2010).

The next section focusses on the specific application of bundling to support new product introductions.

2.3.2 Bundling for new product introductions

Bundling has been shown to be a valuable strategy for new product introductions by fostering brand and quality association transfer from one product in a bundle to another. This process is termed enhancement effect (Sheng and Pan, 2009). Since the main topic of this thesis is the use of bundling for a new service brand introduction, the findings in this area are discussed in detail and in chronological order. Appendix (1) presents a comprehensive overview in tabular form.

Gaeth *et al.* (1991) laid the foundation for testing whether attitudes can be transferred from one product in a bundle to another. By experimenting with product bundles consisting of a primary and a tie-in product in the consumer electronics category, they found that valuations in terms of usefulness and quality of the individual products and the bundle itself are averaged almost equal weight. Most interestingly, the tie-in product, which only had 1/20 of the monetary value of the primary product, has a bigger influence on the customer perception for the bundle than would be expected by its monetary share of value in the bundle.

The test objects of Gaeth *et al.* (1991) were established functional related products from the consumer electronics category and non-related office equipment products, each in 3 different quality levels. The relatedness of their test objects corresponds to what was in later studies identified as complementarity. However, the averaging discovered was independent of the level of complementarity of the bundled products. The study was conducted with only 27 participants, half of whom were students. In contrast to the later studies in the field, this study allowed physical inspection of the products by the participants during the test procedure to simulate an actual buying situation. Afterward,

participants filled out a data collection questionnaire. The questionnaire results were analysed by visual inspection and statistical analysis of variance (ANOVA). The dependent variables were willingness to spend, quality, and usefulness.

Gaeth *et al.* (1991)'s study is precious in terms of setup and formed the foundation for the subsequent research in the field. It furthermore was the first study to include a variation in the level of complementarity of the bundled products in the study design. However, the small sample size, even though statistically significant according to the authors, raises concerns. The averaging and the non-impact of complementarity, termed relatedness in their study, were tested differently in later studies.

Simonin and Ruth (1995) tested bundling as a strategy for new product introductions, unlike Gaeth *et al.* (1991), who used established products. By adopting ideas from brand extension research (see section 2.3.5), they tested how the attitude towards the brands in the bundle, the type of products bundled, and the form (with or between-brand) impact the reservation price for the bundle as a whole and the individual bundled products. This means that the authors shifted the focus explicitly more to complementarity, brands, and the impact on the individual components of the bundle.

The empirical testing conducted by Simonin and Ruth (1995) was based on 180 student participants rating nondurable products (personal care: toothbrush, mouthwash, and shaving cream bundled with toothpaste) from existing and fictitious brands. The dependent variable for their regression analysis model was reservation price. The authors mainly confirmed the positive contribution of previous attitudes towards the bundle component brands and added that a good-fitting product combination positively influences the bundle evaluation. However, they could not confirm the equal weight averaging found by Gaeth *et al.* (1991) and instead discovered a higher effect of the assessment of the primary product on the reservation price of the bundle. This difference was explained by the differences in the experimental conditions, including the product categories used for testing. However, it might also be attributed to the relatively small sample size used by Gaeth *et al.* (1991). In addition, Simonin and Ruth (1995) found that mixed-joint bundles generate a more favourable enhancement effect than mixed-leader combinations. Most important, the authors discovered that the attitude toward the bundle positively impacts the individual reservation prices for the primary product and the tie-product.

Supposably, Simonin and Ruth (1995) triggered with this finding the further research on bundling as a new product brand introduction strategy by predictively concluding that between-brand bundling with a liked brand 'could contribute to the development of favorable attitudes toward the bundle and, indirectly, toward the new product brand' (Simonin and Ruth, 1995, p. 229). In their qualitative analysis, they warned that this finding might be challenging to execute in the business world. They argued that the ideal partner might be a direct competitor, which will be hard to bundle with. However, as is shown later, these alliances practicing cooperative branding, so branding cooperation between competitors, is not uncommon (Chiambaretto, Gurău and Le Roy, 2016). On a side note, the authors accepted $p<0,1$ as statistically significant, whereby other authors in the field used $p<0,05$ as the acceptance threshold.

Harris (1997) confirmed a positive enhancement effect of an established brand on the quality perception of a new brand in a bundle. In addition to the previous research on the topic, she was able to add to the academic knowledge that the perceived risk of purchase is positively influenced as well.

Her conclusion was based on empirical testing with convenience sampling of 153 students. She used a 2*2 between-subject factorial design (promotional bundle vs. straight discount; brand extension vs. new brand). This factorial design hence led to very small sample sizes per experimental condition. The existing attitude towards the established brand was tested by simulating a buying situation. The test objects were cereals and snack bars. Like Simonin and Ruth (1995), she also used a well-established and a fictitious brand for the new product. She tested only high-complementarity product combinations based on the assumption that complementarity is necessary for an enhancement effect. The analysis was based on ANOVA.

She found, in their initial analysis of the sample as a whole and in contrast to the earlier research by Simonin and Ruth (1995) and Gaeth *et al.* (1991), no enhancement effect. However, when analysing only participants with a positive attitude towards the established brand, Harris (1997) was able to confirm that bundling of a new brand product with an established one enhances the quality and reduces the risk of purchase of a new product brand in line with the findings from the previous researchers as discussed in this section. This indicated that the enhancement effect depends on the previous attitude toward the established product. Due to the small sample size, the enhancement effect only

on the high-attitude participants showed not to be significant when 'mixed' with the neutral other participants. This emphasizes the importance of a sufficient sample size. Interestingly, she found a negative effect for brand extensions, meaning that bundling harms the quality and risk assumptions of a brand extension.

Sheng and Pan (2009) constructed this attitude towards the established brand as used by Harris (1997) as selection criteria into their experimental design. They tested with a 2*2*2 (brand image; complementarity; bundle form mixed-joint vs. mixed-leader) between subject factorial design. They used existing strong and weak brands from the consumer electronics segment. Furthermore, they showed a fictitious brand to test the impact on a new brand in the bundle.

With this setup, Sheng and Pan (2009) significantly enhanced the knowledge on bundling for new product introductions by experimentally confirming that the perception of a new brand's quality is higher when bundled with a stronger brand compared to a weaker brand. They termed this enhancement effect. Furthermore, the good fitting notion of Simonin and Ruth (1995) was identified as complementarity of the bundle components and was shown to moderate the positive enhancement effect. They explained these effects by applying categorization theory. Categorization theory is discussed separately in section 2.3.3. In addition, they tested that a mixed-joint bundle supports the enhancement effect better than a mixed-leader bundle. Important for the application of this effect, they found in an ancillary analysis that the bundling process does not harm the high image bundle partner brand. Their analysis was based on a sample of 199 students and hypothesis-testing based on ANOVA.

The study's results also showed complementarity to be a significant individual factor. However, this idea was not explored further in this publication. In Sheng's thesis, where the experiment was first reported, the main effect of complementarity was addressed and attributed to a cross-effect from the general attitude towards bundles which was transferred to the individual component (Sheng, 2004). In their closing statement, Sheng and Pan (2009) suspected some interaction effect of price and quality perception, which was later shown to be correct. They called for further exploration of the impact of price on perceived quality.

Khandeparkar (2014) answered this call by focussing on the impact of the price level of the high brand image bundle partner. He added to the knowledge that the perception of a

new product gets enhanced if the new product is bundled with a higher-priced product. Also, he identified complementarity as a main effect on perceived quality. His empirical design was similar to the setup of Sheng and Pan (2009). He tested with a 2*2 (level of complementarity; bundle partner price) factorial design. The data collection was based on a student sample with 97 participants and analysis via ANOVA. His stimulation was from the durable electronics category (laptop, stereo, camera, and a speaker set as the new product). A 10% discount was applied to the mixed-joint bundle used for testing. As in previous setups, he used a fictitious brand for the new product. He furthermore confirmed that the bundling process does not harm the high-image bundle partner brand. On a methodical side note, this study also accepted marginal significance at $p<0,1$ level.

Singh (2017) further extended with her doctoral thesis the existing knowledge by showing a positive effect of self-congruity and functional congruity on the purchase intention of new products in a bundle moderated by complementarity. She tested this effect on durables (consumer electronics) with a 2*2*2 (Prior Experience; Conspicuousness; Complementarity) between-subject experimental design with 424 students. The new product had a fictitious brand. In addition to the new knowledge created, she re-confirmed with this setup the previous finding that the brand attitude of a positive existing brand in the bundle significantly positively affects the attitude towards the new brand. Analogue to the previous research presented in this section, it was shown that complementarity is a moderator for this enhancement effect. Interestingly, Singh (2017) also measured the purchase intention of the bundle in their SEM model. Unsurprisingly, they found that a higher attitude towards the new brand product, which was driven by the existing high-attitude brand product, leads to a higher purchase intention towards the overall bundle.

In a separate research stream, Sarin, Sego and Chanvarasuth (2003) theorised for the special category of new high-tech product introductions that bundling itself and even more bundling with an established product with a credible brand reduces the perceived risk of the new product compared to a separate offering. The positive effect is assumed to be stronger the more innovative, and therefore perceived risk-laden, the new product is in the eye of the customer. Reinders, Frambach and Schoormans (2010) put this theory to the test by showing that bundling enhances the evaluation of the new product compared to a separate offering when the fit of the products bundled is high and the potential buyer has limited prior knowledge of the topic. They used three innovative product bundles with

201 consumers from a professional panel. The study did not contain brand information or brand transfer evaluations.

Besides the direct positive effect on the new product when it is bundled with an established one, as shown above, there is another indirect effect. Foubert and Gijsbrechts (2007) have shown with packaged goods that the enhancement effect of bundles is more widespread than the effect on the bundle itself. A newly introduced product gets attention through a bundle offer, and if also offered separately, the sales of the new product outside the bundle also increase.

In summary, empirical testing on bundling as a strategy for new product introductions has been conducted only on tangible goods. Furthermore, research in the field has only used student samples of various sizes (from 27 students minimum to 424 maximum). The only exception is Reinders, Frambach and Schoormans (2010) for the special category of high-tech products.

The next section discusses the source of the enhancement effect of bundling found by these behavioural research projects.

2.3.3 Categorisation and complementarity in bundling research

Most of the behavioural research in bundling is routed in Kahneman's and Tversky's prospect theory and Thaler's mental accounting to gain insight into how to best frame and present a bundle to the customer (Stremersch and Tellis, 2002). For new product and service introductions, categorization theory is identified in bundling research as a potential explanation for the positive effects observed (Sheng and Pan, 2009).

Categorization in this context describes how a potential customer evaluates an offer in two different modes. The modes are either piecemeal evaluation, meaning an analysis based on attributes, or an evaluation based on categories (Nan, 2006). Category-based evaluation in the bundling context denotes that one product in the bundle is placed into the same group as the other product in the bundle. For example, in a between-brand bundle with a new brand and a high-quality, established brand under categorisation the new product might also be evaluated as high-quality even though it is new and unknown to the evaluator. The judgment for the new product is transferred from the other product (Sheng and Pan, 2009). Category-based evaluation requires less mental effort and is

attempted first (Pavelchak, 1989). However, an argument for the categorization is necessary for category-based evaluation to be applied.

Complementarity between the components is this argument in bundling. This explains why the level of complementarity has been identified to moderate the attractiveness and purchase intentions of bundles (Harlam *et al.*, 1995; Herrmann, Huber and Higie Coulter, 1997; Sheng and Pan, 2009). Interestingly, Patel, Pandey and Sharma (2021) found in a recent study on established products in the emerging markets context that the influence of complementarity on the willingness to pay (WTP) for a bundle is moderated by the type of bundle (goods or service bundle). Service bundles had a weaker relationship than goods bundles. Based on this finding, they suggest that 'managers should bundle complementary products in goods bundle but may not worry much about complementarity in a services bundle' (Patel, Pandey and Sharma, 2021, p. 15).

Complementarity between bundled horizontal products can stem from different sources. The most commonly used type of complementarity in bundling research is functional complementarity, where a functional relationship between the bundled services or products exists. However, there are other types of complementarity, such as joint usage, interoperability, a similar target market, thematic commonality, or convenience (Varadarajan, 1986). But, Knutsson (2011) rightly pointed out in her exploratory dissertation on complementarity in the context of bundling: 'Despite the general assumption that complementarity affects the evaluation process the term has been used with brief or no explanation of the meaning of the concept' (Knutsson, 2011, p. 12). She identified complementarity being defined by bundling authors as functional complementarity, defined from a fit-based view, or with a focus on additional functionality. In her research, she identified 'similarity in price, similarity in level of luxury, dependence of other products, common usage time, and common usage occasion' as potential sources of complementarity (Knutsson, 2011, p. 134). There is also an economic view on complementarity, which can be defined as a relation where 'the reservation price for one product or service is increased if the other is purchased' (Guiltinan, 1987, p. 76). However, this economic view on complementarity is less important in behavioural research. More relevant for behavioural research is Guiltinan (1987)'s view on service complementarity. He identified complementarity as a factor that can be based on reduced consumer search and switching costs, improved customer satisfaction, and increased overall image.

Furthermore, the technical nature of complementarity and how it can be influenced has been investigated. It was found that the perceived complementarity between products is not static but can be influenced. For instance, the images used in the presentation of a bundle or the framing of an offer can change the complementarity perceived by the customer (Belisle, 2010). Another way to nudge a bundle towards a desired category-based evaluation is to provide a joint label for the bundle. This label allows the potential consumer to categorise the bundle components together based on a goal-derived category. Consumers form goal-derived categories to solve special tasks at hand (Knutsson, 2011). An example of such a label would be 'home communication & power supply' for an electricity service and internet access. However, such a joint categorisation based on a label also relies on a certain level of complementarity, e.g., joint usage, between the bundled products. In addition, Knutsson (2011) established that the consumer perception of complementarity is not a binary evaluation but can be measured on a continuous scale.

Overall, for behavioural research, one can side with Knutsson (2011)'s view that the level of complementarity of a bundle lies purely in the judgement of the recipient. This view on simply testing with the consumer for suitable combinations has been adopted in behavioural research on new bundles. So, if a company develops a bundle and consumers accept it as highly complementary then it is complementary and stimulates a positive effect regardless of the source of complementarity and its nature.

2.3.4 Bundling research on services

Guiltinan (1987) formulated the well-cited 'normative framework' for decision-making in mixed bundling scenarios explicitly on services. He argued that the focus on services is based on his view that tangible products are only present in add-on bundles, which hints that only one of the products forms the core of the bundle. Since then, bundling research on services has covered consumer buying behaviour (Herrmann, Huber and Higie Coulter, 1997; Andrews, Benedicktus and Brady, 2010; Srinuan, Srinuan and Bohlin, 2014; Mithat Üner, Güven and Tamer Cavusgil, 2015; Priessner and Hampl, 2020), the impact of bundle composition and attributes (Herrmann, Huber and Higie Coulter, 1997; Agarwal Manoj and Chatterjee, 2003; Klein and Jakopin, 2014), using bundles to optimize a business model (Eakin and Faruqui, 2000; Panou, Kapros and Polydoropoulou, 2015) and after-sales behaviour (Burnett, 2013; Prince and Greenstein, 2014).

The enhancement effect of bundling for new product introductions based on the transfer of brand attitude has only been tested on tangible products and not on services, as discussed in section 2.3.2. It has been speculated that bundling research on services has been scarce because services are traditionally sold and priced separately (Panou, Kapros and Polydoropoulou, 2015). However, this is not true. As later shown in section 2.4.5, bundling is widely used in the service sector, at least in the so-called category of membership services. Therefore, it is more probable that the reason for ignoring services is because tangible products can be easier used for experimental research on consumer behaviour, as Knutsson (2011) directly acknowledged in her study on the impact of complementarity in bundling.

Goods companies usually offer different kinds of products which can be used for experimental testing. Therefore, experimental manipulations with different levels of complementarity, quality perceptions, or other manipulations can easily be achieved. Classic examples which have been used are toothpastes, toothbrushes, mouthwashes, shaving creams, sound receivers, speaker systems, and digital cameras (Simonin and Ruth, 1995; Sheng and Pan, 2009). Service providers are usually active or at least well-known only in a single field, e.g., telecommunications, banking, or insurance. In addition, the corporate name is usually the brand reference rather than a specific product name (Novak and Lyman, 1998; Berry, 2000). Both aspects make it more challenging to create experimental conditions to collect empirical results when brands are involved.

Brand extensions are closely related to bundling in terms of behavioural effects based on brand image. Some bundling researchers, e.g., Gaeth *et al.* (1991), have reached out to ideas from this field. For brand extensions, differences in goods and services have been investigated.

2.3.5 Brand extensions and the role of fit

In a brand extension, a new product is launched with an existing brand. The new product then benefits from the brand knowledge a customer holds in mind for the core product brand. The brand awareness for the new product is increased, and the brand image the consumer holds informs the evaluations of the extension, e.g., in terms of perception of quality (Keller, 1993). There is a significant literature base for new product introductions via brand extensions. Contrary to the research on bundling for new product introductions,

some researchers differentiate between goods and services (e.g., Völckner *et al.*, 2010; Srivastava and Sharma, 2013).

Brand extensions are classified into line extensions, where the brand is already active in the target market, and category extensions into a new field (Farquhar, 1989). Furthermore, extensions can be categorised by the nature of the parent brand being a goods brand (GB) or a service brand (SB) and whether the extension category is a service category (SC) or a goods category (GC) (Ramanathan and Velayudhan Sanal, 2017).

Two main success factors have been almost unanimously identified, regardless of the extension type. These are the parent brand equity and the fit of the brand extension (Völckner *et al.*, 2010; O'Reilly *et al.*, 2017). The first effect, the parent brand equity, signals a positive image for the new product or service and enhances the attitude towards the extension (Aaker and Keller, 1990). This saves investments into building a new brand where a brand is necessary to succeed in the new market (Keller and Aaker, 1992; Keller, 1993). The second effect is the fit between the parent brand and the new product or service. A higher level of fit between the brand and the brand extension enhances the positive transfer effect of attitude and quality towards the extension. Therefore, fit acts as a moderator. However, the level of fit is also directly positively linked to the attitude towards the extension. Fit is also a separate factor (Roswinanto, 2015).

Fit is measured in different dimensions (Carter and Curry, 2013). They include "complement" (products are used together), "substitute" (products used instead of each other), and "transfer" (how good does the customer think the seller can transfer its ability to the extended category) (Aaker and Keller, 1990). As previously discussed, the enhancement effects in brand extensions are attributed to the categorisation effect (Aaker and Keller, 1990). The enhancement relies on what information is held in mind for the core brand, how relevant the consumer perceives this information for the extension, and how positive or negative this information is viewed compared to other alternatives (Keller and Aaker, 1992).

However, besides parent brand equity and fit, which are independent of the extension type, there is substantial evidence that the factors for the brand extensions of SB are different from GB (Kröger, 2007). It was found that the perceived quality of the parent brand is especially important for SB to SC extensions. Furthermore, perceived risk has a stronger impact on services compared to nondurables (Srivastava and Sharma, 2013).

Like bundling can harm the brand image of the stronger brand, a brand extension can also affect the parent brand. The impact can be positive and enhance the parent brand equity, but also negative (Farquhar, 1989; Aaker and Keller, 1990; Czellar, 2003; Pina Jose *et al.*, 2006; Martínez Salinas and Pina Pérez, 2009; Arslan and Altuna, 2012). A higher fit limits the potential negative backfire on the parent brand in case of a failed extension (Martínez Salinas and Pina Pérez, 2009).

Following this review of bundling theory, the German electricity market is discussed.

2.4 Electricity services in Germany

2.4.1 Structure of the market

This work applies bundling theory for new service introductions in the German electricity market. The residential electricity market in Germany serves about 41.5 million private households with electrical energy (BDEW, 2020). It used to be a monopoly market with vertically integrated state-owned utility companies and has been, since 1998, a liberalised and unbundled market with competition (Europäisches Parlament, 2021).

There are three basic market functions, as detailed in Figure 2.2, with regard to end-customer electricity contracts (Richter, 2012):

1. Retail sales: contract partner of the end-customer for their electricity contract
2. Transmission and Distribution: the natural monopoly of electricity transportation networks. Sometimes Transmission and Distribution are separated, whereby Transmission is the transport of Energy over a long distance, and Distribution is the transportation to the individual end-customer.
3. Generation: the generation of electricity

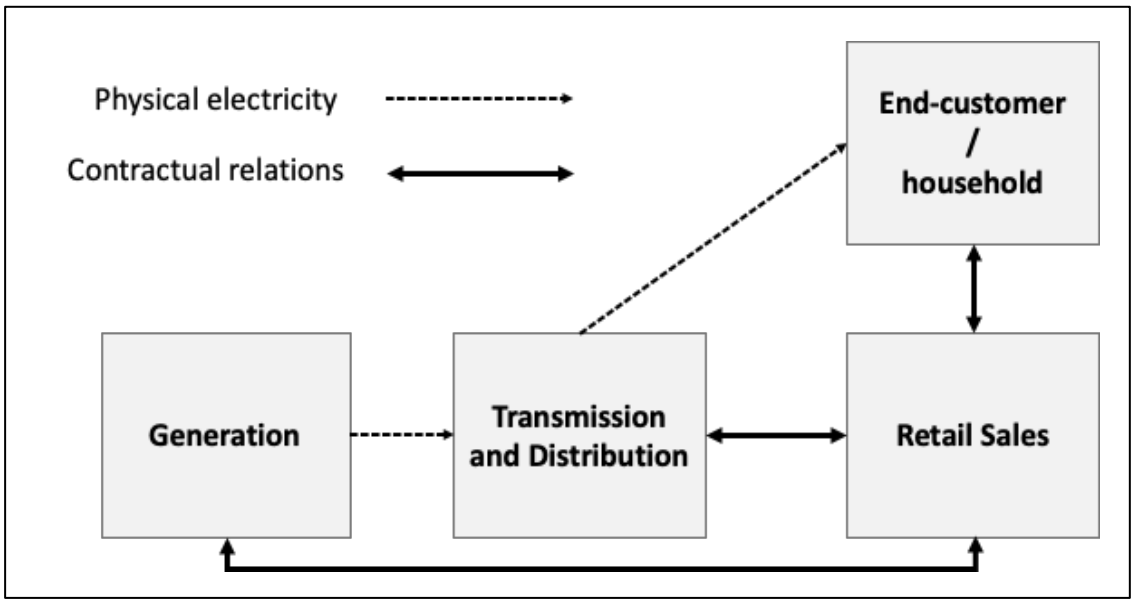

Figure 2.2 Simplified physical electricity flow and contractual relations (developed for research)

Retail sales companies, the focus of this project, are the intermediaries between the customer and the energy market (Krümmel, 2020). They source electricity from the generation function in the wholesale market, contract discrimination-free the transmission layer for electricity transport, and manage the energy contracts with the end-customers.

These contracts are service contracts, and electricity companies are service companies rather than goods companies (Larsen, 2017). Therefore, electricity companies belong to the service sector in Germany.

2.4.2 Services in Germany

Services globally generate nearly two-thirds of the GDP (Wirtz and Lovelock, 2021). Germany is no different in that regard. About 75% of the workforce is occupied in the service sector generating about 69% of the GDP (Central Intelligence Agency, 2022).

Electricity is a classic commodity. Commodities are defined as ‘products and services that buyers perceive as homogeneous and replaceable, even though they have more or less differentiating attributes‘ (Enke, Geigenmüller and Leischnig, 2022, p. 5). In particular, electricity services are born commodities that are objectively and as subjectively recognised by the consumers, not differentiable (Enke, Geigenmüller and Leischnig, 2022). Bruhn and Zimmermann (2022) argue that classification as a service

with its special characteristics, as discussed in section 2.2.2, and as a commodity at the same time might be counterintuitive. Therefore, they suggest a definition for commodity services to solve this contradiction:

‘Commodity services are standardized, often routinized or automated services which are perceived by the customer as homogeneous and for which there are very few preferences for a provider based on performance characteristics. Commodity services are often provided in a similar or identical manner by different providers.’ (Bruhn and Zimmermann, 2022, p. 47)

A service being a commodity, according to them, is likely if there is a high level of standardization, the service can be provided without manual interaction, there are few direct interaction points between the provider and the customer, and there are likely few uncertainties in terms of the interaction and the mutual behaviour (Bruhn and Zimmermann, 2022). All four parameters are valid for electricity services in Germany.

Applying the rental classifications and the relationship services form with the customer from Wirtz and Lovelock (2021), as shown in section 2.2.2, electric utilities belong to the rental category of access and use of networks and systems. The services provided by electric utilities can be classified as perfectly on-demand because the characteristics defined by Van der Burg *et al.* (2019) are fully met. Electricity is for the end-customers available 24/7 with ample resources, instantaneous supply, and highly scalable.

Furthermore, the retail electricity market is a membership market with continuous delivery (Wirtz and Lovelock, 2021). Important other sectors within this category are natural gas supply, finance and insurance services (FIS), and information and communication services (ICS), as shown in Table 2.1 on page 10. Natural gas supply and electricity are often combined into the utility market (Hackbarth, Tremml and Löbbe, 2022). Also, the subscription-video-on-demand (SVOD) market, with 25 million subscribers, follows a similar mode of delivery and membership model in Germany. Customers in this market gain access to a selection of video content for a membership fee (Büchel and Rusche, 2020; Goldmedia GmbH Strategy Consulting). The membership markets with continuous delivery have a high rate of company creations in Germany. Measured by new companies created per year versus the number of established ones, the rates for ICS at 6.4%, FIS at 6.3%, and utility at 4.7% belong to the highest in Germany (BMWi, 2018).

As discussed in section 2.2, products and services are not mutually exclusive categories. The German translations of the terms for products and services are often used interchangeably, especially for services in the continuous membership category. In addition, services often use different terms for their pricing model (Wirtz and Lovelock, 2021). For utilities in particular, but also for insurance, banking, and telecommunication, the use of the German translation for 'tariff' is not uncommon for a service offering (Georg, 2019). For electricity services, for instance, a google search revealed in November 2021:

- 150 Mio hits for the German term for 'electricity service'
- 111 Mio hits for 'electricity product' and
- 6.3 Mio hits for 'electricity tariff'

This shows that companies regularly use the terms 'product' and 'service' to describe their service offerings. Also typical for membership services with continuous delivery is the term switching. Since customers often have an ongoing contract for such services, contracting a new service is also referred to as switching. This indicates that the contract is switched from one company to another.

2.4.3 Companies and offer structure

The total revenue of the retail electricity suppliers in Germany is about 84.5bn Euro from sales to end-users generated with about 143 thousand employees in this sector. Germany had 1364 energy suppliers in 2021, and the average household can choose between 162 suppliers with no player in a dominant position (BDEW, 2020; BDEW, 2022a; Bundesnetzagentur, 2022).

There are three kinds of supply contract relationships for electricity based on the contract partner and the legal basis of the contract: By default, customers get assigned to and hold a so-called "Grundversorgungs"- contract. This is the default electricity contract between the end-customer and the utility company having the biggest market share in the respective network area. This is typically still the former monopolist. The contract attributes for this type of contract are standardized and defined in the EnWG, which is the energy law in Germany (BMJV, 2020). Besides this, the customer can choose a so-called "Special"-contract, where the contract terms are individually agreed upon between the

energy company and the customer. This can be the utility with the biggest market share in the network area ("Grundversorger") or with a competitor company.

In 2020, 25 % of the electricity supplied in the end-customer segment was provided in a "Grundversorgungs"-contract. Another 37% was provided via a "Special"-contract with the former monopolist and 38% with a "Special"- contract at a competitor's company not being the local Grundversorger at the contracted address (Bundesnetzagentur, 2022). Figure 2.3. visualises the different contract types and their market share.

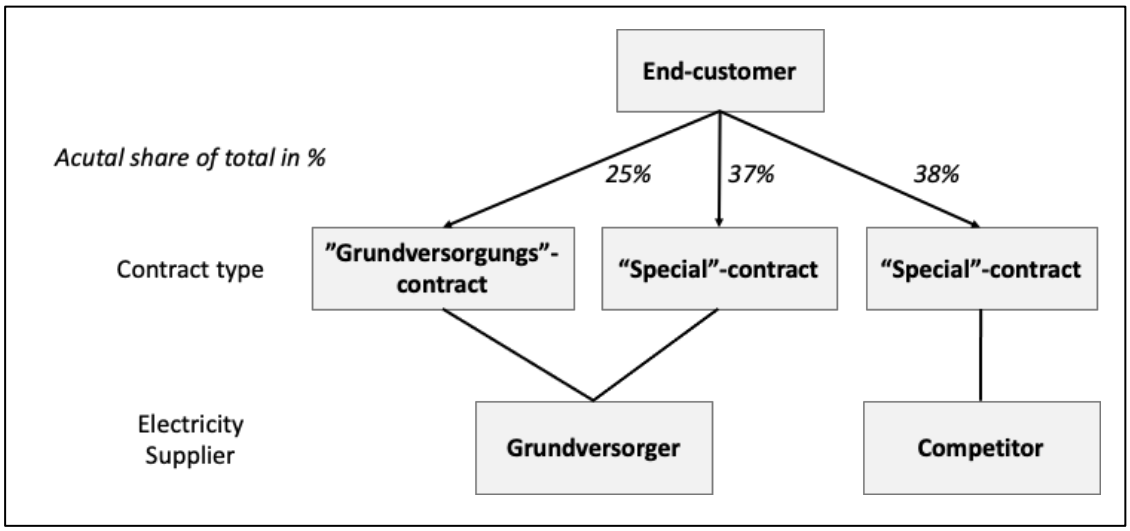

Figure 2.3 Electricity contract types in Germany (developed for research)

The electricity market in Germany has few big players and a very long tail of smaller suppliers. The four biggest players in the market in terms of energy sold to end-customers have a combined market share in the "Special"-contracts category of 42.8%. In the "Grundversorgungs"-contract category, they provide 52.6% of the energy. About half of the retail energy providers are only active in certain regions. Notably, 84% of suppliers serve less than 30k end-customer locations. Only 6% of the utilities in Germany serve more than 100k end-customers (Bundesnetzagentur, 2022). Table 2.2 details the number of companies grouped by the number of end-customers served.

Table 2.2 Electricity customers served versus share of supply companies. Adapted from (Bundesnetzagentur, 2022)

Number of end-customer locations served	Number of companies	Share of companies
0-1k	355	26%
1k-10k	463	34%
10k-30k	328	24%
30k-100k	132	10%
100k-500k	71	5%
>500k	15	1%

This means that in terms of the number of required customers, the electricity market has a low entry barrier in terms of customers served. However, a high number of customers will be an increasingly crucial factor in the electricity market because of economies of scale (Handelsblatt, 2020).

Germany has the highest price for household energy in Europe. The electricity price in Germany is about 32,16 cents per kWh. This leads to an average electricity bill in Germany of about 1.125€ per annum in 2021 for the average standard consumption of 3.500 kWh/annum. The largest share of this bill is with 51% government levies, taxes, and surcharges. The second biggest part is the regulated network and metering charges, which are based on the home location of the end-customer. With a share of 24%, these charges differentiate the cost structure significantly on a geographical basis. The retail sales company can actively influence only 25% of the typical bill. This includes electricity sourcing from generation and the own margin for operations and profit margin (BDEW, 2022a). Depending on the wholesale price of energy, the sourcing is responsible for 15-20% of the total bill in 2020. An energy consultancy's analysis of public finance data for 160 electricity companies in Germany supports these figures. They calculated that the overall revenue profitability in this sector is about 5.8% in 2020 (Zeitung für kommunale Wirtschaft, 2021). This makes electricity resale to end-customers a low-margin business with little opportunity to differentiate via the price.

This nature of electricity in Germany being a low-margin business became apparent during the energy crisis in 2021/2022. There are different methods how to source electricity for the contracted end-customers. Suppliers can source the electricity in

advance, e.g., for the contract term of the end-customers or via the so-called spot market (Graeber, 2014). Also, suppliers mix both methods. In 2021 the wholesale electricity price increased on the yearly average by a factor of 3 (Çam, Arnold and Gruber, 2022). With this increase in wholesale electricity prices and the low profit margins as a buffer, some electricity suppliers, probably the ones with a higher share of short-term sourcing, became insolvent (Handelsblatt, 2022). The average price for an existing electricity contract increased to 37,30 cents per kWh in July 2022 (BDEW, 2022b).

Most households in Germany have a standard meter that measures the cumulative consumption. It is read only once per year for the calculation of the annual bill. Customers make monthly down payments on the expected consumption over the year. This is usually a fixed monthly sum, and the consumer has no insight into how the consumption is spread over the months or during the day. Electricity consumption, therefore, is very inelastic in the short term for behavioural aspects and more driven by other aspects, such as the energy efficiency of the appliances (Amelung, 2020).

An average electricity customer could save about 67€ per annum in 2021 by switching from a "Grundversorgungs"-contract to a "Special"-contract with another supplier. In addition to this annual saving, customers could receive a one-off switching bonus of 70€ on average from the new supplier to motivate switching (Bundesnetzagentur, 2022). Is this saving potential of about 137€ sufficient to influence customer behaviour in the electricity market?

2.4.4 Customer behaviour

Energy switching is a well-defined and regulated standard process in Germany. Customers contract with a new energy supplier and can even choose that the new provider cancels their old energy supply contract. They usually only need their address information, payment details, and energy meter id to initiate the switching process. The energy companies are then obliged to switch the energy customer in a maximum of 3 weeks, according to the EnWG (BMJV, 2020).

In Germany, 5,4 Mio customers switched their energy suppliers in 2020. This rate of 10,9% of the total electricity contracts is the highest in the last ten years, with the lowest being 7,8% in 2011 and a mean of 9,08%. Of this 10,9% in 2020, about 75% were independent of a switch of home location (Bundesnetzagentur, 2022). A total of 49,8%

of household customers switched their energy provider at least once since the liberalization of the market (BDEW, 2021). However, as shown above, only 38% of customers hold a contract with a supplier not being the former monopolist (Bundesnetzagentur, 2022). This is a very low rate compared to the similar structured telco market. For broadband access, the standard telco product, 61% switched away from the former monopolist (Bundesnetzagentur, 2021). The most common channels based on figures from 2020 for electricity marketing were online (71%), telesales (12%), door-to-door sales (6%), mail (11%), and retail (4%) (Künzel and Lohse, 2022).

Kaenzig, Heinzle and Wüstenhagen (2013) empirically tested for the German market the main reasons for consumers to switch providers. When asked directly, customers state that price (low) and price guarantee (long) are the most important factors. When indirectly tested via conjoint analysis, price and electricity mix (preference for green) were the highest important factors. However, as indicated by the low switching activity in Germany, there have to be substantial reasons for customers not to switch away from the incumbent utility company. Thorun, Zimmer and Spindler (2017) assessed reasons for this based on several studies for Germany. According to them, the main reasons for people not to switch their energy provider can be grouped into three categories:

- Lack of trust in energy suppliers
- Lack of interest and low motivation for energy switching
- Limited understanding of expected savings and necessary effort to switch the supplier compared to actual savings and effort

This is consistent with the findings from Hackbarth, Tremml and Löbbe (2022). They assessed that decreasing the perceived risk of an offer, which was in their study represented by a price guarantee and a flat rate, is of high relevance for German electricity customers. The aspect of trust is also emphasized by the Council of European Energy Regulators (CEER) which finds that ‘trust in general is relatively low for electricity and gas retail markets compared with other service [sic]’ (CEER, 2016, p. 25). They especially asses that ‘customers do not trust new entrants’ into the market (CEER, 2016, p. 6).

The recent insolvencies of electricity suppliers in 2021/2022, as described in the previous section, have not yet impacted the available trust and switching numbers in Germany. However, Germany had at least four additional big insolvencies of new entrants in the

energy market in the past. They were driven mainly by the unsustainable pricing strategies of the respective companies. The insolvencies negatively impacted the more than 1,5 million end-customers involved and might explain the lack of trust, especially for new companies (Augsburger Allgemeine, 2017; Handelsblatt, 2019; DE-Media GmbH, 2020).

In addition to these trust issues, customers are prevented from changing electricity suppliers by switching costs. Switching costs can be grouped into information costs and transactional costs. Transactional costs are the costs incurred in the switching process, such as termination fees of an old contract. Information costs are efforts a customer needs to invest in searching and understanding a new contract. These can be perceived or factual (Yang *et al.*, 2020). Information costs can be assumed to be especially important for electricity services for two reasons. First, as described in section 2.4.1, the electricity market was a monopoly market in which only half of the households ever actively switched their electricity contract since liberalisation. The lack of switching experience leads to a high relevance of switching costs (Wieringa and Verhoef, 2007). Second, electricity services are perceived as indifferent commodities. It can be assumed that consumers switch mainly due to cost savings. Therefore, low involvement and optimisation of information costs can be assumed (Bruhn and Zimmermann, 2022).

Frederiks, Stenner and Hobman (2015) have drawn on psychology and behavioural economics to understand customer behaviour in the field of energy consumption and switching. Their findings can be summarized and applied further to the German electricity market in the following eight categories:

(1) The status quo bias and the finding that **(2) people only satisfy their direct needs**. Both principles are particularly pronounced under complexity. The "Grundversorger" is the default option in Germany if households never switched to another supplier. When moving into a new home, customers get automatically assigned to the "Grundversorgung" if they do not actively contract a new supplier. So, not switching represents the default offer and status quo, which does not necessarily need to be optimized further. In addition to this, energy is regarded as complex. Therefore, it can be assumed that these two effects are very present in the electricity market.

(3) People overvalue loss and are more risk-averse about positive gains than losses. Switching an electricity contract has potential financial gains. However, people fear the potential adverse effects of contracting a new supplier. The cost of electricity is a

significant cost factor in a household. Therefore, it can be expected that people are risk-averse in their decisions.

According to the **(4) 'sunk cost effect'**, people endure if they invested time, effort, and money. Switching to a new electricity contract usually requires some work. In the prepurchase stage, as described in section 2.2.1, consumers seek information and decide. They sign the contract and experience different processual steps, e.g., providing information for the switching process, interacting with customer service, getting used to new formats for documents and invoices, and registering for a self-service portal. This means a consumer invested heavily in a new contract and might be hesitant to switch again, even if another offer is financially more favourable.

(5) Customers perceive savings in the future as less valuable. Energy contract savings are savings over time. They usually cumulate over time and are not lump sum ad hoc savings. People might perceive this saving as less significant. Bonus products, where consumers derive an immediate value (e.g., a hardware bonus), might counter this behavioural bias.

(6) Customers follow the behaviour of others (Leibenstein's bandwagon effect). Electricity constitutes a service contract that is not visible to others. Usually, no hardware or anything else observable is associated with a new electricity contract. Therefore, switching electricity because somebody else has been observed switching might be a limited driver for switching behaviour.

(7) Trust is often used as the basis for decision-making when assessing risks and benefits, and **(8) the availability bias** lets consumers decide not on researched information but on information available in their memory. Energy customers might choose a supplier based on trust, brand familiarity, and anecdotes from others and not based on economic reasoning. This favours the "Grundversorger" because most energy customers are familiar with their brand and services since they are the dominant provider in the respective region.

It must be noted that consumers' needs and behaviour in the electricity market are not homogeneous. Customer segments differ in their individual behaviour, as shown in Table 2.3. It has been found that the segmentation is constantly changing based on fashion, cultural, socio-economic, and environmental factors (Słupik, Kos-Łabędowicz and

Trzęsiok, 2021). Also, as Georg (2019) noted, such segments are usually defined based on the micro perspective of the individual electricity provider. They are not representative for the whole market.

Table 2.3 Behavioural segments and significant socio-economic factors for energy. Based on (Słupik, Kos-Łabędowicz and Trzęsiok, 2021)

Behavioural Segment	Socio-economic factors (ordered by significance)
- ecological by conviction - eco-friendly but with other focus - focused on costs and money saving - comfort and convenience focused - indifferent	- attitude toward saving energy - age - employment status - home country - the ownership status of the premises - the number of people in a household - average monthly income per person in a household - education - gender - place of residence

Besides these behavioural reactions of consumers to switching, the role of brands in the selection process of a new energy provider and customer loyalty was evaluated. Branding is especially interesting in the energy sector because electricity offers are otherwise indistinguishable and appear very similar (Watson, Viney and Schomaker, 2002; Larsen, 2017; Rutter *et al.*, 2018).

A strong brand is an opportunity for a utility company to ensure sustainable profit margins by enabling to charge a premium. Furthermore, it helps growth and is the basis for new product and service introductions (Novak and Lyman, 1998; Hartmann and Apaolaza Ibáñez, 2007; Larsen, 2017). For energy companies, in line with the findings for services in general, as discussed in section 2.2.2, the corporate brand image is often more important than the branding of individual products. Customers are more likely to contract an electricity supplier from a corporate brand they have heard of and for which they hold a good brand image in mind (Larsen, 2017). Hartmann and Apaolaza Ibáñez (2007) empirically found that the service process quality perception has the biggest impact on customer satisfaction. They conclude that the perception of an energy service brand is

driven by the perception of how well a company operates and the nature of its culture. In summary, creating a brand image is a way to differentiate an energy service or product without necessarily really differentiating product or service attributes (Larsen, 2017).

2.4.5 The role of bundling

Consumers increasingly source membership services with continuous delivery in bundled form. The Council of European Energy Regulators (CEER) provides some illustrative examples of available bundle combinations in Europe. Companies offer electricity services bundled with other forms of energy (e.g., electricity with a gas supply) or as a combination of multiple sectors (e.g., electricity with finance, insurance, lifestyle, or telecommunications services) (CEER, 2019). The full list of examples by CEER is shown in Appendix (3). Bundles with other forms of energy are mainly provided in within-brand setups. Services from other sectors are also bundled between-brand. Also, electricity services bundled with goods, such as mobile phones or TV sets, is common practice (e.g., 1&1 Energie GmbH, 2022; Yello Strom GmbH, 2022). Bundles containing goods are usually between-brand offerings.

While bundled offers begin to be more common in the electricity market, other service sectors are far more advanced. About 96% of all broadband contracts in 2020 were bundled with other services, such as telephony, TV, mobile, or other over-the-top services (Bundesnetzagentur, 2021). Bundling is also a common practice for banking and insurance services. Banking products like credit cards, current accounts, or loans are offered, for instance, in bundles with insurances or other additional services, such as discounts for leisure activities (Koderisch *et al.*, 2007).

In the electricity market in 2021, only 142 electricity companies (14 % of the total) offered electricity bundled with other products. The bundles were mainly provided by the larger providers and bundled electricity with other forms of energy (Bundesnetzagentur, 2022). However, there is a trend in this direction because, in 2019, they were only offered by 82 companies, an increase of 73% in two years (Bundesnetzagentur, 2020). In a study from 2022, 39% of the potential electricity customer participants stated that they would be open to buying an electricity service bundle (Hackbarth, Tremml and Löbbe, 2022). This means there is a substantial interest in bundled products in the German electricity market. Platforms will further enable and increase the number of service bundles in the electricity market.

With the help of platforms, products can easily be combined into bundles, and consumers benefit from a one-stop shopping experience (Krümmel, 2020). Platform providers already offer e-commerce solutions making this kind of bundling accessible to electricity companies (e.g., e.pilot GmbH, 2022).

In order to help consumers to navigate an increasingly complex bundle offer landscape, CEER published ten principles as guidelines for companies who offer bundled products in Europe:

- ‘Ensure transparency
- Keep it simple
- Communicate clear and understandable contract terms and conditions
- Apply clear liability principles where there are multiple parties/contracts involved in the bundled product
- Price comparison tools should endeavour to reflect features of all components in a bundle
- Allow customers the possibility to switch out of a bundle
- Have a single bill or a single summary statement and/or a single portal for consumers to find the different bills associated with their bundle
- Make clear the choice of payment methods for bundled-only products
- Signpost the responsible (in-house or external) complaint handler
- Protect essential services’ (CEER, 2019, p. 2)

Companies across all services sectors are encouraged to follow these guidelines when offering bundles.

2.4.6 Current main strategic positionings

Over the past two decades of competition in the German electricity market, companies have engaged in various strategies to compete.

Most electricity companies aim to de-commoditize their electricity offering. This ‘de-commoditization is defined as a process through which products and services that are perceived by buyers as homogeneous and replaceable, even though they have more or less differentiating attributes, become (pseudo)-differentiated offerings’ (Enke, Geigenmüller and Leischnig, 2022, p. 7).

Amelung (2020) identified three strategic pillars utilized by energy companies to differentiate themselves in the market:

(1) The first pillar is **pricing and contract terms**. Companies offer various pricing models and contract terms as product combinations. The key variables are variable and fixed price components, one-time or annual bonuses, contract terms, cancellation periods, types of electricity, and time-based tariffs.

(2) The second strategy is the **provisioning of value-added services**. Combining an electricity commodity service with another service or product can reduce the level of transparency on the commodity service (Bruhn and Zimmermann, 2022). As discussed in the previous section, electricity products are offered alongside other products and services, such as natural gas, solar, storage, telco, and hardware add-ons.

(3) The third strategy is **based on branding** as a differentiation factor. Companies position themselves as being especially green, cheap, regional, or service excellent. In addition, some companies from other market sectors engage in brand extensions to leverage their existing brand equity and customer access to compete in the electricity market. A prominent example is the German railway company Deutsche Bahn or the German car company Volkswagen (DB Energie GmbH, 2022; Volkswagen Group Charging GmbH, 2022).

Following this review of the existing literature in the relevant fields, the next chapter synthesizes this knowledge and develops the theoretical framework.

3 Literature synthesis and theoretical framework

3.1 Introduction

In this chapter, the relevant aspects of the literature review are first pulled together and synthesised to summarize the effects when bundling theory is applied to a new service brand launch in the German electricity market. Then, the theoretical framework for this research project is developed.

3.2 Literature synthesis

The literature review details the different aspects of new product and service introductions, bundling, and electricity services in Germany. This knowledge can be synthesized as follows:

When launching a new service brand into the electricity market, it is crucial to gain a high number of customers in a short time to achieve sufficient scale and avoid the high risk of failure (Mu, Peng and MacLachlan, 2009; Kotler, Keller and Lane, 2015; Larsen, 2017; Handelsblatt, 2020; Wirtz and Lovelock, 2021). This can be achieved by delivering product value to the consumers (Zeithaml, 1988). The strategy for a service brand launch can be analysed and structured based on a 3Cs (customer, competitor, company) and STP (segment, target, position) analysis for strategic service positioning to identify potential sources of product value (Wirtz and Lovelock, 2021).

The **customer analysis** reveals that the residential electricity market is liberalized and therefore accessible for new entrants and has, as argued in section 2.4.3, a low entry barrier. It services private households in Germany and has very limited growth for the core service of electricity delivery (BDEW, 2020). Because the service is a commodity, the regulatory environment, and the competition in the market, retail electricity only allows for small margins (Zeitung für kommunale Wirtschaft, 2021; BDEW, 2022a; Enke, Geigenmüller and Leischnig, 2022). Therefore, electricity services are hard to differentiate via the price in the long run. Even though consumers can save about 10% on their electricity bill, switching suppliers has been very limited compared to other service markets. This hints that factors other than price impact customer behaviour significantly (BDEW, 2021; Bundesnetzagentur, 2021; Bundesnetzagentur, 2022).

Electricity consumers can be split into different **market segments**, which are dynamic over time (Słupik, Kos-Łabędowicz and Trzęsiok, 2021). However, research showed

some general patterns which allow the conclusion that electricity sourcing decisions are perceived as complex, require high information effort, are risk-laden, are driven by low trust in energy suppliers (especially new ones), have low motivation, are underestimated in terms of their economic potential and overestimated in terms of effort (Wieringa and Verhoef, 2007; Frederiks, Stenner and Hobman, 2015; CEER, 2016; Thorun, Zimmer and Spindler, 2017; Yang *et al.*, 2020). The perceived quality of an electricity service drives product value for the customer and has the biggest impact on customer satisfaction and brand image (Hartmann and Apaolaza Ibáñez, 2007; Larsen, 2017). Lowering the perceived risk is highly relevant for German households with their electricity supplier choices (Hackbarth, Tremml and Löbbe, 2022). In summary, service value can be significantly enhanced by reducing perceived risk and increasing perceived quality. Branding can achieve this in the electricity market (Novak and Lyman, 1998; Hartmann and Apaolaza Ibáñez, 2007; Larsen, 2017).

These findings for the electricity market are in-line with the general knowledge of these kinds of services, which states that they have a high perceived risk for the customer because they are an initial purchase decision for a difficult-to-understand product with high information effort from an unfamiliar brand (Kotler, Keller and Lane, 2015; Bamossy and Solomon, 2016; Wirtz and Lovelock, 2021). Therefore, research generated in the electricity service market can be generalised to a certain extent to services in general.

From a **competitor analysis** standpoint, it can be concluded that the electricity market is well served by companies of different sizes and has high competition. Electricity companies position themselves to de-commoditize their services through three strategic pillars: price and contract terms, offering value-added services, and branding (Amelung, 2020; Enke, Geigenmüller and Leischnig, 2022). Positioning purely on price and contract terms seems to be a problematic long-term strategy because of the cost structure. This is emphasized by the number of insolvencies of companies following this strategy (Augsburger Allgemeine, 2017; Handelsblatt, 2019; DE-Media GmbH, 2020; Handelsblatt, 2022).

The **company analysis** for a new electricity service brand introduction can assume that its most significant weakness is not having an established service brand with brand equity

and the associated lack of customer trust. However, this also poses the advantage that this brand image can still be formed.

Based on these findings, the desired **positioning** can be determined to develop the marketing strategy. As general advice, new service firms should actively signal high quality and reduce perceived risk (Wirtz and Lovelock, 2021). Bundling a new product with another one with a high brand image can improve the perception of quality and limit the customers' perceived risk (Simonin and Ruth, 1995; Harris, 1997; Sheng and Pan, 2009). This enhancement effect is higher for stronger brands (Sheng and Pan, 2009). Buying such bundled electricity services is an option for a significant share of households in Germany, and the share of bundled products is growing (Bundesnetzagentur, 2020; Bundesnetzagentur, 2022; Hackbarth, Tremml and Löbbe, 2022).

Consumers prefer bundles if they lower the search effort (Guiltinan, 1987; Harris and Blair, 2006). This function will certainly be valued in the electricity market, where consumers have low trust, lack of interest, low motivation, and limited understanding (Wieringa and Verhoef, 2007; Frederiks, Stenner and Hobman, 2015; CEER, 2016; Thorun, Zimmer and Spindler, 2017). Unfortunately, the enhancement effect of bundling does not come for free. Bundling creates efforts and process costs and can also negatively impact the brand of the stronger bundle partner (Varadarajan, 1986; Stremersch and Tellis, 2002).

The enhancement effects of bundling for new product brand introductions have only been empirically tested with student samples on tangible products and not on services (see section 2.3.2). However, services possess different characteristics and are evaluated differently than goods (Zeithaml, 1981; Parasuraman, Zeithaml and Berry, 1985; Zeithaml, 1988; Berry, 2000). Compared to tangible goods, services are intangible, heterogeneous in quality, inseparable in production and consumption, and their output is perishable (Lovelock and Gummesson, 2004). Service quality is harder to evaluate for consumers than goods quality (Parasuraman, Zeithaml and Berry, 1985). Furthermore, the corporate name itself is usually the brand reference rather than a specific product name (Novak and Lyman, 1998; Berry, 2000). The reliance on brands as a signalling attribute is especially high for services. If the customer's uncertainty and perceived risk perception for a service can be lowered, the chances of buying increase (Zeithaml, 1988; Wirtz and Lovelock, 2021).

In brand extension literature, a technique that relies on similar mechanisms as bundling, researchers have differentiated between goods and services with the result that parent brand quality and perceived risk are especially important for services (e.g., Kröger, 2007; Völckner *et al.*, 2010; Srivastava and Sharma, 2013).

The enhancement effect of bundling new product brands is attributed to categorization theory and moderated by the perceived level of complementarity of the products in the bundle (Sheng and Pan, 2009; Reinders, Frambach and Schoormans, 2010; Singh, 2017). Complementarity has been defined only vaguely in bundling research with different explanations. They include economic complementarity, functional complementarity, fit or similarity-based definitions, or additional functionality-based (Varadarajan, 1986; Guiltinan, 1987; Knutsson, 2011). The level of complementarity can be influenced by product images, a joint label, by framing the consumer analysis, or when a goal-derived category can be created by the customer (Belisle, 2010; Knutsson, 2011). The role of complementarity in bundling new service brands is ambiguous. It has been identified as a moderator and a factor for bundle enhancement effects in new tangible product introduction research via bundling (Sheng and Pan, 2009; Khandeparkar, 2014; Singh, 2017).

In bundling research in general, complementarity has been identified as a factor (Harlam *et al.*, 1995; Herrmann, Huber and Higie Coulter, 1997). For services, Patel, Pandey and Sharma (2021) found in an empirical study with established product bundles that the effect of complementarity as a moderator is less pronounced for services compared to goods bundles on developing WTP judgements.

Brand extension research shows that besides parent brand equity, the fit of the brand extension is a critical success factor (Völckner *et al.*, 2010; O'Reilly *et al.*, 2017). Fit has been formulated as a separate factor, a mediator, and a moderator (Roswinanto, 2015). Fit is measured in different dimensions, and with complement, substitute, and transfer, it forms a broader concept than complementarity in bundling (Aaker and Keller, 1990; Carter and Curry, 2013).

Natural gas services, FIS and ICS also form, like electricity, a membership relationship between the organisation and the customer and have a similar nature of service delivery (BMWi, 2018; Wirtz and Lovelock, 2021). They can therefore be assumed to be plausible bundle combinations and probably have a certain level of complementarity to an

electricity service based on a similar target market, thematic commonality, or convenience (Varadarajan, 1986). Bundling is less utilised in the electricity market compared to FIS and ICS. However, bundling is expected to increase in the electricity market (Koderisch *et al.*, 2007; Bundesnetzagentur, 2020; Krümmel, 2020; Bundesnetzagentur, 2021; Bundesnetzagentur, 2022).

The literature synthesis has shown how the different aspects of new product and service introductions, bundling, and electricity services in Germany can be combined. It forms the basis for developing the theoretical framework in the next section.

3.3 Theoretical framework

This section develops the theoretical framework for this research. It starts with the scenario for the theory to be applied and the knowledge gap identification. Then, the research aim and research questions are defined. Based on these, the specific research objectives are presented and translated into hypotheses. Finally, the limitations of the framework are discussed.

3.3.1 Theory to be applied and knowledge gap

A company needs to decide on a marketing strategy when introducing a new service brand into the electricity market (Kotler, Keller and Lane, 2015). This would be a significant service innovation because a new service will be launched into a new market with a new brand (Wirtz and Lovelock, 2021). For this scenario, no radical or disruptive elements in the new service are assumed.

The strategic position could be defined as covering the whole market by addressing the main switching obstacles in the electricity market. Increasing the perceived quality and reducing the perceived risk would drive service value and help to achieve scale since these two are of particular importance for the customer decision process for electricity services (Wieringa and Verhoef, 2007; Frederiks, Stenner and Hobman, 2015; CEER, 2016; Thorun, Zimmer and Spindler, 2017; Wirtz and Lovelock, 2021). Instead of investing in building a brand, the company could bundle its new electricity brand for the introduction. This would help the new service because the perception of quality for a new product is higher when it is offered in combination with a stronger brand, and the perceived risk gets reduced (Simonin and Ruth, 1995; Harris, 1997; Sheng and Pan, 2009). Both effects are moderated by complementarity (Sheng and Pan, 2009; Singh,

2017). Brands from the natural gas, FIS, and CIS sectors can signal complementarity in a bundle with an electricity offer, for instance, based on convenience, target market commonalities, or thematic fit (Varadarajan, 1986; BMWi, 2018; Wirtz and Lovelock, 2021).

However, even though the existing literature refers to these bundling enhancement effects for new product introductions as existing for products and services, e.g., by Simonin and Ruth (1995), the effect has only been empirically tested on tangible goods. This is concerning because, as previously discussed, services possess different characteristics and are evaluated differently than goods (Zeithaml, 1981; Parasuraman, Zeithaml and Berry, 1985; Zeithaml, 1988; Berry, 2000). Furthermore, the role of complementarity when bundling new service introductions is ambiguous in terms of its nature and requires further investigation (see literature synthesis in section 3.2).

Therefore, an academic knowledge gap with significant practical relevance exists when bundling is applied for new service brand introductions.

3.3.2 Development of the research aim and research questions

Bundling a new product with another one with a high brand image can improve the perception of quality and limit the customers' perceived risk (Simonin and Ruth, 1995; Harris, 1997; Sheng and Pan, 2009). This enhancement effect is higher for stronger brands (Sheng and Pan, 2009). The reliance on brands as a signalling attribute is especially high for services because the quality is harder to evaluate than the quality of goods (Parasuraman, Zeithaml and Berry, 1985; Zeithaml, 1988; Wirtz and Lovelock, 2021). Therefore, it can be assumed that the enhancement effect for bundling services is at least similar to or bigger than for tangible categories. This is supported by findings in brand extension research, where services explicitly have been tested. The perceived quality of the parent brand and the perceived risk have a stronger impact on services than in other product categories (Kröger, 2007; Srivastava and Sharma, 2013).

If existing, this effect would also rely on a category-based evaluation of the end-customer for the bundle components, as described in section 2.3.3. This categorization process needs an argument so that the new bundle component is placed within the same category as the valued component. This argument has been identified as complementarity in bundling new tangible product introductions. Complementarity has been shown to be a

moderator and a factor (Sheng and Pan, 2009; Khandeparkar, 2014; Singh, 2017). However, there is some weak indication that complementarity is less critical for service-only bundles compared to goods-bundles (Patel, Pandey and Sharma, 2021). In brand extension research, the broader concept of fit has also been identified as a moderator and factor for services (Roswinanto, 2015). In summary, the role of complementarity as a moderator or/and as a factor needs further investigation.

Therefore, this **research aims** to investigate the impact of a strong service brand versus a weaker brand as a bundle partner on a new service. It also seeks to clarify the role of complementarity in this context.

Bundling generates efforts, costs, and risks for the stronger bundle partner brand (Varadarajan, 1986; Stremersch and Tellis, 2002). Therefore, it is likely that it will be easier to negotiate a partnership with bundle partners with a lower brand image compared to convincing a stronger brand to bundle. Also, less complementary services might be easier to partner with compared to more complementary partners (Simonin and Ruth, 1995).

This leads to the specific research questions which are focused on a specific market – the German domestic electricity market:

Research question 1: Will bundling with a stronger service brand help a new electricity service company more by increasing its perceived quality and reducing its perceived risk during its introduction in the German market than bundling with a weaker brand?

Research question 2: What role does the complementarity of the bundled services play?

The specific research objectives can be derived from the research aims and questions.

3.3.3 Specific research objectives

The following research objectives need to be achieved to answer the research questions and to achieve the overall aim of the research:

Objective 1: Influence of brand image on perceived quality

> **To determine if the perceived quality of a new electricity service is more positive if presented as a bundle with a higher brand image service compared to the presentation in a bundle with a lower brand image service.**

Objective 2: Influence of brand image on perceived risk

To determine if the perceived risk of a new electricity service is lower if presented as a bundle with a higher brand image service compared to the presentation in a bundle with a lower brand image service.

Objective 3: Influence of complementarity on perceived quality

To determine if the perceived quality of a new electricity service is more positive if presented as a bundle with a complementary service compared to the presentation in a bundle with a less complementary service.

Objective 4: Influence of complementarity on perceived risk

To determine if the perceived risk of a new electricity service is more positive if presented as a bundle with a complementary service compared to the presentation in a bundle with a less complementary service.

Objective 5: Influence of complementarity as a moderator

a) On perceived quality

   To show that the higher the complementarity of the services in a bundle, the stronger the influence on the perceived quality of the new electricity service.

b) On perceived risk

   To show that the higher the complementarity of the services in a bundle, the stronger the influence on the perceived risk of the new electricity service.

Objective 6: Offer recommendations for practitioners

To make recommendations to practitioners based on the findings of the academic research process.

Appendix (2) shows the different scope of this work compared to the previous research in the field, as summarised in section 2.3.2 and Appendix (1).

3.3.4 Research hypotheses

Based on the research aims and specific research objectives above, the research hypotheses are defined:

Hypothesis 1: Influence of brand image on perceived quality

> H_0: The perceived quality of a new electricity service is *not* more positive when it is presented in a bundle with a higher brand image service compared to the presentation in a bundle with a lower brand image service.
>
> H_1: The perceived quality of a new electricity service is more positive when it is presented in a bundle with a higher brand image service compared to the presentation in a bundle with a lower brand image service.

Hypothesis 2: Influence of brand image on perceived risk

> H_0: The perceived risk of a new electricity service is *not* lower when it is presented in a bundle with a higher brand image service compared to the presentation in a bundle with a lower brand image service.
>
> H_1: The perceived risk of a new electricity service is lower when it is presented in a bundle with a higher brand image service compared to the presentation in a bundle with a lower brand image service.

Hypothesis 3: Influence of complementarity on perceived quality

> H_0: The perceived quality of a new electricity service is *not* more positive when it is presented in a bundle with a service with higher complementarity compared to the presentation in a bundle with lower complementarity.
>
> H_1: The perceived quality of a new electricity service is more positive when it is presented in a bundle with a service with higher complementarity compared to the presentation in a bundle with lower complementarity.

Hypothesis 4: Influence of complementarity on perceived risk

> H_0: The perceived risk is *not* lower when it is presented in a bundle with a service with higher complementarity compared to the presentation in a bundle with lower complementarity.

H_1: The perceived risk is lower when it is presented in a bundle with a service with higher complementarity compared to the presentation in a bundle with lower complementarity.

Hypothesis 5: Influence of complementarity as a moderator

a) On perceived quality

   H_0: The lower the complementarity of the services in a bundle, the *weaker* the influence will be on the perceived quality of the new electricity service.

   H_1: The higher the complementarity of the services in a bundle, the stronger the influence will be on the perceived quality of the new electricity service.

b) On perceived risk

   H_0: The higher the complementarity of the services in a bundle, the *weaker* the influence will be on the perceived risk of the new electricity service.

   H_1: The higher the complementarity of the services in a bundle, the stronger the influence will be on the perceived risk of the new electricity service.

These hypotheses can be visualised as follows:

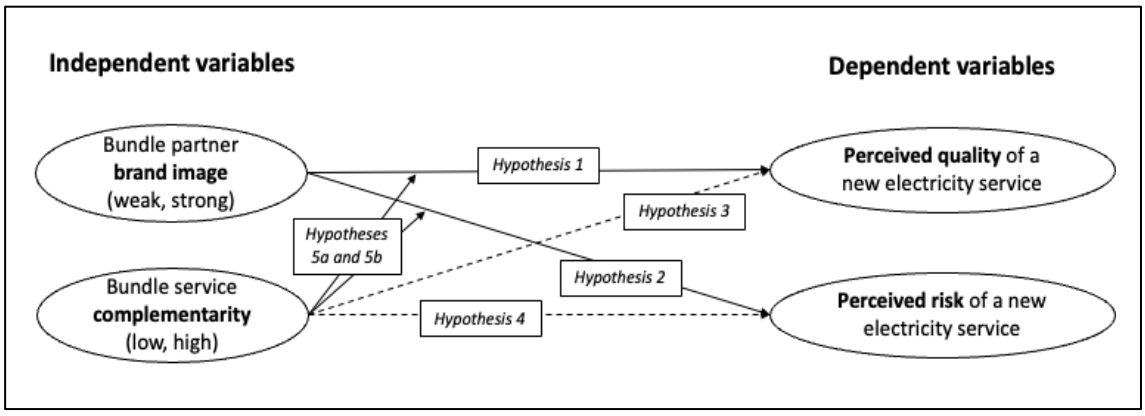

Figure 3.1 Hypotheses of the research (developed for research)

These hypotheses will be tested during the empirical research process.

3.3.5 Limitations of the theoretical framework

The scope of the theoretical framework is highly focused to enable a doable research project in this field. This leads to several limitations. First, there are many different

dimensions of risk and activities in a marketing mix, as indicated in section 2.2, that impact success or failure of a new service brand introduction. This study focuses on marketing risks and specifically on the impact of bundling. All other dimensions and elements of the marketing mix are kept stable. Second, this research concentrates on a similar category as electricity for a bundle partner brand to achieve complementarity, as discussed in the theoretical framework. However, there is a broader range of potential services as bundle partners, which might be complementary (see sections 2.2 and 2.4.2).

Furthermore, this research focuses on bundling between services. In the electricity market, as in other service markets, bundling between services and goods is also practiced (see section 2.4.5). Lastly, this framework investigates the influence of bundling on perceived quality and perceived risk only. Previous research also used, as detailed in section 2.3.2, other measures evaluating an enhancement effect.

Following this development of the theoretical framework, the research methodology is developed in the next chapter.

4 Research methodology

4.1 Introduction

The theoretical framework to be applied in this research has been developed in the previous chapter. This chapter develops the methodology used to test this framework.

First, the philosophic position and the research approach are discussed. Based on the research approach, the research design is outlined. The research design consists of two parts: the research strategy and the research phases. After the research design, the questionnaire design and procedures for data collection are detailed. Then, the crowdsourced approach for sourcing the research participants and the sampling strategy is discussed before the measures used in this research and their origins are detailed. The last section summarises the methodology and lists potential limitations.

4.2 Research philosophy and approach

A paradigm should guide each research. The paradigm defines what a justifiable research result is and what methods are appropriate. The paradigm is a scientist's beliefs about how research should be conducted and how knowledge should be created (Bell, Bryman and Harley, 2019). Positivism guided this project.

Positivism demanded that the project used empirical scientific methods to generate and analyse primary data without the interpretation by the researcher to uncover the observable reality (Saunders, Lewis and Thornhill, 2016; Yoon Soo Park, Konge and Artino, 2020). The theory in positivism is deductively generated and formulated so that it can be tested to generate knowledge (Bell, Bryman and Harley, 2019). The results then strengthen or refine a theory. Therefore, positivism requires a hypothesis that is defined upfront (Yoon Soo Park, Konge and Artino, 2020). The theory to be applied in this research has been developed from the literature and formulated in the theoretical framework in the previous chapter. Within the framework, concepts have been identified which were operationalised into variables for statistical hypotheses testing. The research strategy, therefore, was quantitative. The focus of quantitative research lies in the collection and analysis of data to test a theoretical framework (Yilmaz, 2013; Bell, Bryman and Harley, 2019).

According to Saunders, Lewis and Thornhill (2016), researchers should reflect on their axiological position to clarify the ethical position and how the researcher's values

influence the research project. The researcher of this work is an active practitioner in managing services. The researcher's own experiences with the challenges of launching new services have influenced the research questions and aims. However, the researcher is committed to value-free research and therefore stays detached and neutral to create knowledge purely by analysing data without interpretation, as required for a positivistic research process.

The main alternative paradigm was interpretivism. Some researchers in social science view interpretivism as more fitting to the research objects, which are mainly people and institutions. They argue that behaviour needs to be understood rather than purely to be explained, as positivist researchers aim. In contrast to their positivist counterparts, who have the underpinning assumptions of objectivity, interpretivists believe that reality is formed by human behaviour and interpretation. The researcher, therefore, needs to understand the reality from the point of view of the people studied (Bell, Bryman and Harley, 2019). This means that interpretivism is more linked to exploratory research. Exploratory research is linked to an inductive and qualitative research approach with limited theory building upfront (Casula, Rangarajan and Shields, 2021).

The application of bundling was new in the research for service introductions. Therefore, this project could have been approached as exploratory research from an interpretivists position. However, as argued in the theoretical framework in section 3.3.2, there was a substantial indication that the applied theory is transferable from the goods category to services. Therefore, an explanatory deductive approach was chosen. Explanatory studies aim to 'establish causal relationships between variables' (Saunders, Lewis and Thornhill, 2016, p. 176).

Furthermore, as shown in section 2.3.2 of the literature review, the previous bundling research for new product introductions successfully followed a positivistic approach. Using a similar strategy for this research had two main advantages: First, an already-tested research strategy was applied. Second, the research results could be compared and contrasted with previous results in the goods category.

The chosen positivistic, deductive, quantitative, hypotheses testing research approach informed the research design in the following section.

4.3 Research design

4.3.1 Research strategy

The traditional economic approach to understand consumer behaviour and decision-making is based on revealed preference (RP). RP requires that actual behaviour can be observed in the market (Louviere, Flynn and Carson, 2010). However, these observations, or more precisely, the data of this behaviour, were not accessible to the researcher. They are most probably not available at all because of the specific scenario necessary to answer the research questions. Therefore, another form of evaluation needed to be found.

An alternative to RP is to create the required decision-making conditions in an experimental design for data collection. Ideally, this experiment would be a field experiment that would have delivered the highest internal and external validity. However, the level of control necessary on organisational marketing to manipulate the independent variables was not achievable within a doctoral thesis. Instead, a survey was chosen where the manipulation of the independent variables was achieved via experimenting with different treatments.

The research followed the standard experimental survey research approach. A 'target'-group and a 'control'-group of participants received a 'treatment', and quantitative data were collected for two or more variables which were then analysed to identify association (Bell, Bryman and Harley, 2019). This kind of survey is a stated preference experiment (SP). SP experiments allow 'to elicit an individual's preferences for "alternatives" (whether goods, services, or courses of action) expressed in a survey context' (Louviere, Flynn and Carson, 2010, p. 58).

There are two different categories of SP experiments that could have been used for this research. The first one is a discrete choice experiment (DCE). In DCE, survey respondents select their preferred choice from alternatives that differ on certain attribute levels. In the bundling context, a choice option consists, e.g., of different features of the bundle (Matyas and Kamargianni, 2017). DCE then enables evaluation of the different features individually or in total monetary or other measures. It also allows the evaluation of the relative importance of the features (Cleland, Porteous and Skåtun, 2018). The theoretical foundation of DCE is random utility theory and economic theory. DCE captures the trade-off the respondents make between the different options presented (Wijnen *et al.*, 2015).

The second category of SP experiments is rating scale experiments (RSE). In RSE, respondents evaluate the different aspects of presented alternatives on pre-defined Likert scales. The respondents rate the alternatives in total, meaning trade-offs between attributes are not captured explicitly in the rating (Wijnen *et al.*, 2015). In RSE, qualitative data is collected and fitted into numerical categories. These are ordinal variables. However, because they are aggregated into an overall score, they are allowed to be treated as interval variables. They can be statistically analysed (Joshi *et al.*, 2015; Bell, Bryman and Harley, 2019). Therefore, RSE experiments with Likert scale measurement are suitable for quantitative research. When contrasting the two techniques, DCE captures the trade-offs during decision-making better than RSE and enables the researcher to judge the relative importance of attributes. However, it is a cognitive more demanding process than RSE for the participants (Wijnen *et al.*, 2015). For the research question at hand, only a few alternatives needed to be compared. The focus of this research was more on the impact of these variations on the different dependent variables representing the potential enhancement effect of bundling. This impact could be captured better with a classic RSE experiment where the respondents rate their views on different aspects on the Likert scales.

The setup for the RSE was a 2*2 (brand image of bundle partner; complementarity) full factorial design to create the necessary scenarios to test the formulated hypotheses. Participants were asked to rate different bundle combinations between a membership service and an electricity contract for perceived quality and perceived risk. The design was between-subject, so each survey participant only rated one bundle offer scenario. These were then statistically analysed via descriptive statistics and analysis of variance (ANOVA). As shown in section 2.3.2, a factorial setup with ANOVA testing has been successfully used in bundling research on new product introductions (Harris, 1997; Sheng and Pan, 2009). The research used real brands as bundle partners from the market to simulate actual customer behaviour. The new electricity service brand was a fictitious brand for the German market.

The designs of the surveys were cross-sectional because, according to the theoretical framework in chapter 3.3, the effect on a purchase decision at a single point in time needed to be measured. A cross-sectional design involves data collection for more than one case at a specific single point in time for two or more variables in a quantifiable form to find associations between them (Bell, Bryman and Harley, 2019).

4.3.2 Research phases

The data generation was split into three consecutive phases. In the first phase (pilot phase 1), the services and brands to be bundled with the electricity service were selected. This ensured that significant manipulations were used to build the different test scenarios for the empirical testing. Pilot phase 1 was also used to test the general methodical and technical setup and the sourcing of research participants (see section 4.5). During the second phase (pilot phase 2), the full intended research design and method for the main study were pre-tested. Both phases were part of the initial pilot study, as reported in chapter 5. The third and final phase of the empirical research was the main data collection to test the hypotheses with a large number of participants. The described phases are visualised in Figure 4.1.

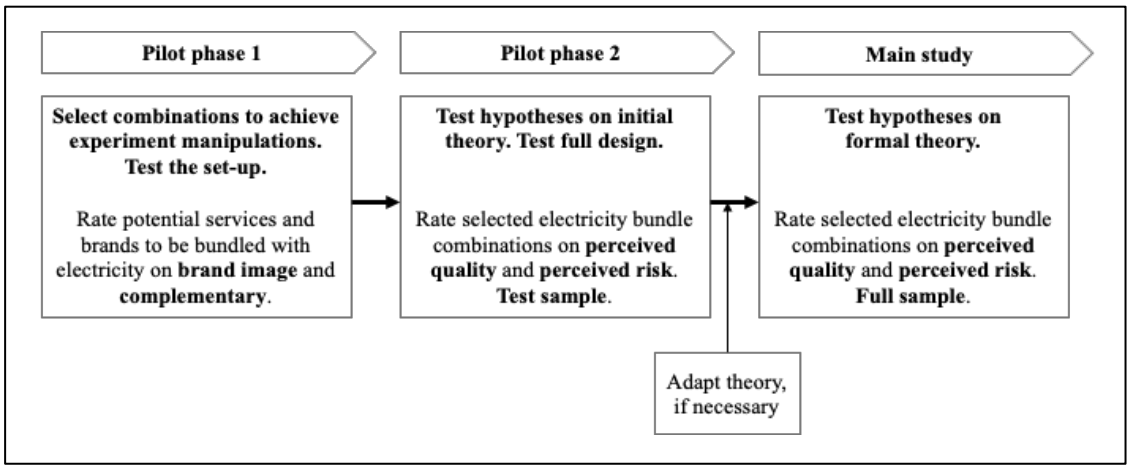

Figure 4.1 Structure of the data generation phases (developed for research)

4.4 Design and procedure for questionnaires

All three data generation phases used the survey method with web-based online questionnaires. The questionnaires were administered via cloud software (LimeSurvey GmbH, 2022). The software allowed full control to design the questionnaires in terms of flow, question types, adding graphics and logos, and grouping of questions into different pages. It also offered additional benefits, such as automatic export to SPSS for analysis, measuring response times, and randomizing question order. Furthermore, it allowed to randomly assign participants to different experimental manipulations as required for the research design.

As suggested by Robinson (2018), participants were informed that the purpose of the questionnaire is scientific and what their role as participants is before completing the questionnaires. Furthermore, email contact details in case of questions were displayed. All data within the research phases were analysed anonymously, which was also assured and communicated to the participants. The invitation to participate and the survey text can be found in Appendices (5-7).

The questions in the survey were asked in a closed format, meaning the respondents needed to choose from a set of pre-configured alternatives. The use of a web-based survey has, according to Bell, Bryman and Harley (2019), the following advantages relevant to this research:

- flexibility of appearance, e.g., prevent scrolling to later questions
- control of the flow, e.g., by filtering questions
- easy to answer for respondents
- automatic collection of results to save time and prevent errors
- simple processing of answers

Furthermore, the chosen closed format prevented participants from accidentally entering personal data. The main disadvantage of the closed format is that qualitative answers cannot be collected. This was neglectable for this research due to the chosen quantitative research strategy.

The following principles were applied for the design of the questionnaires in-line with the suggestions of Robinson (2018). The most important data for the research was collected first. The layout has been designed to ensure that the questionnaire is split into consecutive screens and smaller sections so that the participants do not get confused by missing rating scale anchors for the multi-item rating scales. The participants needed to answer the questions on each page before entering the next page. Going back a page was technically prevented by the survey software. Question items have been grouped by scales following the suggestion of Robinson (2018), who states that unless the process is fully automated, the simpler administration of grouping items belonging to a single scale or theme together is easier and preferable. The order of questions within the scales was randomised to avoid succession effects. Where possible, question items in matrix questions were also randomly sorted. Each questionnaire has been tested in a small

number of pre-tests, where participants, which were not added to the sample, tested the questionnaire.

Individual issues on the procedure and administration are discussed separately for each research phase in the respective section. The research participants have been acquired via a commercial crowdsourcing platform.

4.5 Crowdsourced research participants and sampling

The data for this research has been generated via web-based surveys where respondents self-completed surveys they got invited to. The survey participants were acquired via crowdsourcing. Crowdsourcing is a way to outsource work to a potentially large group of often paid freelancers who send their working results via the internet (Hargrave, 2021). This research worked with the commercial platform clickworker.de, which is the German counterpart of MTurk. Using crowdsourced participants offers advantages in consumer research, such as reduced costs, participant diversity, flexibility, and high data quality (Goodman and Paolacci, 2017).

Besides the technical parameters, the crowdsourcing platform allowed the researcher to specify the following parameters for each survey task:

- Timeframe for the task
- Remuneration
- Number of participants
- Country of participants
- Minimum and maximum age
- Gender

Since the research focused on the German market, participants were geographically restricted to Germany. The participants were set to be of any gender and in the age group of 18-99 years old. According to the crowdsourcing platform used, the demographic profile of the platform is comparable to the German average in terms of gender distribution. The participants are younger than the German average, but the platform automatically structures the participants to match the chosen demographic profile (Clickworker GmbH, 2022). The demographic distribution of the samples was checked within each research phase and compared to the German demographics.

Bengart and Vogt (2021) also used clickworker.de in a study on the electricity product preferences of German customers and confirmed the platform's claim. They found that the gender distribution was equal to the German population and confirmed the younger

sample compared to Germany's demographic structure. They also stated that their sample had higher education and a lower income than the German average. The only alternative available to the researcher was a student sample which previous researchers used in this field (Gaeth *et al.*, 1991; Simonin and Ruth, 1995; Harris, 1997; Sheng and Pan, 2009; Khandeparkar, 2014; Singh, 2017). However, as described in section 2.3.2, these studies used tangible goods relevant to students instead of electricity services relevant to households and people of all ages. It was expected that the sample from the crowdsourcing platform would be more diverse and representative of German electricity customers than a student sample.

The general ethical challenges when using crowdsourced samples are the same as with other methods of data collection. However, crowdsourced research requires careful consideration of two special aspects. The first aspect is fair payment. Participants in research on crowdsourcing platforms are professional workers who earn parts or the total of their income on the platform. In this way, they are different from typical research participants, who are usually students or volunteers who are just compensated for their time or expenses. Therefore, the researcher's relationship can be described as an employer-contractor relationship. The second aspect is an asymmetrical power relationship between the researcher and the participant. The researcher who offers the task on the platform has more information upfront on the task to be fulfilled than the offer taker. On some platforms, the reputation of the worker is harmed if the client is not accepting the worker's work (Gelinas *et al.*, 2018). Both ethical problems were addressed within this research. It was ensured that participants received detailed information on the purpose of the questionnaire and a fair estimate of the time it takes to complete. This briefing is detailed in Appendix (4). The remuneration for completing the surveys was set above the German minimum wage based on the estimated time to complete the surveys. Lastly, participants' work was not 'accepted' as such. The decision not to finish the task had no negative consequences except that the worker did not receive payment for the task they did not finish.

The payment was handled with the following process. At the end of the questionnaire, the participants received a code that they could redeem on the crowdsourcing platform to receive their remuneration. Since completing the questionnaire was compensated via a fixed fee and not time-based, participants might have been interested in finishing the questionnaire task as fast as possible, regardless of the quality. Therefore, all

questionnaire responses have been cleaned for participants who clicked through the questionnaire without considering the answers. This was achieved with two different methods: First, attention-test questions were inserted into the questionnaire that requested the participants to answer in a certain way, e.g., 'please answer with 4 here'. The questionnaire was designed so that if such a question was answered wrongly by the participant, the process was immediately aborted with an exit screen. The participant was informed that the attention test question had not been passed. The record for this participant has then been deleted and was not considered during the evaluation. Secondly, as suggested by Cobanoglu, Cavusoglu and Turktarhan (2021), all answers were eliminated, where the time to answer the questionnaire was extremely short compared to the average participant. Participants from every phase were technically excluded from participation in the following phases.

The initial minimum target sample size was set based on similar bundling research on tangible products with significant results by Sheng and Pan (2009) on 199 participants for eight conditions, and Khandeparkar (2014) on 97 participants for four conditions. The pilot study phase 2 to test the full research design was performed with 87 participants on four conditions. The results of the pilot study, as discussed in section 5.2.3, were not significant, presumably due to the small sample size. With the calculated small effect size of 0,146 for the measurement of perceived quality based on pilot study phase 2, the necessary sample size to achieve significant power is more than 608 participants (Faul *et al.*, 2009). Therefore, the target sample size for the main study was set to about 650 observations. With the expected validity rate of 80% of observations, this leads to a total of about 810 participants in the research. A recent bundling research study in Germany in a similar design (between-subjects, administered online, including attention checks) for the electricity market used 552 participants (Stauch, 2021) and was, therefore, in a similar sample size range.

An overview of the elimination rates and the demographics of the samples are discussed separately for the pilot and the main study phase in the respective sections.

4.6 Scales used in this research

This research used multi-item rating scales. All scales have been deduced from previous research. The required scales and associated question items were on complementarity,

perceived quality, perceived risk, and brand image. All items were measured on 7-point Likert scales. An overview in tabular form can be found in Appendix (4).

Complementarity consisted of three question items developed by Sheng, Parker and Nakamoto (2007) for product bundling. The items were '(product A) and (product B) are highly complementary' (Disagree – Agree), '(product A) and (product B) are very likely to be used together' (Disagree – Agree), and '(product A) and (product B) are semantically' (Unrelated – Related).

The three question items used for **perceived quality** were: 'This electricity service is' (Unreliable – Reliable), 'This electricity service is of' (Low quality – High quality), and 'This electricity service is' (Inferior – Superior) (Keller and Aaker, 1992; Boulding and Kirmani, 1993; Grewal, Monroe and Krishnan, 1998). The items were used in this combination by Sheng, Parker and Nakamoto (2007) in the context of product bundling.

Perceived risk was measured by 'Buyer will be (Likely to be unsatisfied if purchased – Likely to be satisfied if purchased), 'Electricity service is a' (Risky purchase – Safe purchase). The items for perceived risk were based on the scale Harris (1997) used in the context of product bundling.

Brand image was measured with four items rated from (Disagree – Agree) for the question items 'The brand (brand name) is favourable', 'Products made by (brand name) are of high quality', '(brand name) has a good image', and '(brand name) has a good reputation' (Aaker and Keller, 1990; Keller and Aaker, 1992). They were used in this combination by Sheng (2004) in the context of product bundling.

In addition to complementarity, the variable **fit** has been measured. The categorization effect in brand extension research for services has been identified to be based on fit (Völckner *et al.*, 2010; O'Reilly *et al.*, 2017). Fit is a broader concept that also includes complementarity (Aaker and Keller, 1990). It was investigated to identify potential differences to complementarity because of the different concept of fit, its relevance in brand extension research, and because previous researchers on bundling new product brands also used fit as a concept, e.g. (Simonin and Ruth, 1995; Reinders, Frambach and Schoormans, 2010). Fit was measured with two items on a 7-point scale with 'How is the 'fit' between both products' (Good – Bad product combination) and (Logical – Not logical product combination) based on the scale from Simonin and Ruth (1995). This

scale was also used by Reinders, Frambach and Schoormans (2010). Both applications were in product bundling research.

The author has translated all items into German. The verbal anchors have been applied in all cases from left to right, meaning the most negative anchor is on the left, in line with the suggestions of Robinson (2018). The internal consistency of the scales has been checked and reported within the individual research phases. The constructs have been built by taking the means of the item scores.

As discussed in the literature review, all research on bundling for new product introductions has been on products rather than on services. Hence, the word 'product' is used in the relevant question items. However, as discussed in sections 2.2.2 and 2.4.2, services are a subcategory of products, and the services discussed are also commonly referred to as 'products' in Germany. Therefore, the question items applied in this research also used the word 'product' like in the original application.

Besides the research-specific variables, socio-demographic data was collected during all questionnaires. Participants were asked to indicate their gender (male, female, diverse), their age category (18-24, 25-34, 35-44, 45-54, 55-64 or older than 65), their highest professional qualification (no professional qualification, apprenticeship / dual system / technical college degree or bachelor's degree or higher) and their monthly net household income (less than 1000 euros, 1001-2000 euros, 2001-3000 euros or more than 3001 euros). The collected data was used to compare the sample to the German average. Reference values for Germany on these variables are available from the German Federal Statistical Office (Statistisches Bundesamt (Destatis), 2022). In addition to this, participants were asked to indicate their experience in switching electricity contracts by indicating how often they have signed an electricity contract (never, once, two to three times, four or five times, or more than five times).

4.7 Summary and limitations of the research methodology

This chapter has laid out how the research aims of the project were achieved with the developed methodology. The overall key aspects of the methodology are summarized in Table 4.1.

Table 4.1 Overview of research methodology (developed for research)

Research layer	Characteristic
Philosophy	Positivism
Approach/theory generation	Deductive
Nature	Explanatory
Strategy	Survey experiment
Choice of methods	Mono-method
Type of data	Quantitatively
Time horizon	Cross-sectional
Unit of analysis	Potential customers
Sampling	Structured to represent population
Data collection	Online questionnaire
Measures	Deduced from literature
Analysis	Statistical / ANOVA
Result type	Hypotheses testing

As with all research methodologies, also this developed methodology has limitations. The nature of positivistic research only aims to explain and not to understand. Therefore, this methodology will not explore new behaviour or theories but rather strengthen or refine them and apply them in a new context. The setup is mono-method, so a single method is used to test the hypotheses. Since an existing theory is tested in a new application, this is reasonable. The design is cross-sectional. This means that only the behaviour at the moment when the participant fills out the questionnaire is observed. Changes in behaviour at later points in time, e.g., after multiple contacts with a bundle offer, are not captured. Crowdsourced participants are more representative than student samples for the situation to be observed. However, one might argue that crowdsourced workers are also a special sample in an artificial situation with a stated preference approach rather than observed behaviour in the open field. Finally, the experimental setup is, in line with the theoretical framework, restricted to the specific market of electricity in Germany. Even though the service aspects of this market are representative for a membership market, as argued in section 2.4, the generalisability might be limited.

Based on this developed research methodology, the next chapter reports on the conducted pilot study.

5 Pilot study

5.1 Introduction

A pilot study was conducted before the main study. The pilot study was split into two phases (phase 1 and phase 2). The aim of phase 1 was to select the services and brands to be used during the experiments and initially test the setup for the data collection. For procedural reasons, phase 1 consisted of two consecutive survey runs, which are reported together. The full intended research design for the main study was tested during phase 2 of the pilot study. The aim was to collect and discuss all necessary data to test the formulated hypotheses for a small test sample. Both phases are reported separately in sections 5.2 and 5.3. The overall procedural findings from the pilot study phases and their impact on the main study are discussed collectively in section 5.4. The data collection for the pilot study was conducted between calendar weeks 4 and 7 in 2022.

5.2 Pilot phase 1: Services and brands selection

5.2.1 Design

The research strategy defined to use real services and brands from the German market as bundle partners for the new electricity service. The aim of phase 1 was to select these bundle partner services and brands to create the necessary experimental conditions. The services needed to be statistically different in their brand image and level of complementarity to an electricity service. Therefore, participants were asked to rate potential membership services with continuous delivery, as argued for in the theoretical framework section 3.3.1, for their brand image and complementarity to an electricity service. As discussed in section 4.6, the fit was also evaluated in addition to complementarity. The design was within-subject, meaning all participants rated all services and brands. As a second aim, the overall setup of data collection and analysis was initially tested.

The list of services to be evaluated has been compiled during the literature review in section 2.4.2. The brands were selected based on brand research literature and current offers in the market (Büchel and Rusche, 2020; Kantar Group Limited, 2021a; Kantar Group Limited, 2021b; CHECK24 Vergleichsportal GmbH, 2022). The list of brands and services selected for testing is shown in Table 5.1.

Table 5.1 Pilot phase 1: List of services and brands tested (developed for research)

Service	Assumed strong brand	Assumed weak brand
Broadband internet service	Deutsche Telekom	TELE2
Bank account	Sparkasse	HypoVereinsbank
Home insurance	Allianz	Ammerländer Versicherung
Video streaming service	Netflix	Joyn
Gas supply contract	EON	Brilliant Energie

The testing results in section 5.2.3 showed for banking brands the lowest level of complementarity and the lowest significance of the brand manipulation. Therefore, banking brands were re-tested in a second survey run with the following banking brands identified based on internet research:

- Sparkasse
- ING
- Volksbank
- Vivid
- C24
- Targobank
- Norisbank

The data was collected with a questionnaire consisting of six major parts, as visualized in Figure 5.1. The second survey run focused only on the banking brand selection and had the blocks (2) and (4) dropped, and block (5) shifted before block (3).

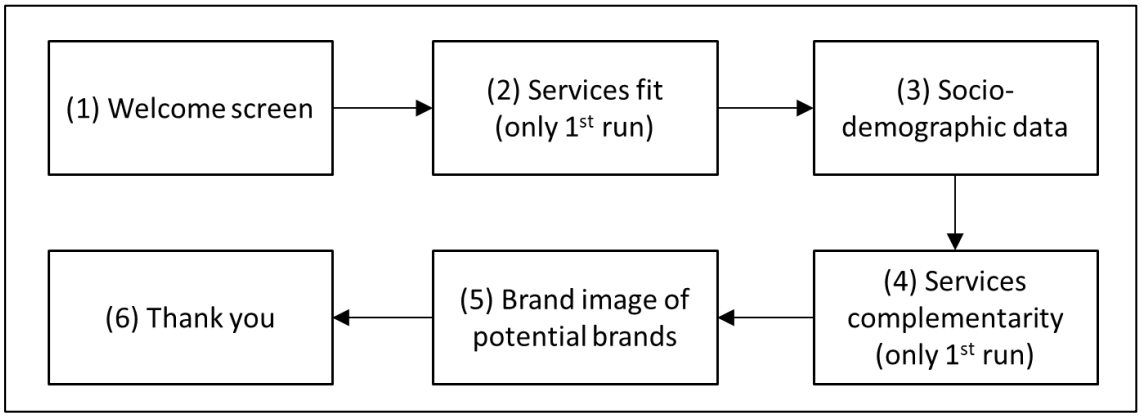

Figure 5.1 Pilot phase 1: Schematic representation of questionnaire structure (developed for research)

The general questionnaire building blocks (1), (3), and (6) are described in detail in the main study section 6.3 on page 78.

Questionnaire building block (2) asked participants to rate the five membership services described in the previous section for their level of fit to an electricity contract. The sorting of the individual services to be rated was randomized between participants. The two question items of the scale were displayed on separate pages. In questionnaire block (4) on complementarity, participants were asked to rate the complementarity analogue to the fit in block (2). The order of question items and the order of the individual services in each question item were randomized. Block (5) was in the first run on the brand image of the ten potential brands, as named in Table 5.1. In the second survey run, the additional seven banking brands were rated. The brand's logos have been added to the questions to help the participants identify the respective brands. The question items on each brand were kept together. However, the order of the question items and the order of the brands themselves were randomised between participants. All brands and question items were presented on a single page.

The specific scales and question items are presented in section 4.6 on page 59. The full questionnaire can be found in Appendix (6). The questionnaire was coded in a way that the answers were automatically exported to SPSS for analysis.

5.2.2 Participants

The questionnaire-answering process of phase 1 was started by a total of 101 participants. 17 data collection processes were stopped by the participants or terminated because participants answered at least one of the two build-in attention questions wrong. 11 records were not considered because participants answered the survey in less than 50% of the time of the average participant who answered all questions. Therefore, 73 records (72% of total data collection processes started) were evaluated. 37 of these were on the second run, focusing only on the banking brand selection.

The collected socio-demographic data showed that the gender distribution of the sample was comparable to the German average. The sample was younger, had a higher education, and the household income was lower than the German average. However, they were all in a similar range. The sample had switching experience, with only 7% having never switched an electricity contract, and 70% switched 2 or 3 times. All demographic data are detailed in Table 5.8 on page 75.

5.2.3 Results

Scales were used for fit, complementarity, and brand image. Cronbach's alpha showed with 0,865 for fit, 0,907 for complementarity, and 0,979 for brand image a very good reliability (Streiner, 2003). Also, the individual scores for each scale on each brand were tested. No Cronbach's alpha showed a score below 0,75.

Different services were compared for their fit and complementarity to an electricity service. Both the variable fit and the variable complementarity identified a natural gas supply contract as the best-fitting and most complementary bundle partner (Fit: M_{gas}=5,03; Complementarity: M_{gas}=4,85). A bank account was the least complementary bundle partner (fit: M_{bank}=2,0; complementarity: M_{bank}=1,83). The difference in fit and complementarity between a natural gas supply contract and a bank account was statistically significant (fit: p<0,001; complementarity: p<0,001). All values are reported in Figure 5.2 and Table 5.2.

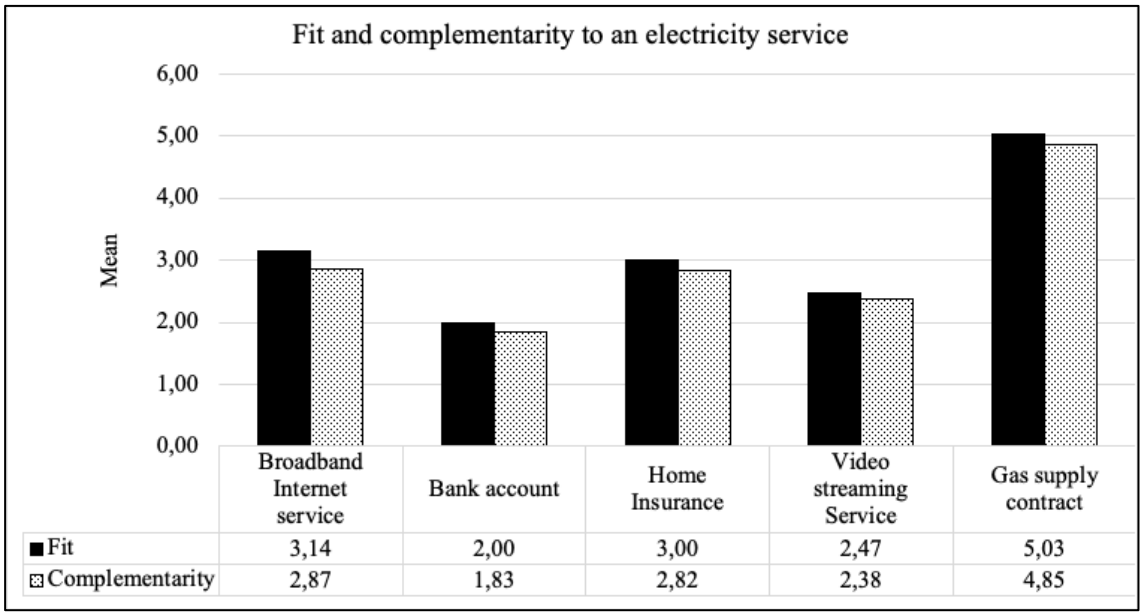

Figure 5.2 Pilot phase 1: Results of fit and complementarity to an electricity service

Table 5.2 Pilot phase 1: Results paired sample test on fit and complementarity to an electricity service

Paired Samples Test

		Paired Differences					t	df	Significance	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			One-Sided p	Two-Sided p
Fit	Gas supply contract – Bank account	3,02778	2,14458	,35743	2,30216	3,75340	8,471	35	<,001	<,001
Complementarity	Gas supply contract – Bank account	3,01852	1,95008	,32501	2,35871	3,67833	9,287	35	<,001	<,001

The brand images of the brand pairs are reported in Figure 5.3. The brand pair for natural gas, the highest complementarity service, had a brand image of M_{EON}=4,76 for the strong brand and $M_{Brilliant}$=3,9 for the weaker brand. For banking services, the lowest complementarity service, the brand image of the strong brand was $M_{Sparkasse}$=4,73 and M_{Hypo}=4,31 for the weaker brand. All brand pairs were significantly different at p<0,001 between the strong and the weak brand except banking. The banking brand par was statistically significant at p=0,032. The results of significance are reported in Table 5.3.

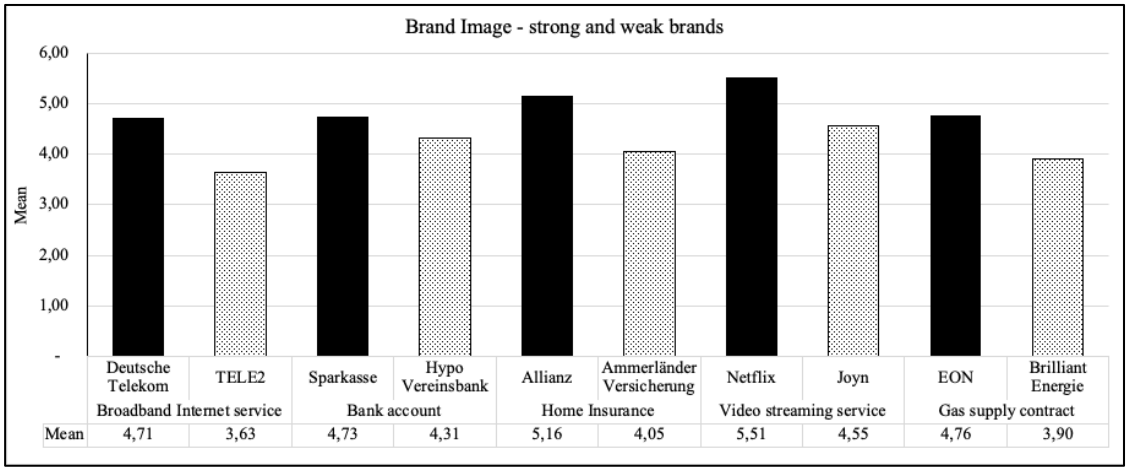

Figure 5.3 Pilot phase 1: Results of brand image pairs in different service categories

Table 5.3 Pilot phase 1: Results of the significance of brand image pairs

		Paired Differences					t	df	Significance	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			One-Sided p	Two-Sided p
Pair 1	Deutsche Telekom - TELE2	1,07639	1,60225	,26704	,53426	1,61851	4,031	35	<,001	<,001
Pair 2	Sparkasse - Hypo Vereinsbank	,42361	1,13518	,18920	,03952	,80770	2,239	35	,016	,032
Pair 3	Allianz - Ammerländer Versicherung	1,11111	1,46683	,24447	,61481	1,60741	4,545	35	<,001	<,001
Pair 4	Netflix - Joyn	,95833	,87729	,14622	,66150	1,25517	6,554	35	<,001	<,001
Pair 5	EON - Brilliant Energie	,86111	,97549	,16258	,53105	1,19117	5,296	35	<,001	<,001

Because the brand image of the banking brands was to be used in the main study, they were re-tested in a second limited survey run to identify a more significant manipulation. The results of this second survey run are reported in Figure 5.4 and Table 5.4. The brand pair of the highest-rated banking brand ING (M_{ING}=5,03) and the lowest-rated brand vivid (M_{vivid}=3,83) was statistically different (p<0,001).

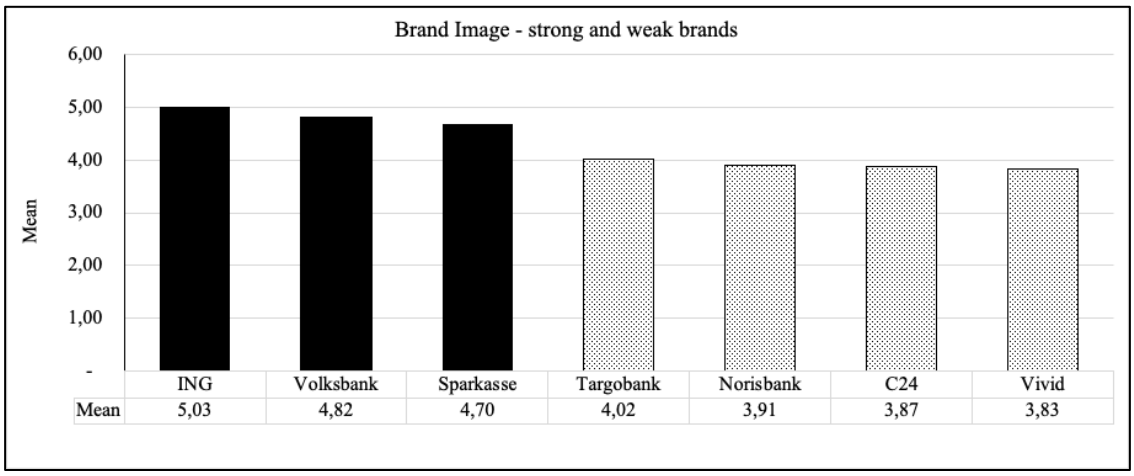

Figure 5.4 Pilot phase 1: Results of brand image values for banking brands

Table 5.4 Pilot phase 1: Results significance of strongest and weakest banking brand

		Paired Differences					t	df	Significance	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			One-Sided p	Two-Sided p
Pair 1	BrandImage_ING - BrandImage_vivid	1,19595	1,08355	,17813	,83467	1,55722	6,714	36	<,001	<,001

The next section discusses the results of pilot phase 1.

5.2.4 Discussion phase 1

The first goal of phase 1 was to identify services and brands to be bundled with a new electricity service to identify the necessary manipulations for phase 2 and the main study. A natural gas supply contract was identified to have the highest fit and complementarity to an electricity service. A contract for a bank account has the lowest fit and complementarity. For these services, strong and weak brands have been identified for further use. The final manipulations are shown in Table 5.5. All manipulations were statistically meaningful and were used in the next phase.

Table 5.5 Pilot phase 1: Final manipulations identified

	High fit and complementarity	**Low fit and complementarity**
Strong brand image	Natural gas supply by EON	Bank account by ING
Weak brand image	Natural gas supply by Brilliant Energie	Bank account by vivid

The second aim of phase 1 was to test the overall setup of data collection and analysis. Both worked as planned. The second phase of the pilot study was started based on these findings.

5.3 Pilot phase 2: Test full theoretical framework

5.3.1 Design

In the pilot phase 2, the full intended research design was tested. A small test sample was asked to rate different bundle combinations between a membership service and an electricity contract for perceived quality and risk. The bundle combinations were created in a full factorial design with 2*2 (brand image of bundle partner; complementarity). The design was between-subject, so each survey participant only rated one bundle offer scenario. Perceived quality and risk were then analysed via multivariate ANOVA (MANOVA) to test the research hypotheses formulated in section 3.3.4. The brands and services tested were found in phase 1 of the pilot study and shown in Table 5.5 on page 68. The design of the bundled offers is presented in section 6.2 on page 78 of the main study. In addition, participants were asked to rate the brand used for the bundle partner and the fit and complementarity of the service to an electricity service prior to the presentation of the bundle to test the experimental manipulations.

The data collection of phase 2 was based on a questionnaire with six major parts, as visualized in Figure 5.5. A detailed description of the questionnaire blocks can be found in section 6.3 of the main study. Appendix (7) shows the full questionnaire.

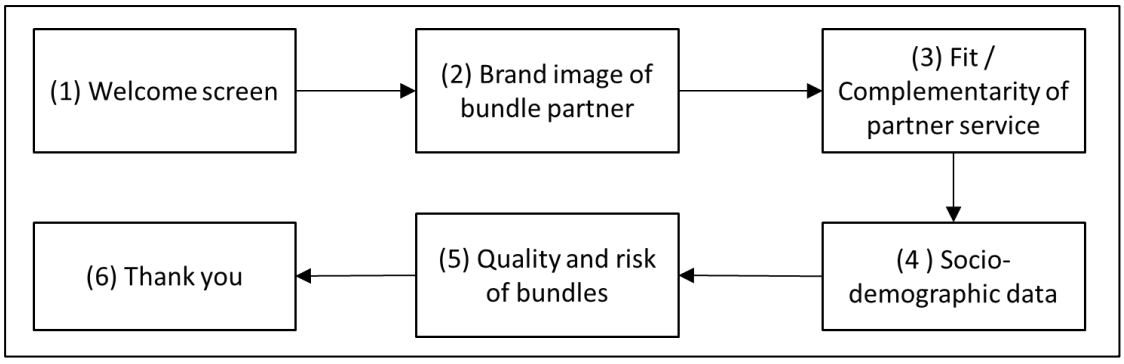

Figure 5.5 Pilot phase 2: Schematic representation of questionnaire structure

5.3.2 Participants

The questionnaire-answering process was started by 112 participants. 10 participants answered at least one of the two built-in attention questions wrong. Therefore, their answers were disregarded. The answers of 15 participants were not considered because they answered the survey in less than 50% of the time of the average participant who answered all questions. Therefore, 87 records (78% of total data collection processes started) were evaluated.

For the 87 valid responses, the gender distribution of the sample was biased toward 63% male participants compared to 49% on the German average. The sample was younger, had a higher education than the German average, and the net household income of the participants in the sample was lower than the German average. However, all data were in a comparable range. The sample had switching experience, with 5% of participants having never switched an electricity contract and 70% switched two or more times. All demographic data are detailed in Table 5.8 on page 75.

5.3.3 Results

Even though the pilot phase 2 was just a pre-test that did not contain a sufficient sample size, the full analysis as planned for the main study was conducted.

First, the scales and experimental manipulations were controlled. Cronbach's alpha on the scales of brand image (0,954), fit (0,906), complementarity (0,896), perceived quality (0,903), and perceived risk (0,812) indicated good reliability of scales.

The brand manipulation for the high complementarity scenario (gas service) was not statistically successful (p=0,149). This is presumably due to the low number of participants (20 and 24) in each group and will be tolerated for this test. The means were with (M_{strong}=4,74; M_{weak}=4,21) in a similar range to pilot phase 1 (M_{strong}=4,76; M_{weak}=3,9), where this manipulation was tested to be significant with a higher number of participants per manipulation. The brand manipulation for the weak complementarity condition (bank account) was statistically significant (M_{strong}=5,05; M_{weak}=4,00; p=0,003). The experimental manipulation for fit (M_{high}=4,97; M_{low}=3,3; p<0,001) and complementary (M_{high}=4,64; M_{low}=3,09; p<0,001) were successful.

A Pearson product-moment test has been performed to measure the relationship between fit and complementarity. The correlation coefficient is positive, very strong, and significant (r=0,92; p<0,001).

The hypotheses on perceived quality and perceived risk for the new electricity service in the different experimental conditions were tested. Table 5.6 details the results of the MANOVA test. Table 5.7 shows the results of a simple main effects test. The descriptive statistics are visualized in Figure 5.6 (perceived quality) and Figure 5.7 (perceived risk).

The assumptions for a 2-way MANOVA were met. The dependent variables perceived quality and risk were measured on a continuous level. The brand image of the bundle partner and the level of complementarity were categorical and independent groups. Observations were independent because of the chosen between-subjects design.

Table 5.6 Pilot phase 2: Results of MANOVA test on perceived quality and perceived risk of the new electricity service

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	Perceived Quality	28,281[a]	3	9,427	7,470	<,001
	Perceived Risk	50,399[b]	3	16,800	14,216	<,001
Intercept	Perceived Quality	1865,146	1	1865,146	1477,895	<,001
	Perceived Risk	1848,009	1	1848,009	1563,819	<,001
BrandImage	Perceived Quality	2,285	1	2,285	1,811	,182
	Perceived Risk	1,365	1	1,365	1,155	,286
Complementarity	Perceived Quality	23,204	1	23,204	18,386	<,001
	Perceived Risk	47,891	1	47,891	40,526	<,001
BrandImage * Complementarity	Perceived Quality	4,316	1	4,316	3,420	,068
	Perceived Risk	2,818	1	2,818	2,384	,126
Error	Perceived Quality	104,748	83	1,262		
	Perceived Risk	98,083	83	1,182		
Total	Perceived Quality	2002,889	87			
	Perceived Risk	2006,000	87			
Corrected Total	Perceived Quality	133,029	86			
	Perceived Risk	148,483	86			

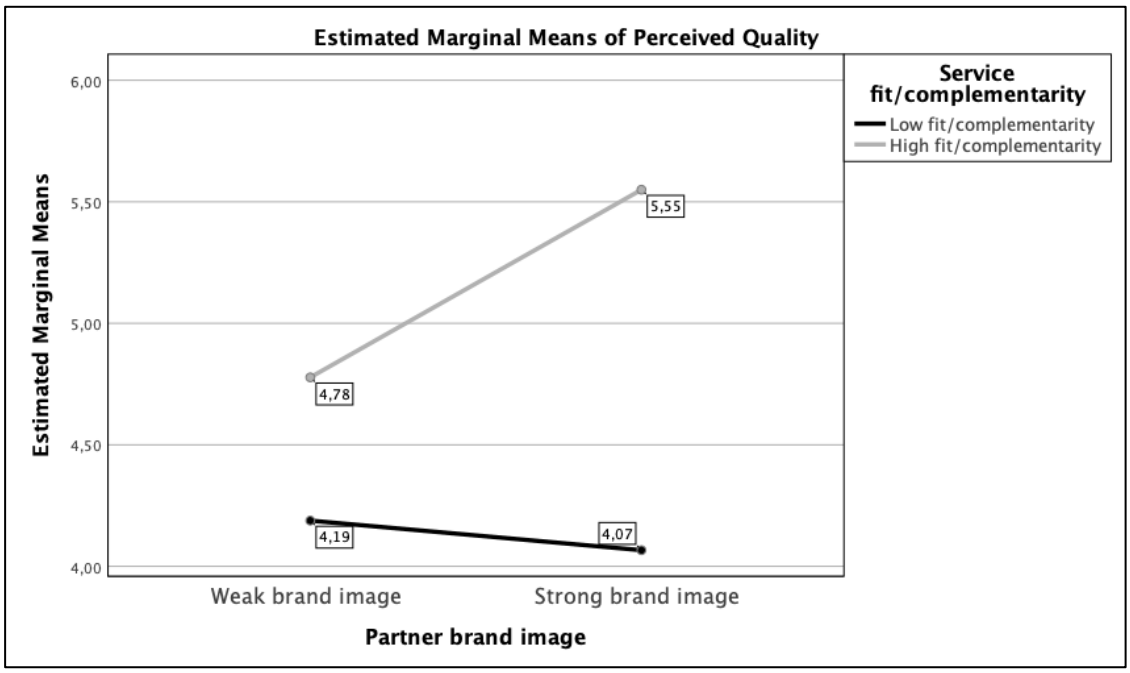

Figure 5.6 Pilot phase 2: Results marginal means of the perceived quality of the new brand

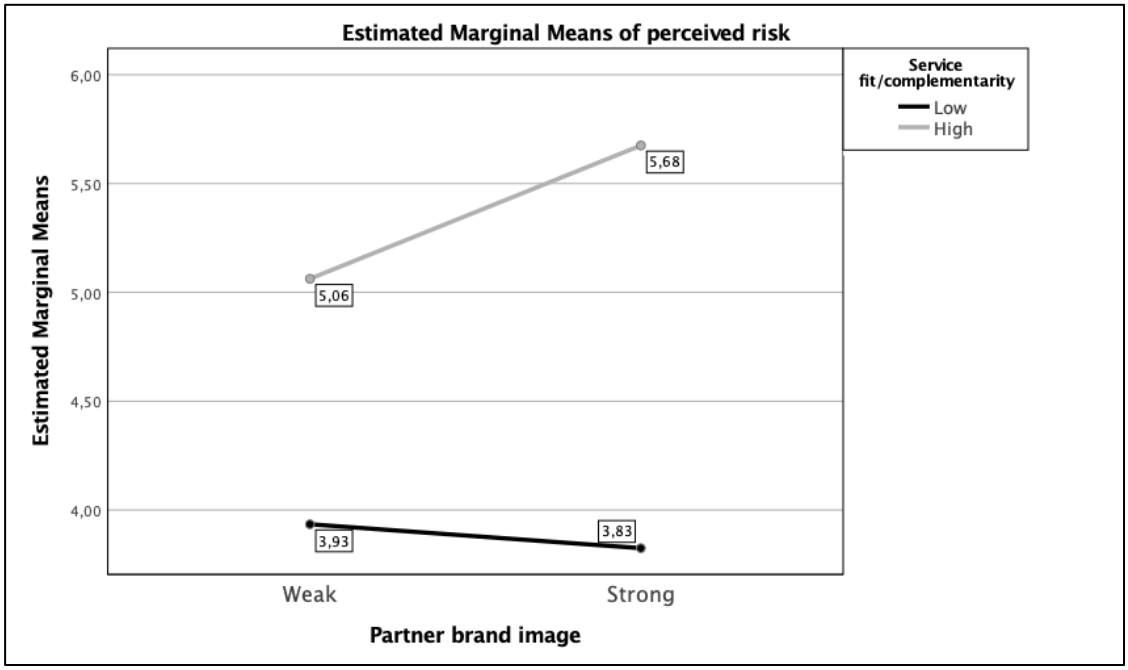

Figure 5.7 Pilot phase 2: Results marginal means of the perceived risk of the new brand

Hypothesis 1 predicts that the perceived quality of a new electricity service is more positive when it is presented in a bundle with a stronger brand image service compared to the presentation in a bundle with a weaker brand image service. The mean values for the perceived quality for the weak brand group were M_{weak}=4,49 compared to M_{strong}=4,81 for the strong brand group. The main effect of the partner service brand image on

perceived quality was not significant, (F(1;83)=1,811; p=0,182). Hypothesis 1 was not supported.

Hypothesis 2 posits an enhancement effect on the perceived risk of a new electricity service when it is presented in a bundle with a stronger brand image service compared to the presentation in a bundle with a weaker brand image service. The mean values for the perceived risk for the weak brand group were M_{weak}=4,51 compared to M_{strong}=4,75 for the strong brand group. The main effect of the partner service brand image on perceived risk was not significant, (F(1;83)=1,115; p=0,286). Hypothesis 2 was not supported.

Hypothesis 3 posits that the perceived quality of a new electricity service is more positive when it is presented in a bundle with a complementary service compared to the presentation in a bundle with a less complementary service. The mean values for the perceived quality for the low complementarity group were M_{low}=4,13 compared to M_{high}=5,13 for the high complementarity group. Complementarity is a significant main effect on the perceived quality of the new electricity service, (F(1;83)=18,386; p<0,001). Hypothesis 3 was supported.

Hypothesis 4 posits that the perceived risk of a new electricity service is more positive when it is presented in a bundle with a complementary service compared to the presentation in a bundle with a less complementary service. The mean values for the perceived risk for the low complementarity group were M_{low}=3,88 compared to M_{high}=5,34 for the high complementarity group. Complementarity is a significant main effect on the perceived risk of the new electricity service, (F(1;83)=40,526; p<0,001). Hypothesis 4 was supported.

Hypothesis 5a predicts that the higher the complementarity of the services in a bundle, the stronger the influence will be on the perceived quality of the new electricity service. The interaction of complementarity*brand image on perceived quality was marginally significant, (F(1;83)=3,420; p=0,068). Some bundling researchers have accepted significance levels of p<0,1 in the past (Simonin and Ruth, 1995; Khandeparkar, 2014; Saini, Sahay and Kalyanaram, 2019). Hypothesis 5a was marginally supported. To understand the interaction effect further, a simple main effects test has been conducted. The simple main effects test showed a significant enhancement effect for perceived quality under high complementarity ($p_{quality\_high\_fit}$=0,026), whereby under low complementarity, the enhancement was not significant ($p_{quality\_low\_fit}$=0,724).

Table 5.7 Pilot phase 2: Results simple main effects test for effects under different levels of complementarity

Pairwise Comparisons

Dependent Variable	Service fit/complementarity	(I) Partner brand image	(J) Partner brand image	Mean Difference (I–J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
							Lower Bound	Upper Bound
Perceived Quality	Low	Weak	Strong	,122	,343	,724	-,561	,805
		Strong	Weak	-,122	,343	,724	-,805	,561
	High	Weak	Strong	-,772*	,340	,026	-1,449	-,096
		Strong	Weak	,772*	,340	,026	,096	1,449
Perceived Risk	Low	Weak	Strong	,110	,332	,742	-,551	,771
		Strong	Weak	-,110	,332	,742	-,771	,551
	High	Weak	Strong	-,613	,329	,066	-1,267	,042
		Strong	Weak	,613	,329	,066	-,042	1,267

Based on estimated marginal means

*. The mean difference is significant at the ,05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Hypothesis 5b predicts that the higher the complementarity of the services in a bundle, the stronger the influence will be on the perceived risk for the new electricity service. The interaction of complementarity*brand image on perceived risk was not significant, (F(1;83)=2,384; p=0,126). Therefore, Hypothesis 5b was not supported.

The next section discusses the results.

5.3.4 Discussion of phase 2

The full research methodology for the main study was tested in phase 2 with 87 observations. With the 2*2 fully factorial between-subject design, this led with about 20 to a small number of observations per experimental condition. This needs to be considered during the interpretation of the results.

The findings from phase 2 supported some of the formulated hypotheses under certain conditions.

Hypotheses 1 on the enhancement on perceived quality and hypothesis 2 on the enhancement on perceived risk based on brand image were not supported, presumably due to the small sample size. Hypothesis 3 on complementarity being a factor to enhance perceived quality and hypothesis 4 on complementarity being a factor to enhance perceived risk were both supported. Hypothesis 5a on the impact of complementarity as a moderator was marginally supported in line with the theoretical framework. Hypothesis 5b on the impact of complementarity as a moderator on perceived risk was not supported.

The outcomes of the pilot study and the impact on the main study are discussed in the next section.

5.4 Outcomes for the main study arrangements

The pilot study generated 160 valid responses from 213 participants. This rate of 75% is driven by strict measures to ensure high-quality observations. 13% of observations were not considered because the participants did not finish the questionnaire or did not pass the built-in attention checks. 12% were not considered because the participants finished the questionnaire in less than 50% of the average time. Stauch (2021) accepted 88% of the questionnaires in a similar setup. For the main study, this condition was loosened to less than 25% of the average time a participant took to answer the questionnaire. The valid rate was then expected to be around 80% of the total questionnaires.

The socio-demographic data from the pilot study participants are summarized in Table 5.8. The samples collected via the crowdsourced approach showed to be more male, younger, better educated, and have a lower income range compared to the German average. However, all data were in a comparable range. Overall, the crowdsourced approach can be used to generate a sample with a good representation of the German population. The sample was far more representative than a student sample. In addition, the participants had significant switching experience for electricity contracts.

Table 5.8 Pilot study: Overview of socio-demographic data pilot study versus Germany (Statistisches Bundesamt (Destatis), 2022)

	Germany	Phase 1	Phase 2
Gender			
Male	49%	52%	63%
Female	51%	48%	37%
Divers	0%	0%	0%
Age group			
18-24	8%	4%	8%
25-34	15%	26%	33%
35-44	15%	37%	24%
45-54	15%	14%	16%
55-64	19%	19%	13%
>65	28%	0%	6%
Professional qualification			
no professional qualification	25%	7%	7%

	Germany	Phase 1	Phase 2
Apprenticeship / dual system / technical college degree	56%	36%	45%
Bachelor's degree or higher	19%	58%	48%
Net household income			
<1000 EUR	10%	18%	21%
1001-2000 EUR	27%	21%	28%
2001-3000 EUR	25%	30%	28%
>3000 EUR	37%	32%	24%
unspecified			
Switching Experience			
Never		7%	5%
Once		23%	25%
Two to three times		44%	46%
Four of five times		11%	13%
More than five times		15%	11%

The scales and question items deduced from the literature were successfully used during the pilot study. All scales were sufficiently reliable. The experimental manipulations for brand image and complementarity identified during phase 1 worked well in phase 2. The questionnaire administration worked without error and allowed a very efficient and effective way to collect the participant's answers. The random assignment of the participants to the different test conditions, time measurement, and random order of questions and question items led to a high-quality survey process. The export to SPSS as analysis software allowed the processing of answers with minimal manual interaction of the researcher. All administrational processes were conducted with over 200 questionnaires and are scalable. The statistical methods enabled analysis of the results to a degree necessary to test the research hypotheses. The initial tests showed effects in the desired directions. They were not, as expected due to the small sample size in the pilot study, statistically significant. The sample size for the main study is discussed, with the help of the effect sizes gained in phase 2, in section 4.5 on page 59.

The results and implications from the pilot study formed the basis for the main study, which is reported in the next chapter.

6 Main study

6.1 Introduction

The main study has been conducted based on the outcomes of the pilot study. The data was collected from crowdsourced participants via web-based questionnaires. The general methodical considerations for all experiments, as developed in chapter 4, were fully applied. The following sections report on the approach, design, and stimuli (6.2), the data collection (6.3), the participants of the experiment (6.4), and the results (6.5).

6.2 Approach, design, and stimuli

Participants were asked to rate different bundle combinations between a membership service and an electricity contract for perceived quality and risk. The bundle combinations were created in a 2*2 (brand image of bundle partner; complementarity) full factorial design. The design was between-subject, so each survey participant only rated one of the bundle offer scenarios. Table 6.1 shows the services and brands for the manipulations that were identified in the pilot study.

Table 6.1 Main Study: Experimental manipulations

	High fit and complementarity	**Low fit and complementarity**
Strong brand image	Natural gas supply by EON	Bank account by ING
Weak brand image	Natural gas supply by Brilliant Energie	Bank account by vivid

The new electricity service brand and its logo were taken from another country. Therefore, the brand can be assumed to be not recognized by German customers. The design of the offers was deduced from current offers in the market. A short description of the key features was added to the services presented. The bundles contained no price information. However, a discount of 20% was included since a discount is expected for a bundle (see section 2.3.1). The size of the discount was comparable to previous tests on bundling (Sheng and Pan, 2009). The discount was applied overall in a mixed-joint bundle form. This type of bundling helps the bundle to be recognised as a whole in the categorization process (Knutsson, 2011). A joint label was added to the promotion by

calling the bundle 'Home-combination' to increase the chances of categorisation (see section 2.3.3). Figure 6.1 shows an example of such a bundle offer.

Figure 6.1 Bundle offer as used in pilot phase 2 and main study (developed for research)

Perceived quality and risk were analysed via MANOVA to test the research hypotheses formulated in section 3.3.4 on page 48. In addition, participants were asked to rate the brand of the bundle partner and the bundle's fit and complementarity prior to the bundle's presentation to test the experimental manipulations.

The following section describes the data collection process.

6.3 Data collection

The main study's data was collected over three weeks during calendar weeks 25-27 in 2022. The data collection was based on a questionnaire with six major parts, as visualized in Figure 6.2.

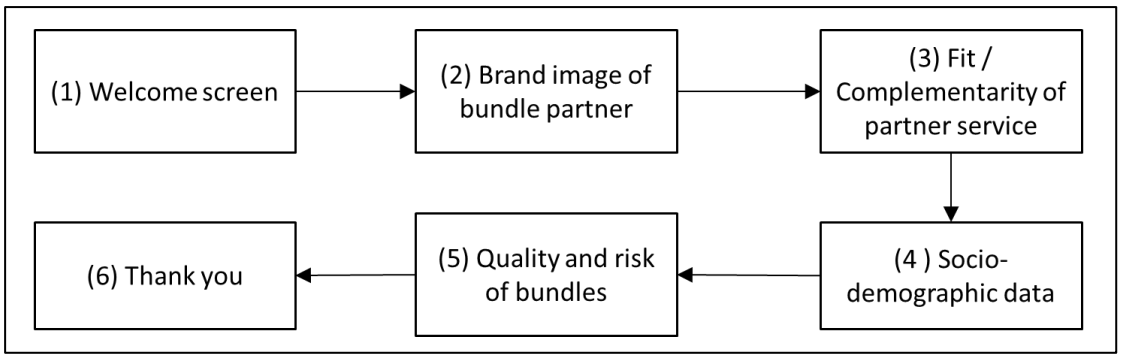

Figure 6.2 Main Study: Schematic representation of questionnaire structure

The questionnaire started with a **(1) welcome screen** where the participants were greeted and informed that the purpose of the questionnaire is scientific and what their role as participants is. Participants were assured the anonymous evaluation of their answers. Furthermore, participants were asked to answer truthfully based on their opinion. Participants were also informed that the questionnaire contains attention checks, and that the remuneration will depend on conscientious processing. Furthermore, email contact details in case of questions were displayed. Participants actively started the data generation process with their click on 'continue'.

In the second part, participants were asked to rate the **(2) brand image of the bundle partner** for the assigned scenario. The brands' logos have been added to the questions to help the participants identify the respective brands. The order of the question items was randomised between participants. All question items were presented on a single page.

The following questions pre-tested the membership service to be bundled with the electricity service for their **(3) fit and complementarity** to such a service. All question items were shown on a single page. The data collection for the manipulation checks was put before the bundle offer presentation to avoid the bundle presentation influencing the participants' perception.

In the next block **(4), socio-demographic data** on gender, age category, highest professional qualification, and net household income were collected to evaluate the sample against the German population. In addition to this, participants were asked to indicate their experience in switching electricity contracts.

After the socio-demographic block, which also acted as a separator, each participant was presented with one of the four **(5) bundle offer manipulations**. Participants were asked to imagine a hypothetical buying situation for a services bundle. They were told that they need both components. They were then asked to rate the electricity component of the offer for perceived quality and perceived risk. The order of the question items was randomized and displayed on a single page.

In the final block of the questionnaire, the participants were **(6) thanked for their participation** and instructed on how to gain access to their remuneration for participation. Furthermore, the email address for questions was displayed again.

The scales and question items used are discussed in the research methodology in section 4.6 on page 59. Appendix (7) shows the full questionnaire.

6.4 Participants

The research participants were acquired via a crowdsourcing platform with the sampling approach outlined in the methodology section 4.5 on page 57. The target sample size was 810 observations to achieve more than 650 valid responses. Participants from the pilot study were technically excluded from the main study.

The questionnaire-answering process was started by 817 participants. 119 (15% of the total) data records were not used because the participant either answered at least one of the built-in attention questions wrong or answered the survey in less than 25% of the time of the average participant who answered all questions. Therefore, 698 (85% of the total) data collection processes were evaluated. The average valid participant took 3 min 4 s (median: 2 min 29 s) to answer the survey.

For the 698 valid responses, the gender distribution of the sample was comparable to the German average. As expected, the sample was slightly younger and better educated than the German average. The net household income of the participants in the sample was comparable to the German average. The sample had switching experience, with only 6% of participants having never switched an electricity contract, 24% switched once, and 70% switched two or more times. All socio-demographic data are detailed in Table 6.2.

Table 6.2 Main Study: Overview socio-demographic data main study versus German average (Statistisches Bundesamt (Destatis), 2022)

	Main Study	Germany average	Main Study
Gender			
Male	355	49%	51%
Female	336	51%	48%
Divers	7		1%
Age group			
18-24	94	8%	13%
25-34	231	15%	33%
35-44	202	15%	29%
45-54	87	15%	12%
55-64	70	19%	10%
>65	14	28%	2%
Professional qualification			
no professional qualification	55	25%	8%

	Main Study	Germany average	Main Study
Apprenticeship / dual system / technical college degree	348	56%	50%
Bachelor's degree or higher	295	19%	42%
Net household income			
<1000 EUR	92	10%	13%
1001-2000 EUR	185	27%	27%
2001-3000 EUR	202	25%	29%
>3000 EUR	219	37%	31%
unspecified		1%	
Switching Experience			
Never	41		6%
Once	171		24%
Two to three times	291		42%
Four of five times	120		17%
More than five times	75		11%

The 698 valid responses were almost evenly split between the different scenarios. 49% were in the high complementarity scenarios (48% for the strong brand, 52% for the weak brand) and 51% in the low complementarity scenarios (51% for the strong brand, 49% for the weak brand). The survey responses were coded so that the answers were automatically exported to SPSS for analysis. The data analysis yielded the following results.

6.5 Results and hypotheses testing

The scales, the correlation of fit and complementarity, and the manipulations were controlled prior to the hypotheses testing. Cronbach's alpha on the scales of brand image (0,949), fit (0,9), complementarity (0,849), perceived quality (0,862), and perceived risk (0,774) indicated good reliability of the scales. A Pearson product-moment test has been performed to measure the relationship between fit and complementarity. The correlation coefficient is positive, very strong and significant ($r=0,985$; $p<0,001$). Therefore, the following analysis reports only complementarity figures. The brand image manipulations were statistically successful (high complementarity gas service: $M_{strong}=4,62$; $M_{weak}=3,97$; $p<0,001$ and low complementarity banking service: $M_{strong}=5,13$; $M_{weak}=4,05$; $p<0,001$). The experimental manipulation for complementarity ($M_{high}=4,643$; $M_{weak}=3,358$; $p<0,001$) was also successful.

Next, the formulated research hypotheses on perceived quality, perceived risk, and the role of complementarity were tested via MANOVA. The assumptions for MANOVA were met. The dependent variables perceived quality and risk were measured on a continuous level. Brand image of the bundle partner and level of complementarity were categorical and independent groups. Observations were independent because of the chosen between-subject design. Table 6.3 reports on the results of the MANOVA. The descriptive statistics are visualized in Figure 6.3 (perceived quality) and Figure 6.4 (perceived risk).

Table 6.3 Main study: Results MANOVA on perceived quality and perceived risk on the new electricity service

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	Perceived Quality	37,736[a]	3	12,579	11,285	<,001
	Perceived Risk	45,028[b]	3	15,009	9,927	<,001
Intercept	Perceived Quality	15860,825	1	15860,825	14229,807	,000
	Perceived Risk	15193,174	1	15193,174	10048,989	,000
BrandImage	Perceived Quality	6,391	1	6,391	5,734	,017
	Perceived Risk	6,306	1	6,306	4,171	,042
Complementarity	Perceived Quality	30,787	1	30,787	27,621	<,001
	Perceived Risk	39,070	1	39,070	25,842	<,001
BrandImage * Complementarity	Perceived Quality	1,465	1	1,465	1,315	,252
	Perceived Risk	,227	1	,227	,150	,699
Error	Perceived Quality	773,546	694	1,115		
	Perceived Risk	1049,266	694	1,512		
Total	Perceived Quality	16647,111	698			
	Perceived Risk	16268,750	698			
Corrected Total	Perceived Quality	811,282	697			
	Perceived Risk	1094,294	697			

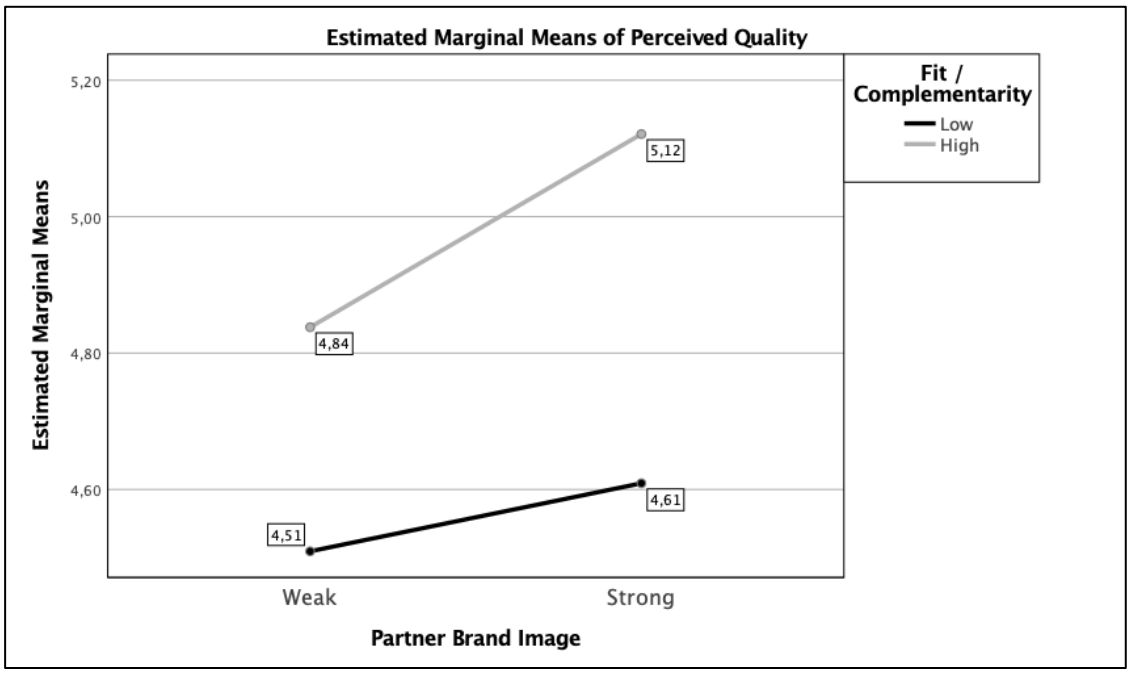

Figure 6.3 Main study: Results marginal means of perceived quality of the new brand

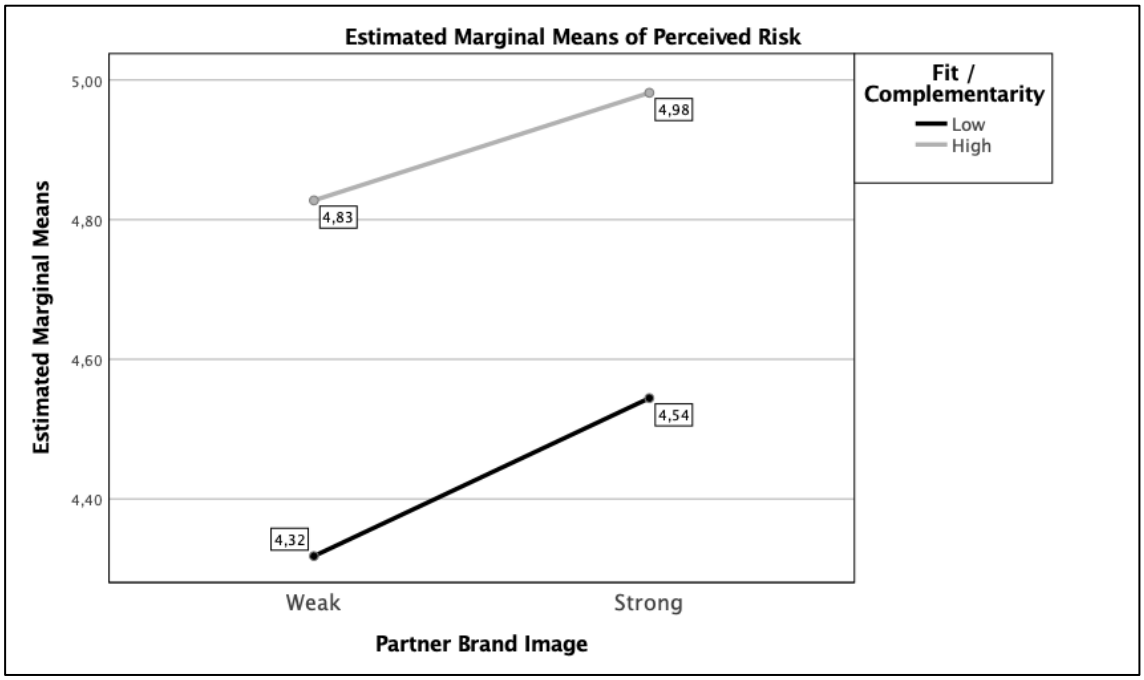

Figure 6.4 Main study: Results marginal means of perceived risk of the new brand

Hypothesis 1 predicts that the perceived quality of a new electricity service is more positive when it is presented in a bundle with a stronger brand image service compared to the presentation in a bundle with a weaker brand image service. The mean values for

the perceived quality for the weak brand group were M_{weak}=4,67 compared to M_{strong}=4,85 for the strong brand group. The main effect of the partner service brand image on perceived quality was significant, (F(1;694)=5,734; p= 0,017). Therefore, **Hypothesis 1 was supported**.

Hypothesis 2 posits an enhancement effect on the perceived risk of a new electricity service when it is presented in a bundle with a stronger brand image service compared to the presentation in a bundle with a weaker brand image service. The mean values for the perceived risk for the weak brand group were M_{weak}=4,57 compared to M_{strong}=4,75 for the strong brand group. The main effect of the partner service brand image on perceived risk was significant, (F(1;694)=4,171; p=0,042). Therefore, **Hypothesis 2 was supported**.

Hypothesis 3 predicts that independent of the level of brand image, bundling a new electricity service with a more complementary service increases the perceived quality of the new electricity service. The mean values for the perceived quality for the low complementarity group were M_{low}=4,56 compared to M_{high}=4,97 for the high complementarity group. Complementarity is a significant main effect on the perceived quality of the new electricity service, (F(1;694)=27,621; p<0,001). Therefore, **Hypothesis 3 was supported.**

Hypothesis 4 predicts that, independent of the level of brand image, bundling a new electricity service with a more complementary service reduces the perceived risk of the new electricity service. The mean values for the perceived risk for the low complementarity group were M_{low}=4,43 compared to M_{high}=4,90 for the high complementarity group. Complementarity is a significant main effect on the perceived risk of the new electricity service, (F(1;694)=25,842; p<0,001). Therefore, **hypothesis 4 was supported**.

Hypothesis 5a predicts that the higher the complementarity of the services in a bundle, the stronger the influence will be on the perceived quality. The interaction of complementarity*brand image on perceived quality was not significant, (F(1;694)=1,315; p=0,252). **Hypothesis 5a was not supported**.

Hypothesis 5b predicts that the higher the complementarity of the services in a bundle, the stronger the influence will be on the perceived risk. The interaction of

complementarity*brand image on perceived risk was not significant, (F(1;694)=0,15; p=0,699). **Hypothesis 5b was not supported.**

Based on the empirical results, the hypotheses testing can be summarised as follows:

Table 6.4 Hypotheses tested based on empirical results

No.	Effect	Supported
1	Bundle partner brand image positively influences the perceived quality of a new electricity service	Yes
2	Bundle partner brand image positively influences the perceived risk of a new electricity service	Yes
3	Complementarity positively influences the perceived quality of a new electricity service	Yes
4	Complementarity positively influences the perceived risk of a new electricity service	Yes
5a	Complementarity moderates the positive influence of bundle partner brand image on the perceived quality of a new electricity service	No
5b	Complementarity moderates the positive influence of bundle partner brand image on the perceived risk of a new electricity service	No

The next chapter discusses these results from the main study.

7 Discussion

7.1 Introduction

This research aimed to investigate the impact of a strong service brand versus a weaker brand as a bundle partner on a new service. It also sought to clarify the role of complementarity in this context.

This chapter discusses the overall results by linking the research findings to the literature review. It is structured based on the first five research objectives. Objective 6, the recommendations for practitioners, is discussed later in the managerial implications section of the conclusions chapter. The discussion chapter starts with section 7.2 on the influence of the bundle partner's brand image on the perceived quality of the new service. Section 7.3 focuses on the influence of the brand image on the perceived risk. The following two sections cover the role of complementarity as a main effect on perceived quality (7.4) and perceived risk (7.5). The final section (7.6) discusses complementarity as a moderator.

7.2 Objective 1: Influence of brand image on perceived quality

The first objective of this research was to show that the perceived quality of a new electricity service is more positive if it is presented as a bundle with a higher brand image service compared to the presentation in a bundle with a lower brand image service.

Wirtz and Lovelock (2021) suggest that firms need to actively signal high quality as part of their marketing mix. For the energy market, Hartmann and Apaolaza Ibáñez (2007) empirically found that the service process quality perception has the most significant impact on customer satisfaction. Based on tangible products, Sheng and Pan (2009) and Harris (1997) showed that bundling a new product with another one with a high brand image can improve the perception of quality. These findings were achieved by empirical testing with student samples.

The existence of the same effect on new services has not been empirically tested despite the fact that services possess different characteristics and are evaluated differently than goods (Zeithaml, 1981; Parasuraman, Zeithaml and Berry, 1985; Zeithaml, 1988; Berry, 2000). However, the reliance on brands as a signalling attribute is especially high for services because the quality is harder to evaluate than the quality of goods (Parasuraman, Zeithaml and Berry, 1985; Zeithaml, 1988; Wirtz and Lovelock, 2021). Therefore, it was

assumed in the theoretical framework that the enhancement effect based on categorisation also exists for services.

The acceptance of hypothesis 1 in the main study confirmed the positive effect of bundle partner brand image on perceived quality as a main effect in bundles for new service introductions. The results are in line with the theoretical framework and confirm the research results on tangible goods. Furthermore, the results help generalize previous research because the effect is shown based on a representative crowdsourced sample.

In summary, a new service's perceived quality benefits from a strong bundle partner brand image.

7.3 Objective 2: Influence of brand image on perceived risk

The second objective of this research was to determine if the perceived risk of a new electricity service is lower if presented as a bundle with a higher brand image service compared to the presentation in a bundle with a lower brand image service.

New service firms should actively reduce the customer's uncertainty and perceived risk to increase the chances of a consumer buying the offered service (Wirtz and Lovelock, 2021). Hackbarth, Tremml and Löbbe (2022) showed that lowering perceived risk is highly relevant for German households with their electricity supplier choices. Also, consumers prefer bundles if they lower perceived risk and search effort (Guiltinan, 1987; Harris and Blair, 2006). Harris (1997) empirically showed a positive enhancement effect of an established brand on the risk perception of a new brand in a bundle. Like the influence on perceived quality in the previous section, this effect has only been tested on tangible goods with student samples. It was assumed in the theoretical framework to also exist for services.

The main study's results on hypothesis 2 confirmed the positive effect of bundle partner brand image on perceived risk for new service introductions. The results are in line with the theoretical framework and confirm the research results on tangible goods. Furthermore, the results help generalize previous research because the effect is shown based on a representative crowdsourced sample.

In summary, a new service's perceived risk benefits from a strong brand image of the bundle partner.

7.4 Objective 3: Influence of complementarity on perceived quality

The third objective of this research was to determine if the perceived quality of a new electricity service is more positive if presented as a bundle with a more complementary service compared to the presentation of a bundle with a less complementary service.

In bundling research in general, complementarity has been identified as a factor (Harlam *et al.*, 1995; Herrmann, Huber and Higie Coulter, 1997). For new product introductions, Khandeparkar (2014) empirically identified complementarity as a main effect on the perceived quality of tangible goods based on a student sample. For established service bundles, Patel, Pandey and Sharma (2021) empirically found that the effect of complementarity as a moderator is less pronounced for services compared to goods bundles. Their assessment was based on the customers' WTP for the bundle.

The main study's results on hypothesis 3 identified complementarity to influence the perceived quality of new service introductions positively. Therefore, the results confirm Khandeparkar (2014)'s findings for services. The size of the effect has not been comparatively tested in this research. Therefore, the claim that complementarity is less vital for service-only bundles compared to goods-bundles by Patel, Pandey and Sharma (2021) based on WTP assessment cannot be verified. However, the measured enhancement effect for services in this research was significantly smaller for less complementary services than for more complementary services. Thus, their advice 'managers should bundle complementary products in goods bundle but may not worry much about complementarity in a services bundle' (Patel, Pandey and Sharma, 2021, p. 15) should be approached with caution.

In summary, a new service's perceived quality benefits from a more complementary service bundle.

7.5 Objective 4: Influence of complementarity on perceived risk

The fourth objective of this research was to determine if the perceived risk of a new electricity service is more positive if presented as a bundle with a more complementary service compared to the presentation of a bundle with a less complementary service.

The influence of complementarity as a main effect on perceived quality has been previously established (Khandeparkar, 2014). Harris (1997) showed a bundling

enhancement effect for new product introductions for tangible goods based on brand image but did not differentiate between different levels of complementarity.

The main study identified complementarity as a main effect in hypothesis 3, positively influence perceived risk for new service introductions. Therefore, it combines Khandeparkar (2014)'s finding that complementarity is a factor in the enhancement effect of bundling with Harris (1997)'s finding that the enhancement effect also influences perceived risk.

In summary, a new service's perceived risk benefits from a more complementary service bundle.

7.6 Objective 5: Influence of complementarity as a moderator

The fifth objective of this research was to show that the higher the complementarity of the services in a bundle, the stronger the influence on the perceived quality and the perceived risk of the new electricity service.

In behavioural research on bundling for new product introductions, complementarity has been identified as a moderator for the bundling enhancement effect on new tangible goods (Sheng and Pan, 2009). Simonin and Ruth (1995), Sheng and Pan (2009), and Singh (2017) have empirically demonstrated this moderating effect of complementarity.

The main study in this research could not confirm the moderation effect of complementarity with hypotheses 5a and 5b. The interaction effects of brand image and complementarity for perceived quality and perceived risk were insignificant. Therefore, it could not add directly to the knowledge of the moderation effect of complementarity on perceived quality and risk for services. As discussed in the previous section, complementarity was instead identified as a main effect.

The overall conclusions of this research project are presented in the next chapter.

8 Conclusions

8.1 Introduction

This chapter presents the overall conclusions of this research. Section 8.2 outlines the conclusions and theoretical contributions. This thesis aims to contribute to management practice, and section 8.3 summarises the managerial implications. Like all studies, this study has limitations. They are discussed in section 7. Finally, section 8.5 raises some new questions for future research to cover.

8.2 Research conclusions and theoretical contributions

This research started with the practical challenge of how to enter the German electricity market with a new brand. The potential strategy of bundling the new brand with an existing service was identified based on the market's characteristics, customer behaviour, and existing knowledge of service introductions. Bundling was assumed to increase the perceived quality and reduce the perceived risk of the new service and, therefore, increase its chances of success. Improving the chances of success of the new service introduction is important because service introductions are expensive, and new product launches have a high risk of failure. The use of bundling as a new service introduction strategy is conducted in service markets all over the world. However, as shown, there has been no academic research on the effectiveness of this strategy for services. Because of the effort bundling creates, the fact that bundling with weaker brands is easier, and the assumption that less complementary companies are easier to bundle with, two managerial questions surfaced:

1) Will bundling with a stronger service brand help a new electricity service more by increasing its perceived quality and reducing its perceived risk during its introduction in the German market than bundling with a weaker brand?
2) What role does the complementarity of the bundled services play?

The literature on new product and service introductions, bundling, and electricity services in Germany had been reviewed to answer these questions. Based on this knowledge, the theoretical framework was developed. It predicted that for a new electricity service brand bundling its services with another service from a stronger brand will positively influence its perception of quality and perception of risk. Both effects were formulated to be moderated by the level of fit and complementarity of the services in the bundle.

Furthermore, complementarity was assumed to be an enhancement factor itself. Hypotheses have been formulated within this framework to test these theories.

A stated preference survey experiment using service bundles as stimuli was conducted to test the formulated hypotheses on service bundles. A representative sample for Germany, recruited via crowdsourcing, answered this questionnaire. The answers were statistically analysed via descriptive statistics and ANOVA to test the research hypotheses. With this empirical design, the research narrowed the existing research gap with several academic contributions:

1) The research established that bundling with a stronger service brand will increase the perceived quality and reduce the perceived risk of a new electricity service more during its introduction in the German market than bundling with a weaker brand.
2) It further established that complementarity is a main enhancement effect on perceived quality and perceived risk for bundled services, independent of the brand of the bundle partner.
3) By successfully using services for empirical testing in bundling research for new service introductions, it also established a methodical foundation for other researchers to continue investigating services in the context of bundling new products.
4) Finally, using a crowdsourced sample was a novel approach for bundling research on new product introductions. This research showed a cost-efficient way of how crowdsourced participants could be used for experiments in bundling research on new products.

In addition to this, as presented in section 8.5, the project opened new questions for future research.

The following section offers the managerial implications which can be concluded from the research.

8.3 Managerial implications

This research has contributed to the academic research on bundling for new product introductions. A real-life topic was chosen to also contribute to managerial practice as formulated in research objective six. This study generated some valuable insights.

When launching a new service, firms should signal high quality and reduce perceived risk. This signalling increases the chances that a consumer will purchase a new service (Wirtz and Lovelock, 2021). Bundling a new product with another one with a high brand image was shown to improve the perception of quality and limit the customers' perceived risk for tangible products (Simonin and Ruth, 1995; Harris, 1997; Sheng and Pan, 2009).

This work has empirically demonstrated that bundling with a high-image brand can also enhance new service brands and help overcome some challenges of new service introductions. This reassurance of the enhancement effect for services is important for decision-makers. It should motivate managers to engage with potential bundle partners, despite the fact that such a process might generate additional costs and effort (Varadarajan, 1986; Stremersch and Tellis, 2002).

Besides the bundle partner's brand image, the bundled services' level of complementarity showed a direct effect on perceived quality and perceived risk. If practitioners are faced with whether they should bundle with a more complementary service or a stronger brand partner, they should opt for the more complementary service. To emphasize this point: In this research, even the strongest brand from the low complementarity service category tested (banking) created a significantly weaker enhancement effect than the weakest brand image of the more complementary service category (natural gas).

A highly complementary service with a high brand image would be the ideal partner. However, such a partner is probably the hardest to convince to form a bundling partnership. Managers should aim at such partnerships. Examples in the market show that such coopetition is achievable.

Academic research showed that complementarity between bundled horizontal products could stem from different sources. Functional complementarity is the most common type of complementarity in bundling research, and probably in marketing practice in general. However, other types of complementarity exist, such as joint usage, interoperability, a similar target market, thematic commonality, or convenience (Varadarajan, 1986). These types of complementarity should also be tested for real-life service bundles. Knutsson (2011) pointed out that a bundle's complementarity level lies purely in the recipient's judgement. This research showed that testing the customer's judgement on the level of complementarity between services before an actual bundle launch is a potential approach to limit the risk of bundling the wrong services.

When looking specifically at the German electricity market, the switching rate is low compared to other service membership markets. This is presumably due to the low trust in energy suppliers, especially new ones, and the perceived complexity (CEER, 2016; Thorun, Zimmer and Spindler, 2017; Bundesnetzagentur, 2021; Bundesnetzagentur, 2022). Lowering perceived risk is highly relevant for German households with their electricity supplier choices (Hackbarth, Tremml and Löbbe, 2022). Also, the perceived quality of an electricity service drives product value for the customer and has the most significant impact on customer satisfaction and brand image (Hartmann and Apaolaza Ibáñez, 2007; Larsen, 2017).

This research shows that bundling services can increase the quality perception and decrease the perceived risk of a new electricity service. As evaluated by Hackbarth, Tremml and Löbbe (2022), 39% of the potential electricity customers would be open to buying an electricity service bundle. Therefore, bundling electricity services is a promising strategy for marketing practitioners. Current bundle offers are mainly with other forms of energy in a within-brand bundle or bundles with tangible add-ons. Service bundles between different brands are rare and could be expanded. Digital platforms, where products can easily be combined into bundles, could help provide consumers with a one-stop shopping experience (Krümmel, 2020).

Amelung (2020) identified three strategic pillars energy companies use to differentiate themselves in the market: pricing and contract terms, offering value-added services, and branding. Bundling between brands with other services could be added to these existing strategies for introducing new services.

8.4 Limitations

It is impossible to conduct a social science study without limitations.

This study aimed to assess bundling as a strategy for new service introductions in the German electricity market. The electricity service was bundled with a service from the financial industry and another utility service. It empirically observed customer behaviour in the specific context of electricity in Germany. The results give some direction for other sectors and markets, but a straightforward generalisation is not possible.

As with all studies of this kind, the respondents' answers were considered to represent their actual views. The data were collected via a stated preference experiment with an

online survey. There is no guarantee that the actual consumer evaluation and judgement are captured accurately. This study observed the impact of bundling based on the variables perceived quality and perceived risk. However, this is only a part of the consumer's complex decision and evaluation process.

Furthermore, the data has been collected online. Even though the sample was a good representation of the German public, one can assume that crowd workers are especially online aware. They might react differently to the stimulus and have different decision processes than people who are less online aware. The behaviour and judgement processes of offline customers have not been captured.

There are many different bundle types with diverse options of how the bundle is configured, e.g., how integrated the bundle components are or how the price is presented. The design decisions have been based on previous research findings, but they only represent a particular bundle design. This study tested a two-component price bundle in a mixed-joint format with a discount and a joint label assigned. Other types of bundles might yield different results.

Furthermore, this study only observed the impact on the electricity product. The impact on the whole bundle and the bundle partner product has not been observed, meaning that potential negative consequences of this bundling strategy are not evaluated. Lastly, this research had a cross-sectional design, so no effects which build over time have been observed.

8.5 Recommendations for future research

One aim of this study was to re-stimulate research on bundling for new product introductions, specifically in the area of services. This study showed how services can be utilised in consumer behaviour research on bundling new services.

Since services are such a diverse product category, there is a wide range of services from different categories to test and experiment with. How would, for instance, customers react to new service bundles from the other end of the service continuum? Examples would be to use services with discrete transactions or higher use of labour and skills. Would the results be similar, or do consumers react differently? This type of research would make the results achieved more robust and generalisable and help discover potential contextual specifics.

Besides the specific market covered, this study focused on a price bundle with two components in a mixed-joint format with a discount and a joint label assigned. It would be interesting to see whether other bundle configurations show different results. This comparative testing has been conducted for tangible bundles and brand extensions. Specifically, the impact of real product integrations, even though probably hard to experiment with, might be very interesting.

Also, this study focused on the two dependent variables of perceived quality and perceived risk of one of the bundle components. The analysis could be extended to the overall bundle, all bundle components, and other variables. Previous research indicates interesting measurements, such as purchase intention and reservation price.

This study tested with fit-based complementarity. Different types of complementarities and fit could be experimented with and help design successful product combinations.

Lastly, the results have been achieved by using data collected via stated preference questionnaires. The experiments in this thesis have been designed to resemble the market conditions as closely as possible. It would be interesting to see whether actual market data supports the results. Ideally, such data would have a longitudinal character to observe effects over time. Also, the impact of contextual factors over time on bundling new services, such as the discussed energy crisis in section 2.4.3, might be interesting to academics and practitioners.

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Appendix (1): Previous bundling research on new product introductions

Table developed for research.

Author / study	Test objects	Sample (valid participants); measures; analysis	Main findings
Gaeth *et al.* (1991)	Established durable + nondurable tie-in (electronics)	• 27 participants (50% students) • Quality perception and usefulness; willingness to spend • ANOVA	• Bundle evaluations are averaged • Tie-in has a bigger effect than its share of value
Simonin and Ruth (1995)	Nondurable + nondurable (personal care)	• 180 students • Reservation prices; • Regression analysis	• Prior attitudes towards the bundle positively impact the individual reservation prices for the primary product and the tie-product • A good fitting product combination positively influences the customer evaluation of the bundle • Bundle evaluations are not averaged equal weight, primary has more impact • Mixed-joint bundles generate a more favourable enhancement effect compared to mixed-leader combinations
Harris (1997)	Nondurable + nondurable (cereals, snack bars)	• 153 students • Quality perception and risk • ANOVA	• Bundling with a known product from an established brand enhances the perceived product quality and reduces the risk compared to a separate offering • This effect is negative for brand extensions

Author / study	Test objects	Sample (valid participants); measures; analysis	Main findings
Sarin, Sego and Chanvarasuth (2003)	High-tech durables	• Theoretical framework only	• For a new high-tech product introduction, bundling reduces perceived risk • Reduction of risk is stronger if the new high-tech product is bundled with an established product with a credible brand • The positive effect is assumed to be stronger the more innovative and therefore perceived risk-laden, the new product is in the eye of the customer
Sheng and Pan (2009)	Durable + durable (electronic)	• 199 students • Quality perception • ANOVA	• Quality perception for a new product/brand introduction is improved when it is bundled with a stronger brand • Complementarity is a moderator for this effect • Bundle form moderates this effect. Mixed-joint bundling better supports better mixed-leader bundle
Reinders, Frambach and Schoormans (2010)	Durables, radical innovation	• 201 participants from a professional panel • Product evaluation • ANOVA	• Bundling enhances the evaluation of a new product compared to a separate offering of the introduction under high fit, and the potential buyer has limited prior knowledge of the topic

Author / study	Test objects	Sample (valid participants); measures; analysis	Main findings
Khandeparkar (2014)	Durable + durable (electronic)	• 97 students • Quality perception • ANOVA	• Replicated the findings of Sheng 2009 that quality perception of a new brand is enhanced • Showed an enhancement effect on the new product when the high image bundle partner product is of a higher price than the new product itself • Showed that complementarity is a main effect on perceived quality
Singh (2017)	Durable consumer electronics	• 424 Students • Brand attitude, Purchase intention • SEM	• Brand attitude, Self-congruity, and functional congruity get transferred to the new brand • Complementarity found as moderator

Appendix (2): Scope of this research for a new service introduction

Test object	Sample (valid participants); Measure; analysis	Main findings
Services	• Sample of 698 participants representing the German population • Quality perception and perceived risk • ANOVA	• Bundling with a stronger service brand will increase the perceived quality of a new electricity service more during its introduction in the German market than bundling with a weaker brand • Bundling with stronger service brand will reduce the perceived risk of a new electricity service more during its introduction in the German market than bundling with a weaker brand • Complementarity is a main effect

Appendix (3): Sample bundle combinations

Sample bundle combinations according to CEER (2019).

Sector (single/cross- sectoral)	Sample Bundle
Energy + other	- Electricity supply + gas supply - Electricity supply + appliance/equipment maintenance - Energy + life-style services e.g., babysitting, food delivery - Energy + (house/emergency services/other) insurance
Telecommunications + other	- Fixed broadband + fixed phone - Fixed broadband + pay TV - Mobile broadband + mobile voice phone - Fixed broadband + fixed phone + pay TV - Fixed internet access + anti-virus + anti-spam protection Telecommunication services + content services e.g., Spotify, Netflix, social network (normally with separate contracts with the telecoms provider and the provider of the content service)
Multi-utility (e.g., energy + telecommunications)	- Fixed broadband + fixed (home/landline) phone + mobile (voice) phone + electricity + gas - Electricity + gas + waste disposal
Financial services	- Insurance packages e.g., house (building + content) + pet + travel + mobile phone insurance + others (e.g., trustee insurance/emergency services) - Mortgage + house (building + contents) insurance Deposit/current account + bill pay + credit card + over draft (loan)

Appendix (4): Scales used

Table developed for research.

Constructs	Items / Operationalisation	Source of items
Complementarity (3 items measured on a 7-point scale)	**(Product A) and (product B) are highly complementary** Disagree – Agree	Developed and used by Sheng, Parker and Nakamoto (2007) in the context of product bundling.
	(Product A) and (product B) are very likely to be used together Disagree – Agree	
	(Product A) and (product B) are semantically Unrelated – Related	
Perceived quality (3 items measured on a 7-point scale)	**This (product) is** Unreliable – reliable	Items developed by (Keller and Aaker, 1992; Boulding and Kirmani, 1993; Grewal, Monroe and Krishnan, 1998). Used in this combination by Sheng, Parker and Nakamoto (2007) in the context of product bundling.
	This (product) is of Low quality – High quality	
	This (product) is Inferior – Superior	
Perceived risk (2 items measured on a 7-point scale)	**Buyer will be** Likely to be unsatisfied if purchased – Likely to be satisfied if purchased	Used by Harris (1997) in the context of product bundling.
	Product is a Risky purchase – Safe purchase	
Brand image (4 items measured on a 7-point scale)	**The brand (brand name) is favourable.** Disagree – Agree	Items developed by: (Aaker and Keller, 1990; Keller and Aaker, 1992).
	Products made by (brand name) are of high quality. Disagree – Agree	

Constructs	Items / Operationalisation	Source of items
	(Brand name) has a good image. Disagree – Agree	Used in this combination by Sheng (2004) in the context of product bundling.
	X (brand name) has a good reputation. Disagree – Agree	
Fit (2 items measured on a 7-point scale)	**How is the 'fit' between both products?** Good – Bad product combination	Developed by Simonin and Ruth (1995). Also used by Reinders, Frambach and Schoormans (2010). Both applications were in the context of product bundling.
	How is the 'fit' between both products? Logical – Not logical product combination	

Appendix (5): Offer description for the survey

Original:

Auftragsbeschreibung: Umfrage zum Thema Stromverträge

Description of task:

Umfrage-Briefing:

Nehmen Sie an einer Umfrage zum Thema „Stromverträge“ teil.

1. Dauer
   Die Umfrage wird voraussichtlich etwa <Dauer> Minuten in Anspruch nehmen.
2. Sonstiges
   Beachten Sie bitte: Wir haben Aufmerksamkeitschecks eingebaut - beantworten Sie diese falsch, so werden Sie nicht zum finalen Code geleitet!

Vielen Dank!

English translation:

Subject: Survey on electricity contracts

Description of task:

Survey briefing:

Take part in a scientific survey on the subject of electricity contracts.

3. Duration
   The survey is expected to take approximately <duration> minutes.
4. Miscellaneous
   Please note: We have implemented attention checks - answer them wrongly, and you will not be taken to the final code!

Thank you very much!

Appendix (6): Questionnaire pilot phase 1

	English	Germany
Introduction	Good day, Thank you for taking part in this academic survey. The survey deals with possible product offers on the subject of power supply for household customers. The processing of the questionnaire takes about xx minutes. Please answer the questions as truthfully as possible. There are no right or wrong answers. Only your opinion and assessment count! Please note that attention checks are built into the survey. Remuneration will only be made if the processing is conscientious. You will receive the reward code at the end of the survey. This survey takes place as part of a research project, and the evaluation is, of course, anonymous. All data will be treated confidentially. No conclusions can be drawn about your person. If you have any questions, please send an email to: xxx Thank you for your help!	Guten Tag, vielen Dank für Ihre Teilnahme an dieser wissenschaftlichen Umfrage. Die Umfrage befasst sich mit möglichen Produktangeboten zum Thema Stromversorgung für Haushaltskunden. Die Bearbeitung des Fragebogens dauert etwa xx Minuten. Bitte beantworten Sie die Fragen so wahrheitsgetreu wie möglich. Es gibt keine richtigen oder falschen Antworten. Es zählt ausschließlich Ihre persönliche Meinung und Einschätzung! Bitte beachten Sie, dass in der Umfrage Aufmerksamkeitschecks verbaut sind. Eine Vergütung erfolgt nur bei gewissenhafter Bearbeitung. Am Ende der Umfrage erhalten Sie den Vergütungscode. Diese Befragung findet im Rahmen einer Forschungsarbeit statt und die Auswertung ist selbstverständlich anonym. Alle Daten werden streng vertraulich behandelt. Es sind keine Rückschlüsse auf Ihre Person möglich. Bei Rückfragen senden Sie bitte eine email an: xxx Vielen Dank für Ihre Mithilfe!
Fit (1 of 2) only 1st run	How is the fit between both products on a scale from 1 (bad combination) – 7 (good combination)? An electricity contract and a (service) bad combination – good combination	Wie passen die beiden Produkte auf einer Skala von 1 (schlechte Kombination) – 7 (gute Kombination) zusammen? Ein Strom-Vertrag und ein (Service) schlechte Kombination – gute Kombination
Fit (2 of 2) only 1st run	How is the fit between both products on a scale from 1 (not-logical combination) – 7 (logical combination)? An electricity contract and a (service) not-logical combination – logical combination	Wie passen die beiden Produkte auf einer Skala von 1 (nicht-logische Kombination) – 7 (logische Kombination) zusammen? Ein Strom-Vertrag und ein (Service) nicht-logische Kombination – logische Kombination

Demographic data collection	Please fill out the following information. The demographic information is only collected for statistical purposes and does not allow any conclusions to be drawn about your person. Please enter your gender. -Male -Female -Diverse Which age category do you belong to? -18-24 -25-34 -35-44 -45-54 -55-64 -older than 65 What is your highest professional qualification? - no professional qualification - Apprenticeship / dual system / technical college degree - Bachelor's degree or higher What is your monthly net household income? -less than 1000 euros -1001-2000 euros -2001-3000 euros -more than 3001 euros How often have you signed an electricity contract? -Never -Once -two to three times -four or five times -more than five times	Bitte füllen Sie die folgenden Angaben aus. Die demographischen Angaben werden nur zu statistischen Zwecken erhoben und lassen keine Rückschlüsse auf ihre Person zu. Bitte geben Sie Ihr Geschlecht an. -Mann -Frau -Divers Zu welcher Alterskategorie gehören Sie? -18-24 -25-34 -35-44 -45-54 -55-64 -älter als 65 Was ist Ihr höchster beruflicher Bildungsabschluss? - kein beruflicher Abschluss - Lehre / Berufsausbildung im dualen System / Fachschulabschluss - Bachelor-Abschluss oder höher Wie hoch ist Ihr monatliches netto Haushaltseinkommen? -weniger als 1000 Euro -1001-2000 Euro -2001-3000 Euro -mehr als 3001 Euro Wie oft haben Sie bisher einen Stromvertrag abgeschlossen? -Nie -Einmal -zwei bis dreimal -vier oder fünfmal -mehr als fünfmal
Complementarity only 1st run	Please state your disagreement and/or agreement with the following statements: An electricity contract and a (service) complement each other well Disagree – Agree An electricity contract and a (service) are very likely to be used together Disagree – Agree An electricity contract and a (service) are semantically Not belonging together – belonging together	Bitte geben Sie Ihre Ablehnung und/oder Zustimmung zu folgenden Aussagen an: Ein Strom-Vertrag und ein (Service) ergänzen sich gut Stimme nicht zu – Stimme zu Ein Strom-Vertrag und ein (Service) werden wahrscheinlich zusammen genutzt Stimme nicht zu – Stimme zu Ein Strom-Vertrag und ein (Service) sind semantisch Nicht zusammengehörig – Zusammengehörig
Brand Image	Please state your disagreement and/or agreement with the following statements: The (brand) brand is favourable Disagree – Agree Products made by (brand) are of high quality Disagree – Agree (brand) has a good image Disagree – Agree (brand) has a good reputation Disagree – Agree	Bitte geben Sie Ihre Ablehnung und/oder Zustimmung zu folgenden Aussagen an: Die Marke (Marke) ist generell positiv Stimme nicht zu – Stimme zu Produkte der (Marke) haben eine hohe Qualität Stimme nicht zu – Stimme zu Die (Marke) hat ein gutes Image Stimme nicht zu – Stimme zu Die (Marke) hat eine gute Reputation Stimme nicht zu – Stimme zu

Thank you	Thank you for your participation! **Important Note:** Please copy the following code and paste it into the space provided within your task form. Your remuneration cannot be credited without entering this code! **Code**: ABCDE If you have any questions, please send an email to:	Vielen Dank für Ihre Teilnahme! **<u>Wichtiger Hinweis:</u>** Bitte kopieren Sie den folgenden Code und fügen ihn in das dafür vorgesehene Feld innerhalb Ihres Aufgabenformulars ein. Ohne die Eingabe dieses Codes kann eine Gutschrift Ihres Honorars nicht erfolgen! **Code**: ABCDE Bei Rückfragen senden Sie bitte eine email an:

Appendix (7): Questionnaire pilot phase 2 and main study

	English	Germany
Introduction	Good day, Thank you for taking part in this academic survey. The survey deals with possible product offers on the subject of power supply for household customers. The processing of the questionnaire takes about xx minutes. Please answer the questions as truthfully as possible. There are no right or wrong answers. Only your opinion and assessment count! Please note that attention checks are built into the survey. Remuneration will only be made if the processing is conscientious. You will receive the reward code at the end of the survey. This survey takes place as part of a research project, and the evaluation is, of course, anonymous. All data will be treated confidentially. No conclusions can be drawn about your person. If you have any questions, please send an email to: xxx Thank you for your help!	Guten Tag, vielen Dank für Ihre Teilnahme an dieser wissenschaftlichen Umfrage. Die Umfrage befasst sich mit möglichen Produktangeboten zum Thema Stromversorgung für Haushaltskunden. Die Bearbeitung des Fragebogens dauert etwa xx Minuten. Bitte beantworten Sie die Fragen so wahrheitsgetreu wie möglich. Es gibt keine richtigen oder falschen Antworten. Es zählt ausschließlich Ihre persönliche Meinung und Einschätzung! Bitte beachten Sie, dass in der Umfrage Aufmerksamkeitschecks verbaut sind. Eine Vergütung erfolgt nur bei gewissenhafter Bearbeitung. Am Ende der Umfrage erhalten Sie den Vergütungscode. Diese Befragung findet im Rahmen einer Forschungsarbeit statt und die Auswertung ist selbstverständlich anonym. Alle Daten werden streng vertraulich behandelt. Es sind keine Rückschlüsse auf Ihre Person möglich. Bei Rückfragen senden Sie bitte eine email an: xxx Vielen Dank für Ihre Mithilfe!
Brand Image	Please state your disagreement and/or agreement with the following statements: The (brand) is favourable Disagree – Agree Products made by (brand) are of high quality Disagree – Agree (brand) has a good image Disagree – Agree (brand) has a good reputation Disagree – Agree	Bitte geben Sie Ihre Ablehnung und/oder Zustimmung zu folgenden Aussagen an: Die Marke (Marke) ist generell positiv Stimme nicht zu – Stimme zu Produkte der (Marke) haben eine hohe Qualität Stimme nicht zu – Stimme zu Die (Marke) hat ein gutes Image Stimme nicht zu – Stimme zu Die (Marke) hat eine gute Reputation Stimme nicht zu – Stimme zu

Complementarity / Fit	Please answer the following questions or state your disagreement and/or agreement with the following statements: An electricity contract and a (service) are complementary Disagree – Agree An electricity contract and a (service) are very likely to be used together Disagree – Agree An electricity contract and a (service) are semantically Not belonging together – belonging together How is the fit between an electricity contract and a (service)? bad combination – good combination How is the fit between an electricity contract and a (service)? not-logical combination – logical combination	Bitte beantworten Sie folgenden Fragen bzw. geben Sie Ihre Ablehnung und/oder Zustimmung zu folgenden Aussagen an: Ein Strom-Vertrag und ein (Service) ergänzen sich gut Stimme nicht zu – Stimme zu Ein Strom-Vertrag und ein (Service) werden wahrscheinlich zusammen genutzt Stimme nicht zu – Stimme zu Ein Strom-Vertrag und ein (Service) sind semantisch Nicht zusammengehörig – Zusammengehörig Wie passen ein Strom-Vertrag und (Service) zusammen? schlechte Kombination –gute Kombination Wie passen ein Strom-Vertrag und (Service) zusammen? nicht-logische Kombination – logische Kombination
Demographic data collection	Please fill out the following information. The demographic information is only collected for statistical purposes and does not allow any conclusions to be drawn about your person. Please enter your gender. -Male -Female -Diverse Which age category do you belong to? -18-24 -25-34 -35-44 -45-54 -55-64 -older than 65 What is your highest professional qualification? - no professional qualification - Apprenticeship / dual system / technical college degree - Bachelor's degree or higher What is your monthly net household income? -less than 1000 euros -1001-2000 euros -2001-3000 euros -more than 3001 euros How often have you signed an electricity contract? -Never -Once -two to three times -four or five times -more than five times	Bitte füllen Sie die folgenden Angaben aus. Die demographischen Angaben werden nur zu statistischen Zwecken erhoben und lassen keine Rückschlüsse auf ihre Person zu. Bitte geben Sie Ihr Geschlecht an. -Mann -Frau -Divers Zu welcher Alterskategorie gehören Sie? -18-24 -25-34 -35-44 -45-54 -55-64 -älter als 65 Was ist Ihr höchster beruflicher Bildungsabschluss? - kein beruflicher Abschluss - Lehre / Berufsausbildung im dualen System / Fachschulabschluss - Bachelor oder höher Wie hoch ist Ihr monatliches netto Haushaltseinkommen? -weniger als 1000 Euro -1001-2000 Euro -2001-3000 Euro -mehr als 3001 Euro Wie oft haben Sie bisher einen Stromvertrag abgeschlossen? -Nie -Einmal -zwei bis dreimal -vier oder fünfmal -mehr als fünfmal

Quality and Risk of bundle combinations	Please imagine the following situation and give your assessment. You want to conclude a new electricity contract. You will be offered the following product package. A (service) from (brand) and an electricity contract from (brand). You will receive a discount on the package. You need the electricity contract and the additional product. Please give your assessment of the offered electricity contract: The electricity contract is unreliable – reliable The electricity contract is of Low quality – high quality The electricity contract is Inferior – Superior The customer of the electricity contract will likely to be dissatisfied – satisfied The electricity contract is a Risky purchase – Safe purchase	Bitte stellen Sie sich folgende Situation vor und geben Sie Ihre Einschätzung. Sie möchten einen neuen Stromvertrag abschließen. Sie bekommen das folgende Produktpaket angeboten. Ein (Service) von (Marke) und eine Strom-Vertrag von (Marke) -Strom. Sie erhalten eine Preisermäßigung auf das Paket. Sie benötigen den Stromvertrag und das weitere Produkt. Bitte geben Sie Ihre Einschätzung zu dem angebotenen Stromvertrag: Der Strom-Vertrag ist Nicht zuverlässig – Zuverlässig Der Strom-Vertrag hat eine Niedrige Qualität – Hohe Qualität Der Strom-Vertrag ist Minderwertig – Hochwertig Der Kunde des Strom-Vertrages wird wahrscheinlich mit dem Abschluss unzufrieden sein – Zufrieden sein Der Abschluss des Strom-Vertrages ist Riskant – Sicher
Thank you	Thank you for your participation! **Important Note:** Please copy the following code and paste it into the space provided within your task form. Your remuneration cannot be credited without entering this code! **Code**: ABCDE Bei Rückfragen senden Sie bitte eine email an:	Vielen Dank für Ihre Teilnahme! **Wichtiger Hinweis:** Bitte kopieren Sie den folgenden Code und fügen ihn in das dafür vorgesehene Feld innerhalb Ihres Aufgabenformulars ein. Ohne die Eingabe dieses Codes kann eine Gutschrift Ihres Honorars nicht erfolgen! **Code**: ABCDE Bei Rückfragen senden Sie bitte eine email an: