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With a Preface by Prof. Dietmar Harhoff, Ph. D.

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## Preface

Throughout the last years the brand community phenomenon gained increasing importance for companies and consumer alike. It offers companies the chance to increase the brand loyalty of their customers and to open up their innovation processes by integrating selected customers. Yet it also poses major questions to managers. Should we create our own brand community? How can we manage the permanent interaction with our customers once we started the brand community?

Brand loyalty is strongly driven by brand community integration. In contrast to most of the literature which focuses on the static brand loyalty effects of firm-established brand community at a given time, Philipp Wiegandt examines in his analysis the dynamic brand loyalty effects over time. By doing so he analyses whether the so far observed brand loyalty effects are merely based on selection or if causality exists between firm-established brand community membership and brand loyalty.

In his dissertation, Wiegandt undertakes a study of the value creation potential of brand communities for companies. Wiegandt contributed to the conception and realisation of a firm-established brand community in the automobile industry, whose creation he examined empirically. With a quasi-experimental design the creation of this firm-established brand community was examined concerning the brand loyalty effects it has on its members over time.

The thesis consists of five chapters. The first two chapters focus on the development and classification of communities as well as on the implications especially brand communities have for consumers and companies. The third chapter addresses hypothesis concerning brand loyalty and customer integration effects of firm-established brand communities. The remaining two chapters present the empirical investigation and discuss the findings concerning value creation potential of firm-established brand communities.

The thesis presented by Philipp Wiegandt delivers an interesting and moreover important contribution to the assessment of firm-established brand communities as a relatively new marketing tool. It is a welcome complement to existing management literature and highlights the value creation potential of firm-established brand communities as a brand management tool for companies. Increasingly the economic success of companies will depend on the social value their product can generate in form of interaction with like-minded.

**Prof. Dietmar Harhoff, Ph. D.**

## Foreword

While writing this thesis on the value creation of firm-established brand communities I have benefited from the help and support of a large number of people. First of all I want to thank my supervisor Prof. Dietmar Harhoff, Ph.D., for his guidance and excellence support. At all times he was available for feedback and valuable discussion. I would also like to thank my second supervisor Prof. Dr. Dres. H.c. Arnold Picot for his continuous support as well as my doctoral colleagues and Rosemarie Wilcox at the Institute for Innovation Research, Technology Management and Entrepreneurship for their academic and practical support.

This thesis would not have become reality without the support and openness of BMW Group. I am grateful to my colleagues from the "Marketing Innovations" department - especially Dr. Timm Kehler, Jörg Reimann, Marc Mielau, Dr. Marc Jokisch, Tina Deinlein, Tony Douglas and Felix von Held – and to my colleagues from the marketing department of BMW M GmbH for their immense practical help. They provided the environment and motivation for this thesis. The company KREATIVEKONZEPTION showed excellent skills in bringing the M Power World community and the Ideas Lab to life.

Furthermore, I would like to thank the members of the M Power World for their participation in the brand community and the customer integration project. They spent significant time in generating and evaluating ideas and in answering my questionnaires.

Finally, I want to thank my friends, my grandparents, parents and my sister for their love and understanding while writing this thesis and for their excellent work in proof reading.

**Philipp Wiegandt**

## Table of Contents

## Table of Appendices

## Table of Figures

## Table of Tables

## Table of Abbreviations

| | |
|---|---|
| BMW | Bayrische Motoren Werke |
| E.G. | For Example |
| I.E. | Id Est |
| IV | Instrumental Variable |
| LES | Leading Edge Status |
| MLE | Maximum Likelihood Estimation |
| N.A. | Not Available |
| N.S. | Not Significant |
| OLS | Ordinary Least Squares |
| PR | Probability |
| S.D. | Standard Deviation |
| WOM | Word-of-Mouth |

# 1 Introduction

## 1.1 Scope and Problem Description

Originally a community was a densely knit network linking people with shared values and a trusted personal contact. This changed throughout the twentieth century to a connection of people out of more functional interests and needs (Wilson 1990). This new form of community combines traditional community values with individual needs such as self-realisation and functional needs (von Loewenfeld 2006). Thereby communication technology such as the internet is not an obstacle but rather an enabler since place is no longer a community prerequisite (Uslaner 2000, p.62). Due to those developments, communities nowadays attract a broad target group and represent a relevant and big medium in which people have increasing faith. Decisive for this new sense of community is the existence of shared interests. Brands can play a significant role in this perspective, the reason being that people nowadays derive much of their personal identity from brands and are emotionally attached to brands. Brands therefore often constitute a shared interest. In many cases, this shared interest in a brand is strong enough for a brand community to arise. Increasingly the economic success of companies will to a large degree depend on the social value a product (the possibility to interact with like-minded individuals) can generate. It is estimated that around 80 million people worldwide are active in brand communities, and that this number is constantly increasing (Algesheimer et al. 2006). The biggest brand community, the one around Harley-Davidson, alone has close to one million members (Bergmann & Burghart 2006). Therefore this dissertation will investigate how and to what degree companies can generate value for their customers but also for themselves by establishing a brand community.

The intensity of the relationship between members and the brand community is built on different levels whereby it is important to note, that "the more each relationship is internalized as part of the customer's life experience, the more the customer is integrated into the brand community and the more loyal the customer is in consuming the brand" (McAlexander et al. 2002). This observation is in line with a growing body of research indicating that loyalty is built in more complex and dynamic ways than just in the classical satisfaction leads to loyalty model (Fournier 1998; Oliver 1999). Based on this, several empirical studies not only further investigated the importance of brand community integration for creating brand loyalty (McAlexander et al. 2003; von Loewenfeld 2006), but also confirmed that loyalty intentions all translated into subsequent behaviour, and that members of brand communities have a higher brand loyalty than non members (Algesheimer et al. 2006; Algesheimer & Dholakia 2006). But what is missing so far is an investigation of brand loyalty effects of firm-established brand community membership over time. By conducting such an examination this dissertation examines whether the so far observed brand loyalty effects are merely based on

selection or if causality exists between firm-established brand community membership and brand loyalty. This dissertation will therefore investigate if firms are able to achieve long-term brand loyalty, when they support and favour their firm-established brand community.

The shared passion of certain customers for a cult brand translates via various collective learning systems into expertise and competencies, thereby imbuing brand communities with increasing amounts of production and marketing legitimacy. This fast diffusion of experience and knowledge enables passionate customers to exchange product-related information as well as to assist each other in problem-solving processes. These highly enthusiastic customers frequently discuss opportunities for new product ideas and improvements and some have even gone to the extent of modifying their products themselves. The involvement of the brand community members towards the product, the brand, and other customers can be enhanced by firms when they try to integrate these customers into virtual customer integration projects. During a new product development process, many situations arise in which users might add valuable input for firms. While a large body of empirical research has already shown that the integration of users in product development processes is attractive for firms (Herstatt & von Hippel 1992; Lilien et al. 2002; Franke et al. 2006), the main drawbacks of customer integration are the time and costs for its implementation (Olson & Bakke 2001; Lilien et al. 2002; Dignell & Mattila 2007). The existence of brand communities has the potential to reduce these costs, as brand communities not only provide firms with a pool of suitable and highly motivated customers to choose from (Bartl et al. 2003), but also allow them to tap the social knowledge of a large number of customers in an efficient and effective way (Duray 2002; Sawhney et al. 2005). This dissertation therefore proposes the combination of virtual customer integration with firm-established online brand communities and examines whether brand communities enable the permanent installation of a place where customer-firm interaction can take place in real time. By this the costs of virtual customer integration are minimized. Furthermore, this dissertation analyses whether the increased interaction of firm-established brand community members increase the involvement of members with the brand, the product and the brand community and hence their brand loyalty and word-of-mouth communication.

## 1.2 Objectives and Structure of the Paper

The objective of this dissertation is to illustrate the chances and possibilities an emerging new sense of community offers to firms and how they can leverage this through the creation of firm-established brand communities. This dissertation will therefore examine how firms can increase the brand loyalty and word-of-mouth communication of their customers by creating their own brand community. This leads to higher sales and the conquest of new customers. Furthermore, this dissertation will show that firm-established brand communities are an adequate organisational form for firms to open up their innovation processes. By doing so the

involvement of firm-established brand community members towards the brand, the product, and the brand community increases. The aim of this dissertation is therefore twofold. Firstly, it will analyse the implications of membership in a firm-established brand community with regard to possibilities for brand loyalty. Secondly it will examine how firms can leverage their brand communities by integrating members into their innovation processes and thereby increase their brand loyalty.

In order to achieve this, chapter two is first of all concerned with describing the development communities went through, and what importance the internet played in that respect. Furthermore, different types and classifications of communities are laid out, before section 2.2 focuses on brand communities – the object of investigation of this dissertation. This is done by first referring to specific brand community characteristics before describing important brand community studies. Based on this, the third part of section 2.2 describes the implications of brand communities from a customer perspective. This is done with the help of interaction theories. The intermediate results in section 2.3. summarize the community development and description as well as community implications for customers.

Section 2.4 then focuses on the value creation of firm-established brand communities from a company perspective. It describes the economic implications for firms with the help of the transaction cost theory. The first part of section 2.4.1. refers to the theoretical framework of the transaction cost theory and the resulting overall implications of firm-established brand communities for firms. After the framework is laid out, two especially important points for value creation for firms – brand loyalty and customer integration– are discussed further with the help of transaction cost theory. Section 2.5 summarizes the implications brand communities have for firms. Section 2.6 finally provides an outlook on the resulting research questions. For an overview of the theoretical framework for the brand community analysis see figure 1.

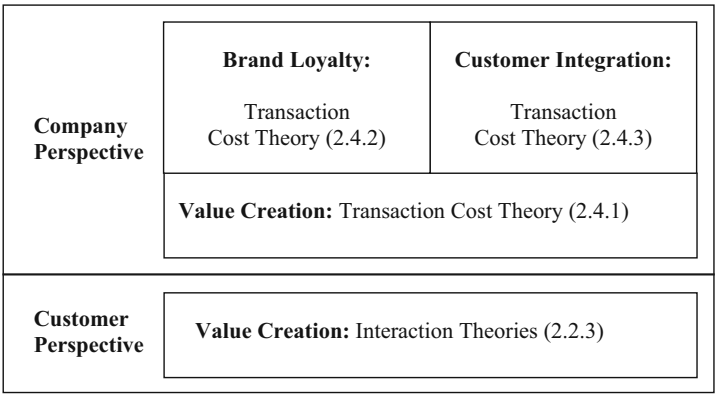


**Figure 1: Theoretical Framework for Brand Community Analysis**

Based on this research chapter 3 is concerned with the derivation of the hypotheses. This is done by combining the discussion on brand loyalty and customer integration. Chapter 4 consists of the empirical analysis examining the hypotheses from the theoretical discussion in chapter 3. The analysis is based on data collected with an internet-based questionnaire on the M Power World and during the virtual customer integration in the form of the Ideas Lab. These topics are an appropriate object to study as they belong to the automobile industry with highly involved customers and within the automobile industry to the cult like brand BMW M. Furthermore the M Power World is one of the few firm-established online brand communities in this area. Chapter 5 summarizes the findings and provides a conclusion. The appendix contains a copy of the internet-based questionnaires as well as supporting information for the empirical analysis.

## 1.3 Delimitation of Basic Terms

In this dissertation the term customer is used synonymously with the terms users and consumers, as this dissertation concentrates on the consumer goods sector, and also includes the different states of former, actual or potential usage, purchase or consumption. A sharp differentiation is not necessary as in the consumer goods sector users and customers are in most cases identical.

The following section describes key terms of this dissertation in more detail:

Community – As communities are discussed in a variety of research areas multiple definitions exist. Referring to the development of communities over time, this dissertation regards communities independent from a geographic focus and as a combination of traditional community values with individual needs. Hence this dissertation defines a community as a "social network of continuously interacting individuals, who influence each other within a specified timeframe and develop a sense of belonging. Thereby the social interaction between members is subject to a well-understood focus, such as a common goal, a shared identity, a common possession, or common interests" [translated by author] (Algesheimer 2004, p.64).

Brand Community – Based on the above community description, a brand serves as the focus for the social interaction between members of a brand community. Since the work of Muniz and O'Guinn (2001) presents the most comprehensive description of brand community characteristics, these brand community characteristics are used for this dissertation.

Innovation - There are many definitions of the term "innovation" in existence (see e.g., Hauschildt 1993, p. 8), yet for this dissertation the definition by Moore and Tushman (1982, p. 132) is used: "Most generally, innovation can be seen as the synthesis of a market need with the means to achieve and produce a product to meet that need." This definition contains important elements addressed in this dissertation as a brand community can serve as a place for the "synthesis" between customer needs and firm capabilities.

Innovation process – An innovation process describes the number of steps to produce an innovation (Hauschildt 1993). Depending on the author these steps are structured in various ways. For this dissertation the four-stepped division of Luethje (2000) is used as it provides a good overview and is sufficient for the purpose of this dissertation. Luethje (2000) distinguishes between ideas generation and ideas evaluation, concept development, development, testing and market introduction.

# 2 Literature Review

## 2.1 Communities

### 2.1.1 Definition and Development of Communities

Communities have long been a predominant topic for theorists and are one of the most discussed terms in the western world (e.g. Kozinets 2002a, p. 21; Durkheim [1893] 1999; Toennies [1887] 1991; Weber [1922] 1978; Etzioni 1993; Maffesoli 1996; Putnam 1995; Wellman 2001).[1] For the community phenomenon a multiplicity of definitions exist and it is discussed in a broad variety of research areas.[2] The comprehensive classification of 94 different community definitions developed by Hillery (1955) is a valuable overview. Figure 1 shows the classification for a "generic community".[3]

| Generic Community | |
|---|---|
| **Distinguishing ideas or elements in the definitions** | **Number of definitions** |
| A. Social Interaction | |
| 1. Geographic Area | |
| a. Self-sufficiency | 8 |
| b. Common life | 9 |
| (1) Kinship | 2 |
| c. Consciousness of kind | 7 |
| d. Possession of common ends, norms, means.. | 20 |
| e. Collection of institutions | 2 |
| f. Locality group | 5 |
| g. Individuality | 2 |
| 2. Presence of some common characteristic, other than area | |
| a. Self-sufficiency | 1 |
| b. Common life | 3 |
| c. Consciousness of kind | 5 |
| d. Possession of common ends, norms, mean.. | 5 |
| 3. Social system | 1 |
| 4. Individuality | 3 |
| 5. Totality of attitudes | 1 |
| 6. Process | 2 |
| B. Ecological Relationships | 3 |

**Figure 2: A Classification of Selected Community Definitions**
Source: Own Illustration Following Hillery 1955, p. 114

[1] The research on communities is in close relation with the research on social groups and many findings on social groups can be applied to communities as well whereby the special characteristics of communities have to be considered (e.g. Thiedecke 2000).

[2] For an overview of different research areas see Algesheimer (2004).

[3] On the first classification level Hillery (1955) distinguishes between a generic community and a rural community, whereas the second is of minor importance as it only covers 15 definitions and is therefore not considered further in the following work.

Based on this figure Hillery (1955, p. 115 ff.) constitutes four distinctive community characteristics that the majority of definitions focus on:

1. **Self-sufficiency:** Refers to a certain life of its own of the community and a closeness of the community. It serves as a differentiation to other groups
2. **Common life:** Emphasizes the aspect of common thinking and way of living and therefore the similarities between community members (Hillery 1955, p. 115, Wiesenfeld 1996, p. 339)
3. **Consciousness of kind:** Is made up of the intrinsic connection between the members, and the collective sense of difference from non-community members (Gusfield 1978). It is what Weber (1978) refers to as a shared sense of belonging, which is more than just a shared attitude or perceived similarity.
4. **Possession of common ends, norms, means:** Is in strong relation with the first two characteristics and implies according to Hillery (1955, p. 116) that community members have common goals, norms and interests as well as the means to achieve those.

Considering these characteristics, a community in general can be defined as "a network of social relations marked by mutuality and emotional bonds" (Bender 1978, p. 145). This definition explicitly does not mention geographic closeness although Hillery (1955) stated "area, common ties, and social interaction" as the characteristics referred to in most definitions. Similar to the classification of Hillery (1955), Bell and Newby (1974) as well identified "social interaction based on geographic area, self-sufficiency, common life, and possession of common ends, norms and means" as distinctive community characteristics. Geographic closeness is not mentioned in this definition by Bender (1978), as the importance of geography in the definition of a community changed In the beginning a community was marked by geographic closeness and was therefore more of a densely knit network linking people with shared values and a trusted, personal contact (Fischer et al. 1996, p. 178). This changed at the end of the 19$^{th}$ century. While until then many viewed communities as "sets of social relations among people" (Fischer et al. 1996, p. 179) the purpose then changed: it connected individuals out of more functional interests and needs such as to conduct transactions (Glynn 1986; Wilson 1990). This development was related to the urbanisation and industrialisation of society (Etzioni 1995, p. 137). The dissolution of traditional community forms continued throughout the 20$^{th}$ century when the individualisation of society in line with modernism and postmodernism further gained momentum. Individuals tried to realize self-expression through differentiation from others and to free themselves from all bonds (Cova 1997, p. 299). These developments led to a decline of a sense of community and thereby the importance of communities at the end of the twentieth century (Glynn 1986, p. 341). This decline was most prominently described by Putnam (1995; 2000) who examined the extent of civic engagement in the US and observed a decrease in participation at elections

und public events as well as adiminishing number of members in churches, unions, and sport clubs. Putnam (1995, p. 70) illustrates this on behalf of a bowling metaphor: more and more Americans bowl yet less Americans join bowling clubs. All of this is a sign for Putnam (1995) that social capital in the form of a sense of community and belonging in the American society declines.[4]

During the same time, other authors described the same phenomenon of a declining sense of community yet came to other conclusions. Moore et al. (1996) for example see tendencies to join new groups and therefore create alternative social arrangements. This is based on the fact that the individual feels alienated from society. Due to this "oversocialisation", the individual defines itself outside the typical social groups such as family, religion or local communities (Moore et al 1996, p. 167). Yet this "oversocialisation" leads to the creation of an empty self (Cushman 1990, p. 599 ff.). Inherent to this development is the search for new groups and alternative social arrangements (Moore et al. 1996, p. 167). Cova & Cova (2002) express a similar opinion. According to them, society nowadays is affected by extreme individualism but nevertheless tendencies for a "social re-composition" can be observable. This quest for a "social re-composition" (Cova & Cova 2002) results in the need to join new groups with a different purpose. These numerous "new" groups have bigger influence on its members than any other modern institution or authority (von Loewenfeld 2006, p. 28). The above discussion shows that although the negative developments in traditional community forms are agreed upon by the majority of the studies the implications might not necessarily be the same. While Putnam (1995) restricts his assumptions by focusing on "authentic" communities others see the emergence of alternative community forms and the reembedding of individual action in social coherences (Dollhausen & Wehner 2000, p. 78; Giddens 1990). This dissertation follows the latter notion and holds the view that the combination of traditional community values with individual needs enables a fruitful community development.

Especially the vast availability and increasing importance of the internet is seen as a unique chance to re-establish a sense of community (Uslaner 2000, p.62). Although Putnam (1995; 2000) expresses the opinion that the increasing use of technology in society destroys the sense of community, the believe that technological progress enables communities is widely held. "Rather than technology breaking down communities, communities themselves are evolving in meaning and spirit, in line with technologic and societal trends" (Obst et al. 2002, p. 99). Thereby especially due to the internet, the social costs for participation are very low (Wellman 2000). People learn very little about the social characteristics of the other members, thereby enabling contact between persons who have never met physically, are physically distant, and not bound into densely knit community structures (Wellman et al. 1996, p. 222).

[4] Putnam also refers to an increase in members of environmental organizations and the like but concludes that those are only "tertiary associations" (1995, p. 71) as they miss social interactions which are elementary characteristics of a community. According to Putnam social capital is "the invisible glue that holds society together – the social networks, norms and trust that enable groups of people to cooperate in pursuing shared objectives" (in: Kawachi et al. 1997, p. 57)

This means that a lot of ties are weak. The notion of weak ties is derived from studies by Granovetter (1973, 1983). He distinguishes between strong and weak ties. Thereby "the strength of a tie is a (probably linear) combination of the amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services which characterize the tie" (Granovetter 1973, p. 1361). According to the definition, weak ties are barely socially involved with each other and represent a low-density network of acquaintances (Granovetter 1983, pp. 201-202). In contrast to this, strong ties for example comprise close friends or similar individuals (Granovetter 1983, pp. 201-202). The importance of weak ties is therefore made up of the link they provide to members of different groups. Within those groups, strong ties prevail but weak ties serve as a bridge between different groups of strong ties (Granovetter 1973, p. 1376). In general weak ties grant people access to information and resources they will not find in their own circle of friends (Granovetter 1983, p. 209). Granovetter (1973) thereby implies that the value of a network - in the sense of information gathering and ideas generation - increases the less people are acquainted with each other. Furthermore one can even say that many connections within online communities do meet Granovetter's (1973) criteria for strong ties. They are frequent, intense, supportive, and companionable, therefore facilitating a long-term contact. As Hiltz and Turoff (1993) found out online community members regard other members of the community they seldom or never met in-person as their closest friends. Uslaner (2000, p. 62) goes even further and states that people using the internet are not isolated; they have further reaching social connections and "support networks".

Therefore technology, and especially communication technology such as the internet, does not prove to be an obstacle for spreading a sense of community but rather to be an enabler since place is no longer a prerequisite. The transformation from physical local communities to virtual global networks in recent years took place largely due to the internet. Due to these developments, communities nowadays attract individuals from a wide range of target groups and represent a relevant and big medium in which people have increasing faith. The new form of community thereby combines traditional community values with individual needs such as self-realisation as well as functional needs. Decisive for this new sense of community are shared interests, identification with the community and thereby creation of a social identity. Brands play a significant role in this perspective due to their strong potential for emotional attachment (Muniz & O'Guinn 2001).

Thereby these communities, which enable the combination of abstract online relations with real-word offline relations, will increasingly induce social capital (Blanchard & Horan 1998).[5] Figure 3 summarizes the community development described in this section. Yet the figure requires a refinement of the community definition mentioned before. This dissertation defines a community as a "social network of continuously interacting individuals, who influence each

[5] Social capital is "the invisible glue that holds society together – the social networks, norms and trust that enable groups of people to cooperate in pursuing shared objectives" (in: Kawachi et al. 1997, p. 57)

other within a specified timeframe and develop a sense of belonging. Thereby the social interaction between members is subject to a well-understood focus, such as a common goal, a shared identity, a common possession, or common interests" [translated by author] (Algesheimer 2004, p.64).

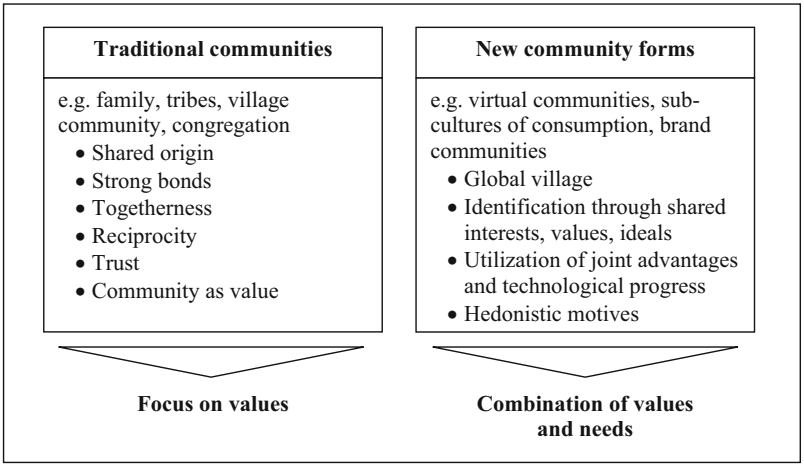


**Figure 3: Development of Communities**
Source: Own Illustration Following von Loewenfled 2006, p. 31

### 2.1.2 Types and Classification of Communities

Similar to the vast number of community definitions, a great variety of terms for different community types exists. Hypercommunities (Kozinets 2002a), subcultures of consumption (Schouten & McAlexander 1995), tribes (Maffesoli 1996), virtual communities (Rheingold 1993), brand communities (Muniz & O'Guinn 2001) are just a few of the terms. However, they often describe the same community phenomenon.

A number of varying community classification schemes exist. However, they mainly refer to traditional community forms and do not explicitly take into account the community development and the increasing importance of consumption communities as well as the increase of more and more spontaneous, diverse communities – real and virtual – accommodating individual expression that is more powerful and imaginative than ever before" (Plunkett & Wieners 1997, p. 21).[6] Therefore, von Loewenfeld (2006) recently

[6] Prominent classification schemes include the distinction of Hagel and Armstrong (1997) and Schubert (1999). Schubert (1999) developed a categorization scheme for virtual communities. The concept is based on two different perspectives - the underlying medium and the intended purpose. For the later Schubert presumes that the purpose is always based on shared interest. At a lower level she distinguishes further between recreational-, scientific-, and commercial-communities. These different community types can be assigned to the corresponding community types in the classification of Hagel and Armstrong (1997). According to Schubert her classification is therefore an enhancement and extension of the classification

developed a new classification scheme based on two dimensions. The first dimension is the "type of primary commonness" and refers to Cova's (2003) concept of micro social groupings.[7] On the first dimension von Loewenfeld (2006) distinguishes between three attributes as the basis for community membership:

- **Common origin** such as geographic closeness or kinship
- **Common (non-)physical characteristics** such as age, income, education, profession etc.
- **Common interests** such as consumption, brand etc.

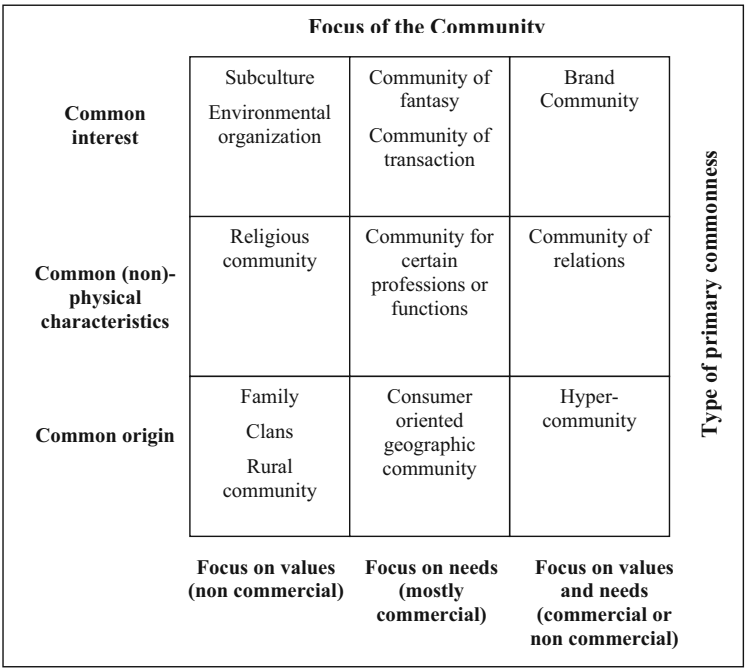


**Figure 4: Community Classification Scheme**
Source: Own Illustration Following von Loewenfeld 2006, p. 46

The second dimension is "focus of the community" and refers to the community development described above. This development is marked by three phases:

- **Focus on values:** First phase of traditional communities is marked by values. The community itself is of value. Important are trust and reciprocity.

scheme of Hagel and Armstrong (1997). Within the discussed community development and the emerging variety of community types the focus on the single category shared interest seems to be doubtful.

[7] The concept of von Loewenfeld (2006) is especially based on the first dimension "type of commonness" by Cova (2003). For more information on the concept by Cova see Cova (2003).

- **Focus on needs:** In the second phase due to technical progress, industrialization and social trends individual needs come to the fore. Community itself is not of value but seen as means to an end. Most often commercially oriented.
- **Focus on values and needs:** In the third phase the individual needs are recombined with values of traditional values. Community itself again is seen as a value.

These two dimensions are presented in a matrix, which integrates several community, types (see figure 4).[8]

Not all of them will be described in detail, as not all of them are relevant for the present paper.[9] Due to this, two important criteria will be explained before emphasis is placed on consumption communities, as they represent the most relevant community forms for firms and marketing purposes.[10]

Considering the degree of commercialism of a community it is striking that the origin of communities lies in non-commercial traditional communities such as families, clans, and village or religious communities. The newer forms of communities - based on community advancement and technological progress - are a result amongst others of market forces. This does not necessarily imply that those communities are of commercial origin. However this is often the case, as these newer community forms are based on shared interests and symbols. In many cases these shared interests are centred on a consumption activity, meaning that members of such a community place special emphasis on some type of consumption (e.g. food, drink) as part of a celebration, ritual, or tradition (McGrath et al. 1993). These communities have a very high influence on the buying behaviour of their members and are therefore of direct importance for firms. Consumption community serves as a collective term for a number of different community concepts such as consumption worlds (Holt 1995), consumption tribes (Maffesoli 1996), cultures of consumption (Kozinets 2001), subcultures of consumption (Schouten & McAlexander 1995), and brand communities (Muniz & O'Guinn 2001). According to Thompson and Troester (2002, p. 553) it is not possible to exactly separate the mentioned community types as all of them explicitly address consumer fragmentation. Nevertheless all of them have their distinctions and importance. In the following selective community forms will be presented, whereby especially the differentiation between subcultures of consumption and brand communities is important for the present work.

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[8] The range of community types integrated in the figure do not represent all existing community types but serves as an orientation and is based on von Loewenfeld (2006).

[9] The range of community types integrated in the figure does not represent all existing community types but serves as an orientation and is based on von Loewenfeld (2006).

[10] In general the time focus of the above described communities is fairly long-term. Nowadays also short-lived communities exist that form spontaneously and only survive a certain time. In combination with short lived communities Kozinets (2002a, p. 33) mentions tribes and communitas. For more information on communitas see Celsi et al, (1993) and for more information on tribes see Maffesoli (1996).

Subcultures of consumption are defined as "a distinctive subgroup of society that self-selects on the basis of a shared commitment to a particular product class, brand, or consumption activity" (Schouten & McAlexander 1995, p. 43). They are based on the idea that civilisations are heterogeneous and that certain characteristic for their division exists. Subcultures are thus "a network of meaning, styles, outlooks, and lifestyle practices that are uniquely expressive of a particular socioeconomic milieu" (Thompson & Troester 2002, p. 553). Subcultures of consumption differ from this generic subculture definition in the sense that the socio-economic position of their members are of no importance. The importance thereby is that the subculture differs from the prevailing culture in society.[11]

In contrast to this a brand community is centred around a branded good or service and less extreme as it normally does not rejects but integrates the prevailing culture in society (Muniz & O'Guinn 2001, p.412). The notion of brand communities was developed by Muniz and O'Guinn (2001, p. 412) who defined them as "a specialized, non-geographically bound community, based on a structured set of social relations among admirers of a brand". The important point here is that a branded good or service is at the centre of a brand community (Muniz & O'Guinn 2001, p. 412).12 As the notion of brand community is discussed in more detail in chapter 2.2 the comments on brand community are rather briefly held at that point.

In general the time focus of the above described communities is fairly long-term. Yet nowadays also **short-lived communities** exist that form spontaneously and only survive a certain time. Nevertheless they strongly influence the identity of its members. Kozinets (2002a, p.33) distinguishes between periodic communities, extraordinary experience communities, brandfests and virtual communities of consumption. In combination with short lived communities Kozinets (2002a, p. 33) also mentions tribes and communitas.[13] Thereby **neo-tribes** are "characterized by fluidity, occasional gatherings, and dispersal" (Maffesoli 1996, p. 76). Relevant is here that they are held together by consumption practice, although they constantly form, disperse and re-form as something new. According to Maffesoli (1996) this reflects the changing identities of post-modern consumers. In tribes and communitas Kozinets (2002a, p. 35) identifies a missing „caring and sharing" ideal significant in traditional communities. He therefore introduces the notion of hypercommunities which

[11] Similar with brand communities are the shared ethos, acculturation patterns and status hierarchies of a subculture of consumption, while they differ in the outsider status, degree of marginality and outlaw culture (Schouten & McAlexander 1995, p. 50).For those three reasons a subculture of consumption is more unusual than a brand community. Schouten and McAlexander (1995, p. 50) even describe the Harley Davidson brand as a religious icon for its subculture of consumption members. For a detailed description of characteristics of a subculture of consumption see Schouten and McAlexander (1995).

[12] Schau and Muniz (2002) identified four different relationships between individual identity and community membership: individual identity, super member, community membership as identity component and multiple memberships. Those relationships differ in the amount of individual identity derived out of community membership. For more information on the four relationships see Schau and Muniz (20029.

[13] A communitas connects individuals with a feeling of solidarity and togetherness based on a "shared ritual experience that transcends the mundance of everyday life" (Celsi et al, 1993, p. 12).

represent "well-organized, short-lived but caring and sharing community whose explicit attraction to participants is its promise of an intense but temporary community experience".

Moreover the emergence of online communities – a second criterion – led to an increasing recognition of the importance of communities by firms, as online communities are more often affected by commercial aspects than physical communities (e.g. Kozinets 2002b; Muniz & O'Guinn 2001; Cova & Pace 2006; Algesheimer 2005).[14] The original definition of an online community is derived from Rheingold (1993) According to him online communities are "social aggregations that emerge from the Net when enough people carry on those public discussions long enough, with sufficient human feeling, to form webs of personal relationships in cyberspace" (Rheingold 1993, p. 5).[15] The combination of online and offline seems to be decisive for the success of a community in the future.

Summarizing, one can say that especially consumption communities are of highest importance for firms, as they have a high influence on the buying behavior of their members. In the past, consumption oriented communities were in general started by private persons to share their opinions and experiences with like-minded others. Recently firms as well started to play a part in consumer-oriented communities and even created their "own" communities, which are then commercial in their nature.[16] Yet consumption community is only a collective term for a number of differing community concepts such as consumption worlds (Holt 1995), consumption tribes (Maffesoli 1996), cultures of consumption (Kozinets 2001), subcultures of consumption (Schouten & McAlexander 1995), and brand communities (Muniz & O'Guinn 2001).[17] Out of these, especially brand communities are relevant for the present thesis since they are exemplary for the new type of community emerging out of shared interests. In figure 3 brand communities are positioned in the top right corner. Their primary focus is a shared interest in a brand, so the focus lies on values and needs. In its nature, a brand community can be non-commercial or commercial depending on whether or not a brand community is initiated by a firm. Thereby the importance of brand communities – especially for firms – is increasing significantly as in today's society branded goods or services often serve as a shared interest. Furthermore, a brand community is less extreme than many other forms of consumption communities as it normally does not reject but integrate the prevailing culture in

[14] As the number of online communities is increasing and as this dissertation is focused on online communities, communities will be discussed with the focus being on communities taking place in virtual space. Beside the notion of online community also the terms virtual community or cyber community are frequently used. All three terms describe the same phenomenon and are used synonymously in this thesis.

[15] Besides this definition various others exist in literature, all with different principles or focuses. Weiber and Meyer (2000, p. 282) for example describe online communities as "a not radically structured, ego-centric network in the virtual room, where users interact in a multidimensional and topic centred way and therefore create the basis for a trustworthy communication"

[16] In this article the term consumer is used synonymously to the terms users and consumers as this thesis concentrates on the consumer goods sector. This terminology also includes the different states of former, actual or potential usage, purchase or consumption.

[17] According to Thompson and Troester (2002, p. 553) it is not possible to exactly separate the mentioned community types as all of them explicitly address consumer fragmentation. Nevertheless all of them have their distinctions and importance.

society (Muniz & O'Guinn 2001, p.412). Therefore brand communities will be discussed in the next section.

## 2.2 Brand Community – a Detailed View

In the following the above briefly explained and discussed brand community phenomenon will be examined in more detail. The reason being that the importance of brand communities – especially for firms – increased significantly over the last years and brand communities are exemplary for the new type of community explained in section 2.1.1. In order to do so an extension to the before mentioned brand community definition and characteristics will be given. This is followed by a short review of the most important community studies according to the author.

### 2.2.1 Definition

The notion of brand communities was developed by Muniz and O'Guinn (2001, p. 412). As described above it is defined as "a specialized, non-geographically bound community, based on a structured set of social relations among admirers of a brand". The important point here is that a branded good or service is at the centre of a brand community, yet they do not typically reject aspects of the surrounding culture's ideology (Muniz & O'Guinn 2001, pp. 412-414). This and the ubiquitous nature of brands are the reason brand communities may transcend geographical boundaries and include various consumer groups (Muniz & O'Guinn 2001, p. 415).

Brand communities are complex entities with their own cultures, rituals, traditions, and codes of behaviour (Schau & Muniz 2002, p. 344). Members of a brand community derive much of their personal identity from their participation and membership (Schau & Muniz 2002 pp. 344-345).[18] Therefore, brand communities play a vital role in the brand's ultimate legacy and are part of the brand's larger social construction (Muniz & O'Guinn 2001, p. 412). The intensity of the relationship between consumers and the brand community is built on different levels. "The more each relationship is internalized as part of the customer's life experience, the more the customer is integrated into the brand community and the more loyal the customer is in consuming the brand" (McAlexander et al. 2002, p.48). This connection is a core aspect of a brand community and follows Cova's (1997, p. 307) assertion that "the link is more important than the thing". Over time various types of relationships influencing the interaction between consumers and brand communities were identified. These relationships as well as the findings of current research on brand communities are described in the next section.

[18] Schau and Muniz (2002) identified four different relationships between individual identity and community membership: individual identity, super member, community membership as identity component and multiple memberships. Those relationships differ in the amount of individual identity derived out of community membership. For more information see Schau and Muniz (2002).

### 2.2.2 Brand Community Studies and Empirical Research

Although most scientists are no longer questioning the concept of brand communities and its relevance for firms and especially marketing purposes, the research on brand communities can be described in different phases (Cova & Pace 2006). In the beginning, descriptive studies tried to define the characteristics of such consumer groupings (e.g. Kozinets 2001; Muniz & O'Guinn 2001; McAlexander et al. 2002). Following this, an abundance of literature attested the relevance of brand communities. From then on, research appears to have gone in different directions. While some studies are concerned with differentiating between the neighbouring concepts of brand communities, subcultures of consumption and consumer tribes in order to clarify the object of study (e.g. Cova 2003), others were more concerned with the effects of brand communities on the brand itself.[19] The latter ranges from measuring effects that belonging to a brand community can have on company goals (Algesheimer et al. 2005; McAlexander et al. 2003; von Loewenfeld 2006) to the recommendation of some scientists for firms to create an "own" brand community or leverage the existing community landscape (Cova & Cova 2002; Atkin 2004). Following is an overview of more relevant studies of the different phases - according to the author.

**Muniz & O'Guinn (2001)**

The study of **Muniz & O'Guinn (2001)** marks the advent of the brand community concept. Following a descriptive approach, they introduced a brand community definition, verified the existence of brand communities, worked out the characteristics, processes and special characteristics of brand communities and integrated them in sociological- and consumer-oriented literature. In their study, Muniz & O'Guinn (2001) identified three distinctive community characteristics, which follow the community characteristics described in section 2.1.1. For each of those characteristics Muniz & O'Guinn (2001) identified brand community specific aspects.

**Consciousness of kind** is made up of the intrinsic connection between the members, and the collective sense of difference from non-community members (Gusfield 1978). In a brand communist members differentiate between true members and those who are not (Muniz & O'Guinn 2001, p. 419).[20] Besides this legitimacy oppositional brand loyalty serves to delineate the meaning of the brand (Muniz & O'Guinn 2001, pp. 420-421). [21]

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[19] The discussion on proposed differentiation between the neighbouring concepts is mainly french dominated. For anglo-american scientists this distinction is of less importance. Section 2.1.2 of this work already dealt with the different concepts. This and the fact that this work is more concerned with the implications of such consumer groupings requires no further analysis of the differentiation between the concepts. For more information on this discussion see for example Cova (2003), Solomon (2003), Thompson & Troester (2002).

[20] In order to identify different brand community aspects of the general community characteristics Muniz and O'Guinn (2001) examined three brand communities in an American Midwestern Town via ethnographic and computer mediated environment data. For more information see Muniz and O'Guinn (2001).

[21] For more information see also Maffesoli's (1996) description of the importance of the other in community formation.

**Shared rituals and traditions** represent the second community component. They are the central social processes within a community that help to maintain and transmit the brand community's shared history, culture, and consciousness. In a brand community they are normally centred on shared experiences with the brand. Thereby especially the celebration of the history of the brand and sharing brand stories are decisive. The first component serves as a differentiator between true believers of a brand and the more opportunistic user (Muniz & O'Guinn 2001, p. 420). Sharing brand stories is a powerful tool of representing and preserving the culture in all communities. It reinforces consciousness of kind between brand community members and supports the feeling of being surrounded by like-minded people (Muniz & O'Guinn 2001, p. 423).

A **sense of moral responsibility**, the third community aspect, can be described as a felt sense of duty or obligation to the community and its individual members. It can be one of the main forces for collective action, especially in times of threat to the brand community and contributes to group cohesion (Muniz & O'Guinn 2001, p. 413). In the case of a brand community moral responsibility is decisive for integrating new members and retaining old members and in assisting in the "correct" use of the brand. Helping others is a very important community component and either means fixing problems where specialized knowledge is required or sharing information on brand-related resources (Muniz & O'Guinn 2001, p. 425).

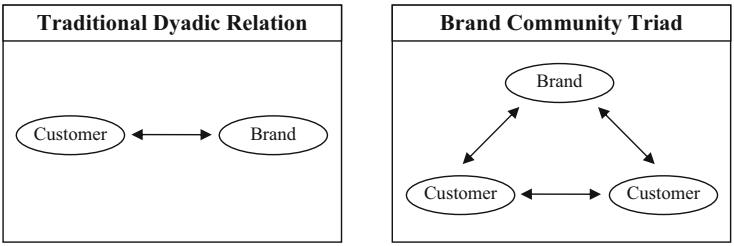


**Figure 5: Brand Community Triad vs. Traditional Dyadic Relation**
Source: Own Illustration Following McAlexander et al. 2002, p. 39

Based on those brand community specific characteristics they point out that members of a brand community feel an important connection to the brand, as it is the centre of the community, yet they feel an even stronger connection towards other members (Muniz & O'Guinn 2001; Schau & Muniz 2002). This connection is a core aspect of a brand community and is described as a triad relationship between customer-customer-brand and exceeds the classical dyadic relation between brand and customer (see figure 5).

Besides preparing the ground for further brand community studies and giving an insight into brand community characteristics, Muniz and O'Guinn (2001) highlight the influence brand communities can have on the value of a brand. Overall the study verifies three different aspects:

- Brand communities increase the influence of consumers in brand shaping (consumer empowerment).
- Brand communities represent an important information resource about the brand for consumers.
- Brand communities provide wider social benefits to its members through the interaction with other community members (Muniz & O'Guinn 2001, p. 426).

As the aim of the study was to develop a conceptual framework, Muniz and O'Guinn (2001) chose a qualitative research design that is well suited for this task. Nevertheless a quantitative prove of many findings is missing. Moreover Muniz and O'Guinn (2001) explicitly highlight the fact that a brand community is commercial in its nature as they form around brands and have a great influence on brand loyalty, brand equity and other company goals yet they solely observe privately organized non-commercial brand communities and do not consider brand communities initiated by a firm. Thereby firms can mainly influence those figures while creating their "own" brand communities.

**McAlexander et al. (2002)**

The study of **McAlexander et al. (2002)** further extended and refined the concept of brand communities yet still marks the first phase in the research on brand communities. In order to do so McAlexander et al. (2002) follow three different phases over a time period of eight years. In the first ethnographic phase they try to penetrate the brand community phenomenon by integrating themselves into the brand communities of Jeep and Harley-Davidson owner. Following this they conduct a quantitative study consisting of a structural equation model and longitudinal analysis based on the insights gained in phase 1. The long-term effects and implications of brand communities are again developed in phase 3 from an ethnographic perspective. Through this approach McAlexander et al. (2002) eliminate some points of criticism of the study of Muniz and O'Guinn (2001) as they for instance include a quantitative measurement of the postulated effects. In their analysis they can confirm all three community characteristics of the study by Muniz and O'Guinn (2001) – consciousness of kind, shared rituals and traditions, and a sense of moral responsibility. Despite this they refine and extend the brand community concept in some decisive points.

Firstly they base their customer centric model on the brand community triad by Muniz and O'Guinn (2001), they see the customer-customer-brand focus as correct yet not sufficient. According to McAlexander et al. (2002) this perspective does not consider the relations the customer has with the product and the company itself (Arnould & Price 1993; Belk 1988). They therefore propose a new perspective whereby the customer is at the centre of the brand community and the brand community intensity is made up of four relations between the customer and other customers, the brand, the product and the employees of the company.

Figure 6 compares the brand community triad concept by Muniz and O'Guinn (2001) with the customer centric model by McAlexander et al. (2002).

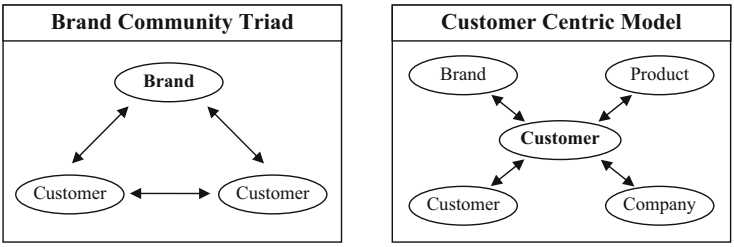


**Figure 6: Comparison of Brand Community Triad and Customer Centric Model**

As a second point McAlexander et al. (2002) describe a process of integration into a brand community Based on their customer centric model**.** Prerequisite for the membership in a brand community is a strong connection to a brand. In a next step brandfests can lead to an intensification of the relation not only with the brand but also with other customer. In addition, those "extraordinary consumption experiences" (McAlexander et al. 2002, p. 44) lead to a higher valuation for the product as well as the company organising such brandfests. The result is a network of relations with the customer in the centre as can be seen in figure 6. Thereby this network of relations ensures an integration of a customer into the brand community which is more intense, the more distinct each relation is. Based on those four relationships McAlexander et al. (2002) develop a first brand community scale as a third distinction. This allows the operationalization of an "Integration in the Brand Community" measurement. Last but not least McAlexander et al. (2002) enhance the brand community concept through a dynamic observation. This perspective enables a more detailed view on the complex construct of brand communities especially with respect to its geographic concentration, social context, and consistency.[22]

In addition to the findings by Muniz and O'Guinn (2001) McAlexander et al. (2002) in their study stress the fact that nowadays competitive advantages through product differentiation only exist for a very short time whereby if firms proactively create an environment where relations are fostered this leads to a stronger brand community integration and thereby long-term brand loyalty. According to McAlexander et al. (2002, p. 51) the main advantages of brand communities comprise amongst others:

- the appearance of members as brand missionaires through positive word-of-mouth,
- the lower brand switching motivation of members even if other brands have higher performance criteria,
- a strong market for licensing products and brand extensions,

[22] For a more detailed description of the differentiation in the dimension see McAlexander et al. (2002).

- the willingness of members for long-term investments in stocks of the brand,
- and the high emotional connection of members to the brand.

The study of McAlexander et al. (2002) provided valuable insights into the implications brand communities have for firms in general, and especially on the construct of brand loyalty which can be built up through the integration of customers in brand communities. Additionally, McAlexander et al. (2002) explicitly dealt with the possibilities firms have in dealing with and creating "own" brand communities and not only focused on non-commercial brand communities as Muniz and O'Guinn (2001) did. In that way they accommodate to the increasing involvement of firms in the phenomenon of brand communities. Thereby especially the dynamic perspective on brandfests and their implications prove to be valuable.

**Cova and Pace (2006)**

Following the more descriptive studies about brand communities, an abundance of studies dealt with the relevance brand communities have for firms (e.g. Kozinets 2002b; Belk & Tumbat 2005; Verona et al. 2006; von Loewenfeld 2006). Here, the majority of studies focused on emotional and cult brands where consumers have to make significant investments in time or money such as Ducati, Apple, Star Wars, and BMW. Based on this Cova and Pace (2006) analysed whether brand community management is also eligible for brands mainly offering convenience products to a mass market.[23] In order to examine this Cova and Pace (2006) observed a brand community initiated by the Ferrero Group – "my Nutella The Community".[24]Their study is therefore the first to cover brand communities for convenience products and tries to enhance the brand community phenomenon to mass-market convenience products (see figure 7). The figure is made up of two axles. The first measures the level of required investment to be made by the customer for the product – time and money wise, the second refers to the retail strategy pursued by the company. In general brand communities around emotional and cult brands can be found more in the upper left corner with a strong investment and a niche oriented retail strategy whereby brand communities around brands offering mass-market convenience products are located more in the lower right corner.

As in studies about brand communities around more emotional brands and products it turned out that members of the my Nutella community display a very lively passion for the Nutella brand. Yet the my Nutella community does not completely fulfil the brand community characteristics from Muniz and O'Guinn (2001) since the my Nutella community is more

[23] For more information on the different criteria a brand needs to fulfill see for example (von Loewenfeld 2006, p. 278 ff.).

[24] This brand community was mainly observed using online ethnography, or netnography, whereby the approach from Cova and Pace (2006) differ to the average netnography approach since they were not participants of the my Nutella community. Netnography refers to a methodology developed by Kozinets (2002b) and is the adaptation of ethnography to the Internet. This interpretative methodology uses according to Kozinets (2002b, p. 62) "the information publicly available in online forums to identify and understand the needs and decision influences of relevant online consumer groups". For more information on netnography see for example Kozinets (2002b).

focused on the self-expression of its members than on interaction with other members. Besides this, members of the my Nutella community only feel little moral obligation to be of assistance to other brand community members (Cova & Pace 2006, p. 1100). A reason for this could be that the my Nutella community did not foster the interaction between the members and that the Ferrero Group instead focused on enabling self-exposure.

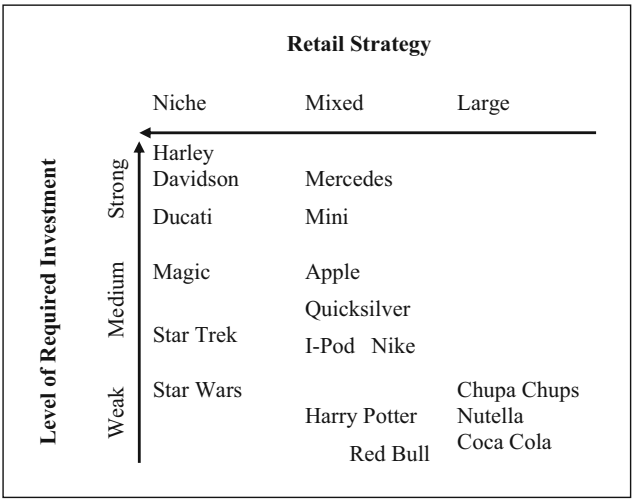


**Figure 7: Typology of Brand Communities for Different Brands**
Source: Cova & Pace 2006, p. 1091

Nevertheless one can say that even for mass-market convenience products, the phenomenon of brand communities and the relevance to the respective firms can be observed.[25] This extension of brand community research to mass-market convenience products is thus the major achievements of the study by Cova and Pace (2006). Despite this they enhance existing studies by focusing on online brand communities compared to real world brand communities and by mentioning critical points brand community specific characteristics can have for firms (Cova & Pace 2006; O'Guinn & Muniz 2005).[26] Nevertheless the study of Cova and Pace (2006) is missing a quantitative measurement of the observed characteristics of a convenience product brand community. Additionally it would be of interest whether the implications regarding self-exposure possibilities for members of a brand community centred around a mass-market convenience product would be the same when interaction functionalities such as

[25] This is the case, although those brand community characteristics appear in a slightly different occurrence. For more information see Cova and Pace (2006).

[26] Examples for such problems are for example oppositional brand loyalty, brand ownership, or marketplace legitimacy (Cova & Pace 2006, p. 1089). As the implication of brand communities for firms are discussed in more detail in section 2.4 the problems a brand community management can cause firms is not described further.

a forum would be available. It might be that interaction and encounters between brand community members then have a different effect.

**von Loewenfeld (2006)**

For the research on the effect of brand communities on company goals such as increased brand loyalty, the focus will be on a study by von Loewenfeld (2006). Yet also findings of other related studies from Algesheimer (2004), Algesheimer et al. (2006) are mentioned in the context as they examine a similar phenomenon and are intermingled with each other. The above mentioned studies are prominent examples of German authors. English and American authors examining brand loyalty include amongst others McAlexander et al. (2003) or Rosenbaum et al. (2005). The focus is thereby on the study by von Loewenfeld (2006) as it comprises most of the other findings and describes the effects and their measurement in great detail.

To analyse the success factors and the economic relevance of brand communities von Loewenfeld (2006) starts with the derivation of brand community specific characteristics. These characteristics are based on the three relationships of the brand community triad by Muniz and O'Guinn (2001) – customer-brand, customer-customer, customer-community – and comprises: [27]

- Brand communities are interest based and not geographically bounded
- Combination and acceptance of the existence of on- and offline brand communities
- Brand communities constitute an environment with a high identification potential (through all three different relationships levels)
- Unification of devotees, admirer and customer with a general interest in a brand through a brand community
- Social interaction as a constitutive element of brand communities
- Members of a brand community share a sense of belonging and social identity
- Brand communities combine traditional community values such as friendship, trust and reciprocity with individual needs such as self-realization, consumption or information gathering (von Loewenfeld 2006, pp. 128 f.).[28]

Out of the three different relationships and the described brand community characteristics von Loewenfeld (2006) develops a brand community quality index (see figure 8).

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[27] The relation between customer and brand subsidizes the relation customer-product and customer-firms proposed by McAlexander et al. (2002). This is done as the customer normally sees no significant difference between a brand, the firm and its product since "a brand is who a company is and what it does" (Crosby & Johnson 2003, p. 10).

[28] See description of community development in section 2.1.1.

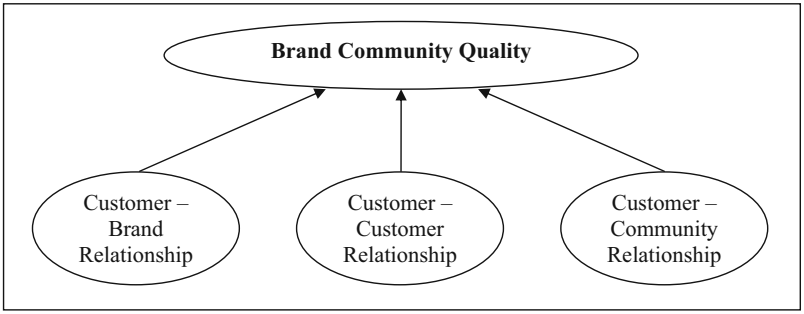


**Figure 8: Dimensions of the Brand Community Quality Construct**
Source: Own Illustration Following von Loewenfeld 2006, p. 146

The Brand Community Quality (BCQ) index measures the quality or the strength of a brand community. The three dimensions as well as the measurement of the different dimensions are based amongst others on the studies of Muniz and O'Guinn (2001) and McAlexander et al. (2002) mentioned before. In an extension to his Brand Community Quality construct von Loewenfeld (2006) adds a cognitive branch in the form of product quality to the more affective BCQ index in order to measure the economic relevance of brand communities.

In the empirical study von Loewenfeld (2006) examined different types of brand communities – firm initiated and private brand communities as well as brand communities with online and offline focus – whereby the majority of brand community are firm-established. It turned out that brand communities increase the loyalty to a brand and that the affective BCQ is even more responsible for creating word-of-mouth communication and a stronger brand loyalty than the more cognitive affected product quality. Comparing brand community members with non-members, it turned out that members of a brand community on average are more loyal to a brand. This finding was also confirmed by a recent study by Algesheimer & Dholakia (2006). In addition von Loewenfeld (2006) observed that through word-of-mouth recommendations - facilitated by brand communities - those communities can even lead to the acquisition of new customers for a brand.

Overall von Loewenfeld (2006) provides a very thorough and comprehensive study that presents a detailed BCQ index to measure the effects a brand community has on economic success factors of a firm. This index is then directly applied for a quantitative measurement of the proposed effects with various subjects of study. With his study he tries to implement brand communities as a concept for brand management. In order to do this he combines a theoretical foundation of the brand community phenomenon and the derivation of special brand community characteristics with a thorough empirical research on success factors and the economic relevance of brand communities. However, the empirical research of von Loewenfeld (2006) is based on a static design meaning that he did not conduct a longitudinal study such as Muniz and O'Guinn (2001) or McAlexander et al. (2002). Therefore he did not

observe any variation over time of brand community membership on brand loyalty and word-of-mouth communication. Although this is explicitly mentioned by von Loewenfeld (2006, p. 292) a study is still missing that directly measures the effect a membership in a firm-established brand community has on brand loyalty, meaning whether the loyalty of brand community members increases with the time of membership and brand community existence.

**Summary**

As a summary one can note that these studies represent perspectives on the brand community phenomenon and illustrate different phases of the research on brand communities. Conceptually, especially Muniz and O'Guinn (2001) provided valuable input as they present the most comprehensive description of brand community characteristics. Besides confirming most of Muniz and O'Guinn (2001) findings, McAlexander et al. (2002) additionally provide a first index for the measurement of the "integration in the brand community" (IBC). Both provide different brand community models whereby McAlexander et al. (2002) extend the brand community triad by Muniz and O'Guinn (2001) with a customer centric model comprising additional relationships.[29] The study of Cova and Pace (2006) is representative of a host of studies on the relevance of brand communities (e.g. Kozinets 2002b; Belk & Tumbat 2005; Verona et al. 2006). Its importance lies in the fact that it proved the relevance of brand communities not only for emotional and cult brands as others had done - but extended the brand community concept to the field of mass-market convenience products. Von Loewenfeld (2006) and other studies finally revealed the implication for company goals. It thereby turned out that brand communities increase the loyalty to a brand and that the affective brand community quality can be even more responsible for creating word-of-mouth behaviour and a stronger brand loyalty than the more cognitive affected product quality. Out of this economic relevance von Loewenfeld (2006) proposed brand community as a concept for brand management. Additionally von Loewenfeld (2006) provided a detailed brand community quality index to measure the effects a brand community has on economic success factors.

Such studies are relevant for this thesis as they provide a comprehensive theoretical construct on brand communities, and establish verified positive correlations between brand communities and economic values such as loyalty and word-of-mouth. Furthermore through the development of brand community indices and possible items McAlexander et al. (2002) and especially von Loewenfeld (2006) provide valuable measurement for the empirical work of this dissertation. Still needed is research which measures the effect membership in a firm-established brand community has on brand loyalty, studying whether the loyalty of brand community members increases with the time of membership and brand community existence. An investigation into further possibilities and implications for firms deriving out of brand communities is also needed. To achieve this, section 2.2.3 analyses the implications of brand

[29] The present work thereby mainly follows the brand community triad model by Muniz and O'Guinn (2001) since the additional relationships mentioned by McAlexander et al. (2002) can be subsidized under the customer-brand relationship.

communities from a customer perspective with the help of interaction theories. Section 2.4 focuses on the company perspective.

### 2.2.3 Implications of Brand Communities for Consumers

In a most common sense communities represent a social network. In most cases and especially in the case of brand communities, this social network is associated with a certain purchase and consumption culture (Cova 1997). Purchase and consumption constitute a social act for consumers, which are marked by symbolic importance. Consumers display their self-perception through the purchase and consumption of a product. Therefore they choose those brands that deliver the preferred social environment pictures which are considered adequate (Kozinets 2001). This meaning of a brand is also referred to as the identification function (Meffert et al. 2002). A product purchase and consumption is therefore a way to experience self-realisation and self-identification. Together with a brand community, it enables collaborative self-awareness and self-reflection (Muniz & O'Guinn 2001, p. 415). The combination of individual self-realisation and collaborative self-awareness generates a sense of belonging and a sense of community – another function attributed to brands.[30] This way, a brand generates an added value on top of the functional benefit of a product. This added value through a common experience is intensified by a brand community. Not only a strong tie between consumer and brand but also the social aspect of consuming a brand plays an important role. As previously described, brand communities enable such social interaction and exchange processes among consumers but also with the manufacturer.[31] For an attempt to explain how this social aspect in form of social interaction is generated, interaction theories are helpful.

According to interaction theories, social networks such as brand communities exist because they enable interactions. Interactions refer to the mutual reference of two or more individuals. In its core, social interactions are marked by social action and communication sequences. It is therefore an individual behaviour aligning itself on assumed reactions of other persons (Wiswede 1998, p. 150). The motivation for social interaction comprise the achievement of individual goals, the removal of stress conditions, social processes of comparison in order to classify the own opinion, skills or feelings, as well as attractiveness and sympathy (Wiswede 1998, p. 150 f.). As a wide variety of interpretations of the term identification exists, there is no single "interaction theory". This is more a collective term for various theoretical approaches (Wiswede 2000, p. 59ff.). These include exchange theories and group theories.[32]

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[30] At this point no detailed listing and explanation of the functions a brand has for a consumer is given since not all of them are relevant from a brand community perspective. For a thorough analysis of the various functions a brand can serve see for example Meffert et al. (2002) or Zimmermann et al. (2001).

[31] It is referred to in the consumer-consumer and consumer-community relationship in the brand community triad model by Muniz and O'Guinn (2001).

[32] For a detailed discussion of various identification theories see for example Wiswede (2000) or Balasubramanian and Mahajan (2000).

**Exchange theories** are based on the idea that social interaction can be interpreted as the exchange of rewards (benefits) and punishment (costs). According to Thibaut and Kelley (1986), individuals tend to achieve incentive-contribution equilibrium in social exchange processes. Individuals choose those behaviour patterns that yield the highest anticipated net benefit in a specific situation. Benefits comprise all bonuses and gratification a person receives through the participation in an interaction. This explicitly includes psychological and symbolic rewards and does not solely focus on monetary aspects. Psychological and symbolic rewards in particular constitute an area where the characteristics and implications of brand communities can play an important role for its members. In contrast, costs include all factors which delay or hinder the execution of an activity, as well as all negative consequences of an interaction (Athenstaedt et al. 2002, p. 63 f.).[33] The evaluation of the results from an interaction is always based on individual comparison criterion and available alternatives. Therefore benefits, costs and the comparison level determine the satisfaction with a relation. This implies that behavioural patterns which are rewarded by a specific interaction partner occur more often whereas those that are punished are avoided. Only a benefit cost relation which is satisfactory for all interaction partners secures a long-term interaction. This seems to be the case in many brand communities as they are normally long-term oriented and no transient phenomenon. [34]

Summarizing one can say that exchange theories, although more focussed on the individual itself, provide valuable insights why individuals engage in interactions and at what point brand communities can influence this. To enhance the picture group theories will be analysed as well since they focus more on (consumption relevant) group influences.

**Group theories** deal with interactions in groups. According to these theories individuals adapt to group opinion and group behaviour as well as group rules and norms through interaction. Various theories observe the normative influence groups have on individual behaviour patterns. One central theory is Festingers (1950) theory of informal communication: an individual behaves according to the normative influence of the group if the "expected amplification balance for compliant behaviour is greater than the corresponding for alternative behaviour [translation by author]" (Wiswede 2000, p. 103). The expected amplification balance is influenced by already internalised norms, strong social motives, the degree of necessity to comply with norms in order to achieve a goal and the anticipated social sanctions (Algesheimer 2004, p. 108). Reference groups can therefore influence an individual. Thus members adapt their behaviour pattern, attitude, and opinion according to those of other

[33] Although a constitutional element of exchange theories costs and benefits of an interaction have never been thoroughly defined – which is one of the major points of criticism of this theory. Nevertheless the theory gives an idea as to what kind of costs and benefits exist in an interaction and is therefore helpful for the present work. For more information on critical discussion on exchange theories see for example Sabatelli and Shehan (1993) or Heath (1976).

[34] This description of exchange theories was held rather briefly since they only served to illustrate why members of a brand community engage in interactions and what the resulting implications are. For a more detailed description of exchange theories see for example Thibaut and Kelley (1986) or Wiswede (2000).

members – in the case of brand communities mainly the brand behaviour of individuals. Conformity within a group is achieved through the cost benefit analysis from the exchange theories explained above. Yet in order for those effects to work, an individual has to start the interaction with a group or, in this case, with a brand community. In this sense, interaction with a group – e.g. a brand community – is attractive for an individual if the group possesses reward sources which are important for the individual.[35] Rewards can be:

- Utilisation of the group to achieve individual goals
- Conjointness
- Social connection
- The feeling to accomplish more within the group
- Recognition and appreciation
- Social identity
- Validation of own thoughts through comparing processes
- Enduring difficult situations (Wiswede 2000, p. 85)

Combined with the cost-benefit analysis of the exchange theories, these points give a first general overview as to why people engage in groups and - more important for this thesis - in brand communities.

Additionally the analysis and discussion of prominent brand community studies in section 2.2.2 revealed more brand community specific implication. According to these studies, brand communities combine traditional community values such as friendship, trust, and reciprocity with individual needs such as self-realization, consumption or information gathering (von Loewenfeld 2006). These findings are based on the switch of consumer needs throughout the 19th and 20th century and the resulting implications on community development (see section 2.1.1). This includes the sharing of experience, solving problems, meeting like-minded individuals, exchanging common interests and building relationships based on trust and encouragement (McWilliam 2000). According to Muniz and O'Guinn (2001) the most important implications of brand communities for consumers are:

- Brand communities increase the influence of consumers in brand shaping (consumer empowerment).
- Brand communities represent an important information resource about the brand for consumers.

[35] This description of group theories was held rather briefly since they only served to illustrate why members of a brand community engage in group interactions and what the resulting implications are. For a more detailed description of group theories see for example Athenstaedt et al (2002 or Wiswede (2000).

- Brand communities provide wider social benefits to its members through the interaction with other community members. (Muniz & O'Guinn 2001)

These three points are of interest for firms as well. Part 2.4 deals with the implications of brand communities for firms based on the framework laid out so far. First however a discussion of the intermediate results.

## 2.3 Intermediate Results

The preceding sections show that communities represent a phenomenon, which has been analysed for a long time and is generally considered to be of great importance. Although negative developments in traditional community forms occurred and led to a decline of a sense of community, this development also spurred the emergence of alternative community forms and the re-embedding of individual action in social coherences (Dollhausen & Wehner 2000, p. 78; Giddens 1990). Thereby technology and especially communication technology such as the internet proved to be an enabler since place is no longer a prerequisite. Thus particularly those communities which enable the combination of abstract online relations with real-word offline relations will increasingly induce social capital (Blanchard & Horan 1998, p. 305). The re-emergence of a new form of community thereby combines traditional community values with individual needs such as self-realisation as well as functional needs. This combination of traditional community values with individual needs as well as the mixture of online and offline relations enable a fruitful community development. Decisive for this new sense of community is the existence of shared interests, identification with the community and thereby creation of a social identity. Brands can play a significant role in this perspective as people nowadays derive much of their personal identity from brands and are emotionally attached to brands. Brands therefore often constitute a shared interest. In many cases this shared interest in a brand is strong enough for a brand community. It is estimated that around 80 million people are worldwide active in brand communities whereby this number is constantly increasing (Algesheimer et al. 2006, p. 933). People join brand communities, as brand communities increase the influence of consumers in brand shaping (consumer empowerment), represent an important information resource about the brand, and provide wider social benefits to its members through the interaction with other community members and the brand itself.

So far this thesis dealt with the implications of brand communities for consumers. Yet brand communities also have huge effects on firms. On the one hand, there is the re-empowerment of consumers through the creation of brand communities, leading to a more equal power of balance between these brand communities and the firms managing the underlying brands (O'Guinn & Muniz 2005).[36] The internet in particular enabled the emergence of consumer

[36] Thereby consumer empowerment has been defined as letting consumers control variables previously determined by marketers (Wathieu et al. 2002).

groupings, which are more active, participative, resistant, militant, playful, and social than ever before (Kozinets 1999). This re-empowerment can lead to brand community specific problems for firms such as opposition to other brands, definition of who is a legitimate customer of the brand, desired marginality of brand community by its members, and claim of ownership on the brand by the brand community (Muniz & O'Guinn 2005).

On the other hand, an abundance of reasons for firms to engage in brand communities exist. This interest in general arises from the fact that members of a brand community influence each other in their brand and product selection. Differentiation through product features now exist for a short time only whereas the social capital and differentiation derived out of a brand community membership serves as a long-term added-value compared to competitors therefore inducing loyalty to a brand (e.g. Algesheimer 2004, p. 110). The brand loyalty effects of brand communities are thereby mainly due to the fast diffusion of knowledge about, and experience with, products and brands. These exchanges of opinions then influence the product and brand selection of other members (McAlexander et al. 2002, S. 40 ff.). This fast diffusion of experience and knowledge enables passionate customers to exchange product-related information as well as to assist each other in problem-solving processes. The shared passion of certain consumers for a cult brand translates via various collective learning systems into expertise and competencies, thereby imbuing online tribes with increasing amounts of production and marketing legitimacy (Muniz & Schau 2007; O'Guinn & Muniz 2005). Brand community members discuss frequently even opportunities for new product ideas and improvements relevant for firms. A large body of empirical research showed that the integration of customers in product development processes is attractive for firms even though this integration is time-consuming and costly (e.g. Urban & von Hippel 1988; Herstatt and von Hippel 1992; Lilien et al. 2002). Recently economic research in innovation management dealt not only with the effectiveness and the determinants of a successful customer integration but also with the ways to integrate customers with the help of the internet in general (e.g. Herstatt 1991; Luethje 2000; von Hippel 2002; Prandelli et al. 2006) and especially communities (Linder et al. 2003; Hall & Graham 2004; Fueller et al. 2005; Sahwney et al. 2005; Pruegl & Schreier 2006; Verona et al. 2006). The existence of brand communities has the potential to reduce these costs even further, as brand communities not only provide firms with a pool of suitable and highly motivated customers to choose from (Bartl et al. 2003), but also allow them to tap the social knowledge of a large number of customers in an efficient and effective way (Duray 2002; Sawhney et al. 2005). Brand communities enable the permanent installation of a place where customer-firm interaction can take place in real time and at low costs. This increased involvement of firm-established brand community members in turn increases the involvement of the members with the brand, the product and the brand community and hence their brand loyalty and word-of-mouth communication.

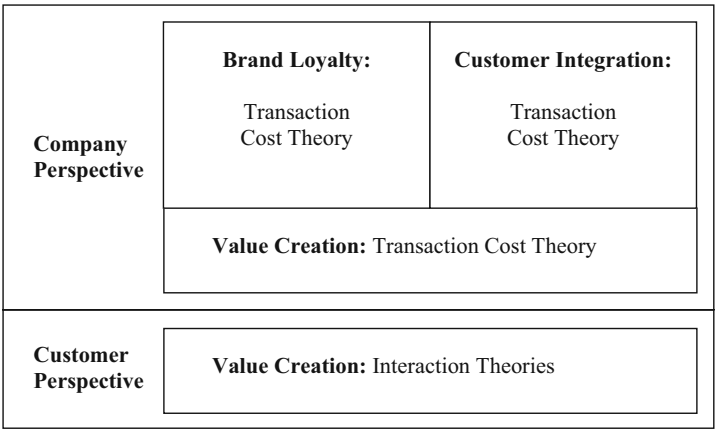


**Figure 9: Theoretical Framework for Brand Community Analysis**

In order to investigate the benefit for firms arising from a brand community engagement, the implications of brand communities for firms are described more thoroughly in the following sections. Thereby the overall implications for firms resulting from brand communities will be described first with the help of the transaction theory before two important aspects – brand loyalty and customer integration – are discussed in more detail (see figure 9).

## 2.4 Implications of Brand Communities for Firms

As shown above, brand communities play a major role for companies. To enhance the existing findings on brand communities, the specific implications of brand communities for firms regarding brand loyalty and customer integration and the general implications follow. An analysis with the help of the transaction cost theory seems useful. Although rather uncommon, this approach gives a broader view on the phenomenon. Since brand communities – especially if they appear online – can be regarded as a new form of communication among customers as well as between customers and firms, they have significant effects on the diffusion of information and the transaction costs arising. This theory seems therefore rather promising, since it enables the analysis of the implication of this new means of communication on relationships among customers, and especially between customers and firms. Additionally the transaction cost theory is applied frequently in the area of new means of communication in general. In doing so the general implications of brand communities for firms are explained with the help of the transaction cost theory for a start, before the two prevailing effects - brand loyalty and customer integration - are examined in more detail.

### 2.4.1 Theoretical Framework

The transaction cost theory was introduced by Coase (1937) and Williamson (1975; 1979) and deals with the monetary costs resulting from a transaction, therewith explaining the existence of organisational forms (Kraekel 1999, p. 5). The object of investigation is the individual transaction occurring in diverse exchange relationships between specified partners. Customers are increasingly regarded as partners for firms in literature (e.g. Piller et al. 2004), and the interaction between customers and firms is marked by information exchange and therefore transaction costs. In the following, the fundamental components of the transaction cost theory are explained briefly, so that the brand community implications can be subsequently embedded in this theoretical base.

Although the **transaction** term is used rather frequently, no generally accepted definition exists. According to Williamson (1985, p. 1) a transaction occurs "when a good or service is transferred across a technologically separable interface". In this definition, the transfer of property rights inherent to the exchange of products or services is disregarded.[37] Commons (1931, p. 652) already regarded a transaction as a “unit of activity” and therefore as more than the pure physical exchange of goods and services. This is important for the present thesis, since most interactions between customers and firms go beyond physical product deliveries and are more concerned with the exchange of immaterial information and experiences. This is taken into account by Halin (1995, p. 37), according to whom "a transaction is the exchange of goods and services, including property rights attached to individual goods and services. Therefore, a transaction is a process comprising one or more activities for clarifying, arranging, and performing exchange relationships with economical, legal, and social consequences." In this extended definition, a transaction is not only marked by the physical exchange of goods and services between separate market participants, but also the transfer of immaterial knowledge and information (e.g. Halin 1995, p. 34).[38]

In each transaction not only property rights are transferred but also **transaction costs** arise. These transaction costs occur in the:

- Initiation
- Agreement
- Handling
- Controlling
- And adjustment of transactions (Picot et al. 2002, p. 68).

The transaction cost theory deals with the production costs for the creation of the exchangeable good and the transaction costs arising during the handling and organisation of the exchange (Williamson 1985, p. 22). The production costs comprise the resources

[37] Picot (1982, p. 270) criticizes, that Williamson did not achieve to develop a generally accepted transaction definition, although he acknowledges the approach as such.

[38] In the following this transaction definition is used for further describing the transaction cost theory.

necessary for the institution and the production of the good or service, whereas the transaction costs comprehend the resources for the information, agreement, steering, and controlling of the exchange. Furthermore the transaction cost theory distinguishes between ex ante and ex post transaction costs (Williamson 1985). The first include the costs occurring up to the conclusion of a contract, which are mainly the information, negotiation, and contract costs. On the contrary the ex post transaction costs are made up of the costs for the coverage, enforcement, and possible adjustment of the contract. The transaction theory thus deals with two dimensions – the legal types of contracts and the mechanisms and sanctions available to the transaction partners (Williamson 1975). The economical use of resources serves as the efficiency criterion of the transaction cost theory. Based on this, a comparison of the costs for various institutional forms for the handling and organisation of transactions is possible, the resulting costs serving as the decision criterion.[39] In doing so the institutional form, which has the lowest transactions costs for maximizing a given target under given circumstances, is seen as the optimum (Williamson 1989, p. 136).

In determining the optimum institutional form, one has to consider that the level of transaction costs itself is influenced by a number of factors. They can be classified according to three dimensions: assumptions on the behaviour, transaction characteristics, and transaction cost atmosphere (see figure 10). Through the interplay of human factors with surrounding conditions transaction cost arise (Halin 1995, p. 49; Gruner 1997, p. 47).[40] The transaction cost atmosphere is thereby coined by socio-cultural and technological factors, whereas the behavioural assumptions refer to the transaction partners itself and the characteristics of the transaction (Williamson 1975, p. 37).[41]

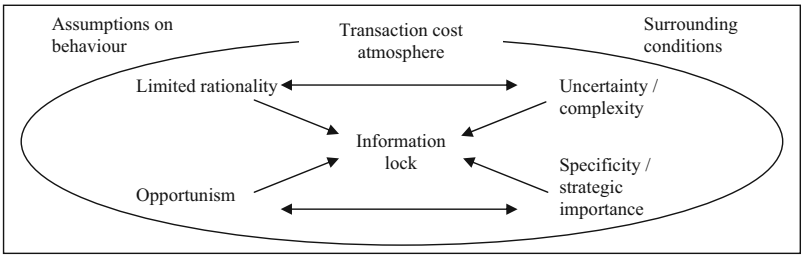


**Figure 10: Factors Influencing Transaction Costs**
Source: Picot et al. 2002 p. 69, Williamson 1975, p. 40

[39] While Coase (1937) was more concerned with explaining the existence and permanence of firms with the help of the transaction cost theory, Williamson enhanced the theory with analysing efficient coordination forms for different tasks (e.g. Williamson 1975; 1979; 1985; 1989; 1990; 1991a; 1991b). Williamson (1989) distinguishes thereby between the two extremes market and hierarchy, which mark the end points of a continuum of institutional forms – so called hybrid forms. Based on this Williamson (1989) and Picot (1982) examined which institutional form is optimal under given circumstances, whereby the transaction costs serve as decision criteria.

[40] In the following mainly surrounding conditions and the implications brand communities have on these will be discussed, as the other factors are not overly relevant for the present work. For more information on the other factors see for example Williamson (1979, 1990, 1991).

[41] For more information on the transaction cost atmosphere see Williamson (1979, 1990, 1991).

Starting with the surrounding conditions, it can be noted that new means of communication influenced the technical possibilities available to a firm. Besides this change in the technological environmental, socio-cultural changes took place in recent years.[42] The emerging new sense of community as well as the active role of customers led to a shift in the socio-cultural environment, resulting in a reduction of transaction costs. This is the case as it becomes more attractive for firms to interact with customers due to enhanced technical capabilities as well as the increased desire of customers to interact with firms. The new sense of community is one of the drivers for the enhanced desire for customers to interact with firms. Those two effects – the change in the technical as well as the socio-cultural surroundings of a firm – are combined in the phenomenon of online brand communities, which therefore have significant implications for firms.

The information costs arising during a transaction are mostly affected by the changing surrounding conditions in the form of new means of communication. As mentioned above information costs are mainly important before the agreement on a transaction is achieved. In that way transaction costs arise in the form of information costs and initiation costs for providers as well as for consumers (see figure 11).

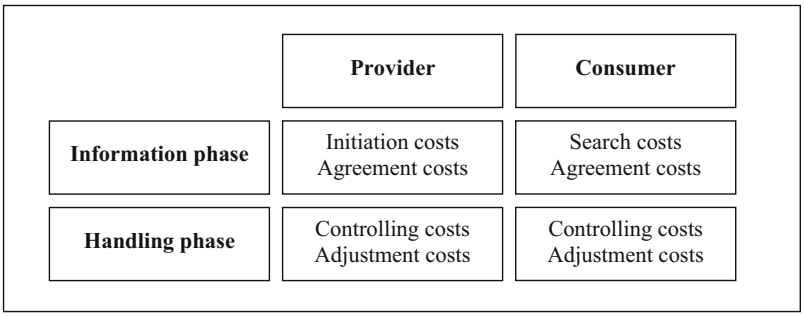


**Figure 11: Different Phases and Costs during a Transaction**
Source: Own Illustration Following Zerdick et al. 2001, p. 40

In general the **information demand** depends on the net benefit the information will provide to the transaction partner. The intensity of the information search is thereby influenced by different factors. The transaction partner for instance has to decide:

- Whether he invests the time to actively search for information or to spend time on another activity.
- Furthermore he simultaneously has to decide which information channel he is willing to use if he decides to invest time in the information search (Bruhn 1997)

[42] For a discussion of the impact of new communication technologies on surrounding conditions see for example (Picot et al. 2005).

The emergence of the internet and new means of communication simplified the access to information. Yet with the increase in the quantity of information, the quality of information becomes more important since consumers and transaction partners are suddenly confronted with a sheer endless amount of information. This surplus of information leads to confusion along three lines. In the case of consumers these consist of:

- attribute-based information - information overload about specific product features (Huffman and Kahn 1998)
- alternative-based information - information overload about product alternatives (Gigerenzer 2000; Huffman and Kahn 1998)
- information correctness - unbiased information which indicates false information about products & services (Kucuk & Krishnamurthy 2007)

Consumers turn to information sources they trust and where they expect unbiased, authentic information and recommendations. In many cases, these sources are online brand communities and their members. Due to new means of communication, where online brand communities belong to, consumers can easily access more accurate, up-to-date information about products, companies, and legal regulations from a vast variety of sources than before. Knowledge that has been long restricted to a few consumers can now be exposed with the help of online brand communities. In that way online brand communities are conducting tasks usually performed by firms, making them even more powerful (Krishnamurthy 2001). This leads to the fact that more consumers are able make better decisions (Gigerenzer 2000; Gladwell 2005; Huffman and Kahn 1998).

Before, only consumers, who had access to specialized information sources were well informed (Feick & Price 1987). With the rise of the internet, this changed and more consumers are empowered by more extensive information. In their study, Kucuk and Krishnamurthy (2007) argue that the internet influenced the power between firms and consumers in four dimensions: technologic, economic, social and legal (see figure 12). Especially the social dimension as a source of consumer empowerment is important for the present thesis since consumers can now easily access social networks, experts and communities. Not only is the voice of the consumer stronger than ever before but it is also enhanced by the possibility to combine it with others. Knowledge that was long restricted to a few consumers is now available especially with the help of online brand communities (Krishnamurthy 2001).

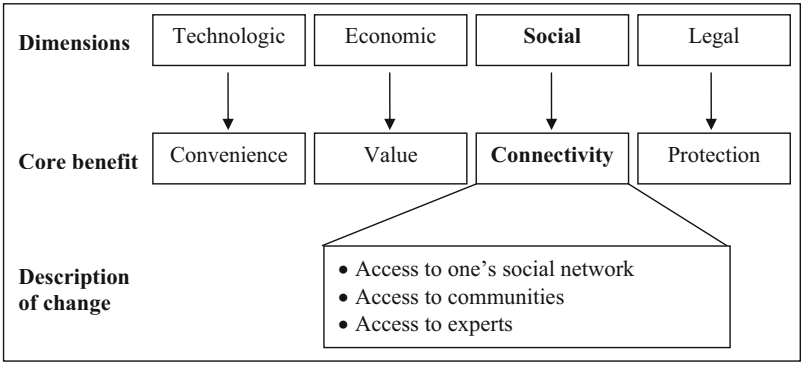


**Figure 12: Sources of Consumer Empowerment**
Source: Own Illustration Following Kucuk & Krishnamurthy 2007, p. 48

In the framework of the transaction cost theory this implies that the transaction costs of information sharing between customers decreased significantly due to new means of communication. Consumers can now access an enormous amount of filtered and authentic information about products and services from a variety of trusted sources such as brand communities. This information contributes to the economic power of the consumer and diminishes the power of the firm. This shift of information asymmetry in the sense of the transaction cost theory implies a new customer role, and a transition of the firm. The boundaries of a firm to its environment are blurred. The new communication technologies and possibilities, increase competition for and among firms and require companies to consider customers and customer groupings with their individual needs and requirements.[43] Whichever role the customer takes, it is necessary for firms to integrate customers deeper into their value-added processes and build long-lasting relationships with them. If they do not engage in such activities, the reduced information asymmetry increases the consumer's ability to switch brands, thereby forcing firms to compete and lower the price premium. If, on the contrary, consumers are brand loyal due to a brand community membership, they are more information insensitive, focus less on the price and value the social benefit a brand community can provide.

Besides empowering consumers, new communication technologies enable firms to intensify customer firm interaction and integrate customers deeper in value-added processes. Since customers should be viewed as partners, a stronger cooperation- and relationship- orientation of the firm is necessary, which previously would have implied high transaction costs. New communication technologies simplify the information exchange between transaction partners

[43] For a description of the different roles of a consumer due to new means of communication see for example Picot et al. (2005 p. 461). For the present work the role of the customer is thereby viewed from an end consumer perspective since the phenomenon of brand communities in the context of business to consumer is examined.

and thereby reduce transaction costs (Dellaert & Syam 2002; Duray 2002). In the case of online brand communities, reasons for this reduction of transaction costs comprise:

- The communication in a common language combined with an atmosphere of trust created through the close cooperation and interaction in a brand community (Ouchi 1980).
- The building of long lasting relationship resulting in reciprocal dependency between customers and firms (Picot et al. 2005).
- The reduction of opportunistic behaviour since brand community members exert social control over other members (Donaldson 1990).
- The fostering of social interactions and social skills needed for interpersonal cooperation, due to a new sense of community (Brand 1990, pp. 154-155).

All of this can lead to the fact that social mechanism might be more cost-effective in preventing opportunism than the postulated economic mechanism by Williamson, meaning that fewer costs arise for the initiation, agreement, and control of the exchange relationship between customers and firms.[44]

Summarizing one can say that initiated by changes in a firms technological environment as well as socio-cultural changes reflected in a new sense of community, consumers have been empowered and firms are forced yet also enabled to intensify their interaction with customers due to diminishing information sharing costs. In that respect brand communities and especially online brand communities may serve as an efficient and effective way to achieve this by lowering the transaction costs normally associated with such processes. The reasons related to general transaction costs were explained above. Within these general implications the more intense interaction and integration of consumers has two important implications for firms. The first is that brand loyalty is more necessary and more cost efficient to achieve than ever before. The second is that brand communities are a cost efficient tool to cooperate with innovative customers (Dellaert & Syam 2002; Duray 2002). These two effects are discussed in more detail in the next sections.

### 2.4.2 Brand Loyalty

The importance of customer loyalty to a brand has been agreed upon in theory as well as in practice, since it constitutes a key measurement for firms. The reason being that it is a central variable for the economic success of a firm. Several empirical studies support the effect customer loyalty has on future sales, revenue, and profit of a firm (Cornelsen 2003, pp. 643 ff.). Brand loyalty itself is often referred to as being part of the concept of customer retention

[44] In order to overcome such shortcomings it is besides others possible to increase the number of variables (Ouchi 1980), to integrate opportunism as a variable, or to explicitly take the influence of the surrounding environment into account (Williamson 1991).

– especially if viewed from a customer centric perspective - whereby customer retention is the superordinate concept since it is more comprehensive.[45]

In a customer centric perspective customer retention is made up of a desired behaviour on the one hand and observable behaviour on the other hand. Homburg and Faßnacht (1998) distinguish between actual buying as well as recommendation behaviour as part of observable behaviour and intended repurchase as well as recommendation as part of desired behaviour (see figure 13).

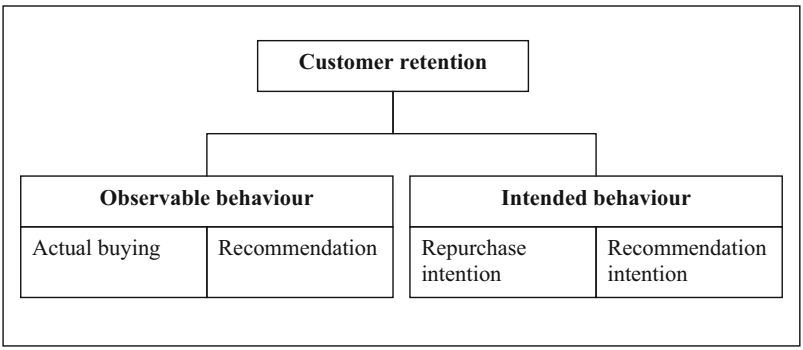


**Figure 13: Different Aspects of Customer Retention**
Source: Own Illustration Following Homburg & Faßnacht 1998

Yet different opinions exist as to whether desired (Bloemer & Kasper 1995) or observable behaviour (Anderson & Sullivan 1993; Fornell 1992) is necessary to describe loyalty. Jacoby and Chestnut (1978) for example point out that the actual repurchase cannot always be interpreted as high loyalty since often the situative circumstances predict the repurchase of a brand. Accordingly, not the actual behaviour but the preferences or intentions for a repurchase play a decisive role in predicting loyalty (Bloemer & Kasper 1995). This is in line with findings by Oliver (1999), who identified three prerequisites for loyalty to a brand, which also refer to intended behaviours. These prerequisites constitute preferring the brand compared to competing brands on the cognitive level as well as on an affective level, and the intention of a consumer to buy a certain brand out of alternative brands on the conative level.[46] Different perspectives exist as to how brand loyalty is achieved. The predominant view in the past was that customer satisfaction leads to brand loyalty (Homburg et al. 2003). Yet recently a

[45] In comparison to the customer centric perspective also a firm centric perspective of customer retention exists which refers more to the measures a firm can take in order to maintain long-term relationships with their customers (Siems 2003). One example would be the initiation of a firm-established brand community. As the present work is more concerned with the effect such a measure has for a firm only the customer centric perspective is referred to. For more information on the firm centric perspective see for example Homburg & Bruhn (2000) or Siems (2003).

[46] Based on those findings the present work also focuses on intended behaviour for describing loyalty and furthermore focuses on brand loyalty as this is decisive for the object of investigation – firm-established brand communities.

growing body of research indicates that loyalty is built in more complex and dynamic ways than just in the classical satisfaction leads to loyalty model (Fournier 1998; Oliver 1999). Other indicators such as involvement, trust, or commitment were identified as influencing loyalty (Oliver 1999; Berry 1995; Garbarino & Johnson 1999). In that respect trust is seen as one of the constitutive elements of a successful and positive relationship between brand and customers, especially in times of high uncertainty and increased competition (Delgado-Ballester 2002, p. 4). As Garbarino and Johnson (1999) found out customer satisfaction only played a role in determining future behaviour in case of transaction oriented customers, whereas in the case of relationship oriented customers trust was the most significant factor. Similar to the before mentioned construct of trust, commitment is nowadays seen as an essential element of long term relationships as well (Garbarino & Johnson 1999; Morgan & Hunt 1994). Thereby commitment can be defined as an "enduring desire to maintain a valued relationship" (Moorman et al. 1992, p. 316). Similar to this construct is the notion of involvement. It measures the interest a consumer has in a brand as well as the relevance of the brand for the consumer. Thereby involvement always refers to an object (Costley 1988). As can be seen some of the constructs cannot be clearly separated from each other yet a growing body of research attests that other indicators beside customer satisfaction may lead to loyalty.

Several studies already examined the fact that individuals influence each other in their purchasing decision, which again influences brand loyalty (Holt 1995; Holt 2002; Cova & Cova 2002). Brand communities in particular play a decisive role, since the interaction between members of a brand community is centred around a brand (Schau & Muniz 2002 pp. 344-345). The intensity of the relationship between the consumer and the brand community and therefore the potential for mutual interaction are built on different levels. "The more each relationship is internalized as part of the customer's life experience, the more the customer is integrated into the brand community and the more loyal the customer is in consuming the brand" (McAlexander et al. 2002, p.48). Based on this, McAlexander, Kim and Roberts (2003) further investigated the importance of brand community integration for creating brand loyalty. It turned out that for all participants a stronger integration into the brand community leads to higher loyalty as well as to higher satisfaction. Especially notable is the fact that in case of more experienced users the integration into the physical brand community is more important than the overall satisfaction in building loyalty (McAlexander et al. 2003, pp. 6-7). According to McAlexander et al. (2003, p. 7), loyalty "is an evolutionary process driven by experience", where experience can serve as a way to create strong bounds to the brand community and in that respect have effects on satisfaction and loyalty. In another study Algesheimer, Dholakia and Herrmann (2005) analyzed how different aspects of a customers' relationship with a physical brand community influences the intentions and behaviours of European car club members. Besides confirming that brand community membership leads to intended positive behaviour for firms such as membership continuance, brand recommendation, active participation, and loyalty, Algesheimer, Dholakia and Herrmann

(2005) attested that all behaviour intentions translated into corresponding subsequent behaviour by conducting a second-wave study. They also observed that brand community membership does not only influence their members in positive way for firms but also in negative such as normative pressure and the obligation to abide by the brand communities' norms and thereby influencing the customer's behavioural intentions in a negative way (Algesheimer et al. 2005, pp. 26-30).

While these studies mainly examined physical brand communities, new means of communication enable the interaction between individuals independent from time and space. Therefore online brand communities have a greater impact, since they simply reach a larger group of customers. Different studies already focused on the implication online brand communities have on brand loyalty.

One prominent example for this research direction is the study of von Loewenfeld (2006). He quantitatively examines different types of brand communities, the majority of which were firm-established. It turns out that brand communities increase the loyalty to a brand and that the affective brand community quality is even more responsible for creating word-of-mouth communication and a stronger brand loyalty than the more cognitively affected product quality. This finding is in line with the afore mentioned outcomes of the study by McAlexander et al. (2003) whereby brand community integration, for more experienced users, is more decisive in predicting loyalty than satisfaction with the product. In a second step von Loewenfeld (2006) analyzed whether brand community members are more loyal to the brand than non-members. It turned out that members of a brand community on average are more loyal to a brand on all measured dimensions. Furthermore von Loewenfeld (2006) observed that word-of-mouth recommendations - facilitated by brand communities - can even lead to the acquisition of new customers for a brand. The finding of higher loyalty to a brand by members of a brand community compared with non members was also confirmed by a recent study by Algesheimer and Dholakia (2006). In their study they observed members of ebay's online customer communities as well as non members. It turned out that members of ebay's online customer communities were far more active and profitable for ebay than non members. In another study Algesheimer, Herrmann and Dimpfel (2006) observed the implications different aspects of brand communities have on the loyalty of customers to a brand in the automotive area. In order to measure these implications they included private online brand communities centred around single brand in Germany, Switzerland and Austria. In a first wave of the study Algesheimer, Herrmann and Dimpfel (2006) analyzed followed by a second wave 10 weeks later to observe whether the intended behaviour led to a subsequent corresponding behaviour. It turned out that similar to the study by von Loewenfeld (2006) brand communities can significantly contribute to the economic success of a firm by as they not only bind customers to a brand but also enhance customers to become ambassadors of the brand. Thereby it turned out that not only intended behaviour namely increased loyalty to the

brand through brand community relationship and vice versa were observed but also that all intended behaviour led to the corresponding behaviour.

All these mentioned studies showed that brand loyalty is not merely a consequence of a positively perceived relationship to the brand but can be significantly influenced by social experiences customers can experience with like-minded in brand communities. This furthermore corresponds with Cova's postulate (1997, p. 303) that "the link is more important than the thing", meaning that in some cases the social value of products (the possibility to interact with like-minded individuals) might exceed the functional value of a good.

This can also be examined in the framework of the transaction cost theory. A general quantification of the effects brand loyalty has on the economic success of a firm is found in a study by Bhote (1996).[47] He points out three findings:

- The acquisition of new customers is five to seven times more costly than the retention of existing customers.
- A reduction of customer churning by 5 % can increase the profit of a firm by 30 to 85 %
- An increase of customer retention by 2 % leads to a reduction of the operating costs by 10 %.

Based on these figures, firm-established (online) brand communities enable firms to employ this brand loyalty leverage on a larger scale. Due to the new cost efficient means of interaction possibilities firms are no longer bounded to the trade-off between reach and richness of interaction, since virtual environments enable them to interact with a great number of customers in a more thorough way, since the transaction costs for interacting with each single customers are reduced significantly. This reduces operating costs and increases profits. In that respect firm-established online brand communities represent a very suitable tool for firms to interact with existing customers at lower transaction costs and thereby to cultivate their customers' loyalty to the brand.

As members of brand communities are very loyal to the brand and often serve as brand ambassadors, these members very actively and frequently recommend the brand to potential customers.[48] This positive reporting about a brand and its products is very desirable for firms. Not only is the effect recommendation behaviour has on consumer behaviour well examined (e.g. Duhan et al. 1997; Helm 2000; Wright 1974) yet it also has several positive influences for firms:

- Word-of-mouth recommendation is the single most successful tool for the acquisition of new customers (Griffin 1995, p. 161).

[47] For similar results see also Galbreath (2002).

[48] Whether or not word-of-mouth communication is part of the brand loyalty construct or not is discussed in section 4.1.1 of this thesis.

- It reduces the efforts and costs generally necessary for the acquisition of new customers.
- Customers attracted to a firm through word-of-mouth recommendation are in general more loyal to the brand and its products than those acquired over other channels.

These points were further supported by a study from Helm (2000) in the consumer goods sector. 85 % of the respondents stated that recommendations from friends would be decisive for them to test product innovations.

Therefore, from a transaction cost perspective, brand communities seem to be a suitable tool for firms. Although firm-established (online) brand communities do not have a direct influence, they allow firms to more (transaction cost) efficiently interact with a larger number of customers in a deeper and more thorough way, thereby increasing and further leveraging the effects brand loyalty has on the economic success of a firm. As brand community members are devoted to the brand and membership in a brand community represents a social benefit to them, they are very active and positive brand ambassadors. By doing so, they acquire new customers for the brand and the firm through positive word-of-mouth communication. Through these effects, a firm can acquire new customers without having to attract the new customers in a normally very transaction cost intensive way.

The brand loyalty effects of brand communities are thereby mainly due to the fast diffusion of knowledge about and experience with products and brands, whereby these exchanges of opinions influences the product and brand selection of other members (McAlexander et al. 2002, S. 40 ff.). Additionally this fast diffusion of experience and knowledge enables passionate customers to exchange product-related information as well as to assist each other in problem-solving processes. Brand community members discuss thereby often even opportunities for new product ideas and improvements relevant for firms. The transaction cost theory can provide a substantial contribution towards understanding the customer firm relationship in the innovation process and provide indications of the transaction costs to be expected. This active integration of customers in innovation processes of firms with the help of brand communities is discussed in more detail in the next section.

### 2.4.3 Customer Integration

This section first examines the phenomenon that often customers and not solely firms trigger innovations. Due to this it is relevant for firms to integrate customers into their innovation processes. Next this section describes various concepts and methods for the integration of customers into innovation processes of firms. The transaction costs theory is used to define the division of labour between firms and customers and to identify suitable organisational forms to do this.

#### 2.4.3.1 Customers as Innovators

In the past, the predominant assumption was that innovations are conducted by firms (Brockhoff 1999, p. 112). This changed when von Hippel and others empirically showed that innovations are frequently developed by users and not by manufacturers of a product (von Hippel 1988; Urban & von Hippel 1988; Herstatt & von Hippel 1992; Riggs & von Hippel 1994; Morrison et al. 2000). It turned out that "any functional class is a potentially source of innovation under appropriate conditions" (von Hippel 1988, p. 4). At first this seems to be surprising as it contradicts the classic view of manufacturer-initiated innovations (Brockhoff 1999, p. 112). But it can be explained by the fact that users have highly heterogeneous needs requiring special solutions which the market cannot offer (von Hippel 2005, chapter 4, p. 1). The users therefore often have an accurate understanding of the problem. To transfer this "sticky information" to manufacturers is costly. The stickiness of a given unit of information is defined as the incremental expenditure required transferring that unit of information from its point of origin to another party (von Hippel 1988). For the transaction cost theory this means, that in case a user has a (latent) need, he has difficulties in contacting a firm in order to convey his need due to his bounded rationality. This leads to high expected transaction costs for the transfer of such need information and / or ideas for problem solutions. Therefore it is often profitable for users to find a solution for their needs in case they additionally possess the necessary technical knowledge to develop possible solutions (Luethje & Herstatt 2004, p. 559). In empirical studies, user innovations were frequently confirmed for industrial goods (von Hippel 1988; Riggs & von Hippel 1994; Morrison et al. 2000). Recent empirical studies showed this also for consumer goods (Luethje 2004; Shah 2000). As can be seen in figure 14 innovative users could be found in a variety of product areas with a varying percentage.

In order to harness this innovative ability of customers, manufacturers have to first identify promising customers and integrate them into their product development process. Even though this integration is time-consuming and costly, it is attractive for firms. Empirical findings show that innovations by those users have a higher commercial value (Urban & von Hippel 1988, p. 576), lower development costs (Herstatt & von Hippel 1992. p. 220), and perform better in the market (Lilien et al. 2002, pp. 1053-1054). All this leads to a shift from the classical passive role of the customer to a new and increasingly active, creative, and innovative role (Prahalad & Ramaswamy 2000).[49]

[49] This phenomenon is also discussed in different theoretical models – the private investment model, collective action model and private-collective model of innovation. Those models examine under which conditions functional roles start innovation activities and what their incentives are. For more information see Allen (1983), von Hippel & von Krogh (2003), Mayrhofer (2005).

| Study | Field | Product area | Sample (n) | % of users who develop solution for own use |
|---|---|---|---|---|
| Luethje (2004) | Consumer goods | Equipment for out-door sports (Germany) | 153 | 10% |
| Luethje (2003) | Industry goods | Medical surgery equipment (Germany) | 261 | 22% |
| Franke & Shah (2003) | Consumer goods | Extreme sporting equipment (Germany) | 197 | 38% |
| Tietz et al. (2004) | Consumer goods | Kite surfing equipment (Australia) | 157 | 26% |
| Luethje et al. (2002) | Consumer goods | Mountain bike equipment (USA) | 287 | 19% |
| Morrison et al. (2000b) | Industry goods | Library information search system (Australia) | 102 | 18% |
| Herstatt & von Hippel (1992) | Industry goods | Pipe hangers (Switzerland) | 74 | 36% |
| Urban & von Hippel (1988) | Industry goods | PC-CAD software (USA) | 136 | 24% |

**Figure 14: Percentage of Users Innovations within Different Empirical Studies**
Source: Own Illustration Following Luethje & Herstatt 2004, p. 556

This phenomenon is also discussed in different theoretical models from a more macro oriented point of view (Allen 1983; von Hippel & von Krogh 2003; Mayrhofer 2005). Those models examine under which conditions user, manufacturers, or other functional roles start innovation activities and what their incentives are. The private investment model of innovation relies on mechanism that allows innovators to gain appropriate returns on their previous private investments. The underlying rationale is that an economic unit only invest in innovations if his expected returns outweigh the costs for these innovation activities Arrow (1962, p. 617). As this consideration is made ex ante to the investment decision any determinant lowering the expected innovation return also lowers the private investment in innovation. This point is often referred to as the "appropriability problem" (Mayrhofer 2005, p. 4).[50] Based on these findings the private investment model explains as to how economic units have to be encouraged in order to invest in innovations. These incentives thereby have to influence either the innovation return or the costs for conducting the innovation activity such as exclusive rights. As can be seen the private investment model seems highly appropriate for

[50] For more information on the private investment model see for example Arrows (1962), Dasgupta and Stiglitz (1980), or Martin and Scott (2000).

the analysis of innovation behaviour by firms whereas it seems less suitable for the examination of user innovations. On the contrary to this the collective action model of innovation regards innovation as a public good (von Hippel and von Krogh 2003, p. 213). This means that innovators relinquish control over there innovation and that innovations are collectively provided meaning several agents contribute to the innovation.[51] By viewing innovations as a public good with several agents contribution to a commonly accessible innovation pool the inefficiencies based on the proprietary use of an innovation described in the private investment model above are solved (Mayrhofer 2005, p. 6). Yet as in many cases other inefficiencies arise such as underinvestment in innovation due to the non-exclusive use of the innovation. In contrast to the private investment model the collective action model of innovation in helpful in explaining why users start innovation activities although their innovation might exhibit public good characteristics which in turn encourages that other users or firms would "free-ride" and use their innovations.[52]

Only recently a third model emerged. This hybrid model combines the beforehand mentioned traditional models and thereby tries to solve their inefficiencies. The private-collective model of innovation - proposed by von Hippel and van Krogh (2003) – regards innovations as collectively and commonly available in communities. Inefficiencies such as the free-riding are solved through private appropriation of benefits inherent in the development and free-revealing of innovations as proposed in the collective action model of innovation. In this model thereby traditional insufficiencies are solved by a collaborative product development via the Internet whereby communities seem to be a very appropriate form to achieve this (Dahan & Hauser 2000). Summarizing one can say that the above mentioned models help to explain why someone starts innovating activities, what his incentives are, and what the resulting inefficiencies look like. Yet they do not distinctively try to examine who started the innovation activity. Thereby an increasing body of empirical evidence showed that in fact the functional relationship between the innovation and the innovator varies (von Hippel 2005, chapter 1, p. 3). Whether a person or a firm is the source of innovation depends on their functional role during the development of innovations (von Hippel 1988, p. 3). The functional role in turn depends on the benefit received from an innovation. Here again the empirical studies showed that the functional relationship between the innovation and the innovator varies (von Hippel 2005, chapter 1, p. 3).[53] If one starts from the perspective of the private investment model the hypothesis is that the person or company is going to be innovative

[51] A public good exhibits the characteristics of non excludability and non rivalry whereby the first means that it is impossible or very costly to prevent others form gaining access to the good and the second means that f the use of a good by one person does not exclude others from using it at the same time (Olson 1965)

[52] For a more detailed discussion of the collective action model of innovation see for example von Hippel and van Krogh (2003) or von Hippel (2005).

[53] For this von Hippel (chapter 2, pp. 1-2) summarizes studies which found so far that between 10 and nearly 40 percent of the innovations were developed by individuals or firms that used the innovation (user-innovator relationship). The empirical studies include (Urban & von Hippel 1988; Herstatt & von Hippel 1992; Luethje 2003; Luethje et al. 2002; Franke & Shah 2003).

whose expected profit from the innovation is attractive. In that respect von Hippel (1988, p. 5) formulated the proposition that the "analysis of the temporary profits expected by potential innovators can by itself allow us to predict the functional source of innovation usefully often". Yet this proposition lingers only if two preconditions are fulfilled. First, potential innovators should not be able to switch there functional role, meaning that it should not be easy for a user to become a manufacturer and thereby profit from an innovation by selling it (von Hippel 1988, p. 44).[54] If this is not the case a definite classification would be hard to achieve.[55] Furthermore potential innovators have to gain an advantage through the usage of the innovation and not by licensing them to others. The second assumption is fulfilled in most cases as licensing is often not an effective approach for gaining a profit out of the innovation (Harhoff et al. 2003, p. 1754).[56] Additionally "expectations of innovation-related profits must differ significantly between firms holding different functional relationships to a given innovation opportunity" (von Hippel 1988, p. 5) since otherwise a differentiation according to the functional role would not makes sense.

If those preconditions hold, generally two functional relationships exist - the manufacturer-innovator relationship and the user-innovator relationship (von Hippel 2005, chapter 1, p. 3). The manufacturer-innovator relationship represents the traditional assumption. Thereby a firm or an individual expects to benefit from an innovation by selling a product or service which builds on the innovation. In contrast to this stands the user-innovator relationship where an innovator expects to benefit from using the innovation. In doing so the innovator directly benefits from the innovation without having to sell it as it is the case in the manufacturer-innovator relationship.

Taking everything into account, it can be pointed out that in addition to the traditional role of manufacturers as source of innovations also other sources have to be considered in research and practice – especially innovations by users. The next section will examine in more detail at how firms can benefit from such user innovations and actively integrate customers into their innovation processes.

#### 2.4.3.2 Active Integration of Customers into the Innovation Process

It has always been the goal of product developers to meet the need of customers, yet only recently firms started to more fully recognize the important role customers can play in generating innovations (e.g Luethje 2000; Shah 2000). Figure 15 provides an overview of the empirical research about the influence customer integration has on the innovation success.

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[54] See von Hippel (1988, p. 44): "It must be difficult (expensive) for innovators to adopt new functional relationships to their innovations."

[55] See von Hippel (1988, p. 45): "If role switching were frequently or inexpensively accomplished, innovators might switch to the functional role that offered them the best return. And, under such conditions, we would only be able to predict the functional locus of innovation in a weak sense (…)."

[56] See Harhoff et al. (2003, p. 1754): "Because a number of empirical studies conducted by several authors over a span of many years have found that licensing is often not a particularly effective means for capturing royalty income."

| Author(s) | Data | Operationalization of customer integration | Summary |
|---|---|---|---|
| Parkinson (1981) | N = 16 manufacturing firms, 129 customers, Germany and Great Britain, machine tool manufacturer | Direct questioning about integration | All in all, customers do not feel that they are strongly integrated. Customer integration (CI) leads to a higher success level. |
| Shaw (1985) | N = 34 projects, Great Britain, medical technology | No indication | 76% of the innovations were carried out with repeated or ongoing CI. 88% of the projects with CI were successful, 63% of those without were successful. |
| Voss (1985) | N = 63 projects, Great Britain, computer software | No indication | In 47% of the cases, customers played a large role in the innovation process. |
| Biegel (1987) | N = 116 projects of a manufacturer, Germany, chemical industry | Initiation of projects by customers | Projects that were initiated by customers were implemented more often, were less likely to have lower levels of innovation, and all in all had greater economical than those initiated by the development or marketing department. |
| Gemuenden et al. (1992) | N = 848 projects, Germany, Lichtenstein, Switzerland, processing industry | Importance of customer information | 50% of the companies name customer contacts as a precondition for successful innovations. The relevance of customer innovation is significantly and positively linked to the technical and economical success of the innovations. |
| Herden (1992) | N = 1340 projects (including 848 data sets from Gemuenden et al. (1992), Germany, Lichtenstein, Switzerland, processing industry | CI in a network of contacts | 67% of the companies designate customers as necessary partners for discussions on the development of new products, 63% for the improvement of existing products, 7% had R&D cooperation projects with customers. Companies with customer contact have higher economical innovation rates, which leads to higher sales and operating level growth. |
| Gemunden and Heydebreck (1994) | N = 79 firms, Sweden, technology-oriented start-ups | Cooperation with customers | 29% to 55% of the firms indicate that they have R&D cooperation with customers. R&D cooperation with customers shows a positive influence on the success of the innovations. |

| | | | |
|---|---|---|---|
| Kirchmann (1993) | N =133 projects, Germany, machine construction | Significance of the information transfer from customer companies to manufacturer companies | Information transfer among technology-oriented departments between customer and manufacturer companies is the most significant.<br>There is a positive correlation between the significance of the information transfer and the technical and economical success of the innovations. |
| Zahn et al. (1995) | N =300 projects, Germany, machine construction, electro technology | No indication | 14% of the surveyed companies integrate customers into idea generation. 44% indicate an improvement in reaching the break-even point, 57% report reduced times for development and contribution margin is increased by 39%. |
| Gruner (1997) | N=310 manufacturer, Germany, machinery industry | Customer integration with different methods at different phases | A higher intensity of customer integration has a significant positive effect on the success of the innovation. The integration of customers in the idea generation, concept development and prototype testing phases especially has a highly positive effect. Also lead user characteristics of the integrated customers increase the innovations' success. |
| Luethje (2000) | N=44 manufacturers, Germany, outdoor trade | Cooperation with customers | 61% of the companies integrate customers; 93% use customers as an information source; companies expect a reduction of the flop risk of innovations with customer integration |

**Figure 15: Overview of Examinations of the Effect of Customer Integration**
Source: Gruner 1997, pp. 31-33

Jost and Wiedmann (1993, p. 9) already recommended that the consumer should no longer be viewed as a consuming object only but as the bearer of criticism and suggestions. They suggest that dialog and cooperation strategies should be developed by firms in order to integrate the customer into the company as a participant. Strategic objectives such as early recognition of changing customer needs, acquiring ideas for new products, customer retention and word-of-mouth recommendation can be achieved (Jost & Wiedmann 1993). Besides this, more "classical" factors such as increased innovation pressure through increased market competition and the high failure rate of newly introduced innovations influence the decision of firms to open up their innovation strategies and integrate customers into their innovation processes. Competition and market pressure increase among other factors through globalization (Backhaus et al. 1996) and increasing saturation of markets (Cooper & Kleinschmidt 1987). Additionally, the accelerating change of buyers' needs and the increasing heterogeneity of customers' needs (von Hippel & Katz 2002, p. 821) led to a

shortening of product life cycles on the markets and a higher failure rate of innovations as they no longer meet the actual market demand respectively customer needs (Halin 1995, p. 146).[57] Due to these points a big proportion of market introductions fail (e.g. Balanchandra & Friar 1997; Poolton & Barclay 1998; Redmond 1995) and the development of new products is roaming with an increasing risk for companies. Due to this, firms need to reduce the flop risk of innovations. All innovation development and marketing activities should consistently focus on the future needs of buyers and users (e.g. Luethje 2000). Von Hippel (1990) for example states that "joint problem-solving between marketing researchers, customers, and product designers will clearly be valuable when, for example, data on new product needs provided by marketing research to engineering have consequences or offer opportunities that are not initially visible to all these parties". Furthermore the customer is an additional useful source for firms to generate new ideas which in turn are essential for firms to develop new products and thereby gaining a competitive advantage (Albach 1989, p. 1339; Jost & Wiedemann 1993, p. 18; Muellers 1988, pp. 24-25). Another important motivation for firms is the efficiency increase in the form of cost reduction and time savings due to faster development of products that satisfy customer requirements by integrating customers (Kirchmann 1993, p. 21; Gruner 1997, p. 140). Last but not least the improvement in product quality due to the acquisition of customer know-how for optimizing new products has to be mentioned (Gemuenden 1981, p. 20; Jost & Wiedemann 1993; Shaw 1988). [58]

All the above discussed points and implications lead to the conclusion that the topic of customer integration is more important than ever before. The purpose of the next sections is to outline important aspects of customer integration into a firm's innovation processes. They show the influences online brand communities have on customer integration in the way that they lower transaction costs and enable the coordination of decentralised innovations.

#### 2.4.3.2.1 Concepts

In the framework of customer integration a number of concepts exist, whose goal is to integrate information and knowledge of customers into the innovation processes of firms. Although the majority of these concepts are not examined in more detail in the present work figure 16 provides an overview of different concepts used in the customer firm interaction. The concepts are thus ordered according to their complexity.[59]

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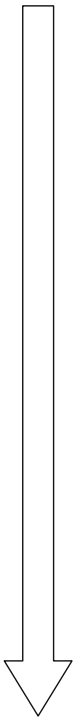
[57] As an example "20 years earlier at Siemens 50 percent of the sales made with products younger than 5 years, today these are 75 percent" (transl. by author) (Weyrich 2004).

[58] In addition to the above positive objectives, there are also a number of negative expectations connected with user integration such as problems with secrecy, disturbance of established operating procedures leading to employee demotivation, the focus on incremental innovations, problem of unclear objectives, divergences of interest, and dependency on customer knowledge (Brockhoff 1992, Gemuenden 1981, Kirchmann 1993, Luethje 2000).

[59] For a more detailed description and evaluation of these methods see for example Herstatt (1990, pp. 60-100).



1 Evaluation of literature (trade journals from the customer branch)
2 Analysis of patent registrations in the customer branch
3 Evaluation of customer complaints
4 Evaluation of reports from the sales and customer service departments
5 Evaluation of customer inquiries
6 Evaluation of customer suggestions
7 Observation of users in typical work sequences and procedures
8 Survey of the users regarding needs
9 Customer problem analysis
10 Customer and user panels
11 Institutionalized complaint management
12 Creativity sessions with customers
13 Customer-related function and value analyzes
14 Joint product and prototype tests with customers
15 Joint product developments with customers
16 Temporary employment of own employees at the customer
17 Temporary employment of customer's employees in own company

**Figure 16: Examples of Concepts for Customer-Firm Interaction**
Source: Herstatt 1991, p. 59

Thereby the various concepts can be classified into three different levels of interaction - usage of customers as information source, getting in contact with customers, and customer integration in concrete development processes (Luethje 2000, p. 109).[60]

Yet only few empirical studies analyzed the different methods for customer-firm interactions during innovation processes. It turned out that it is extremely important which customers are integrated into the innovation processes of firms, because exact knowledge of customer needs has emerged as one of the most important prerequisites for the development of new products. Customers can provide firms with more than just information on their unmet needs (Luethje 2000; Urban & von Hippel 1988, p. 569). This is especially the case with innovative customers who can provide additional approaches and ideas for the solutions of their needs – so called lead users. A concept for the integration of such lead users was developed by von Hippel (1986). As this concept is of great importance for the present thesis it is explained in more detail.

[60] In that respect concepts 1-7 belong to "usage of customers as information source", methods 8-11 to "getting in contact with customers", and methods 12-17 to "customer integration in concrete development processes".

**The Lead User Concept**

Normally the insights of users into new product needs and potential solutions are constrained by their real-world experience (Birch & Rabinowitz 1951, p. 124). This means that they are influenced by the present and thus unlikely to generate novel ideas which conflict with the familiar. They are blocked from using an object in a novel way once they have seen or used it (von Hippel 1986, p. 792).

The lead user concept developed by Eric von Hippel (1986) overcomes this problem of "functional fixedness" (Adamson 1952). In this concept, lead users are those users whose present needs will become general in a marketplace in the future. As such, they are familiar with conditions which lie in the future and may serve as a need-forecasting laboratory for firms (von Hippel 1986, p. 792). Eric von Hippel characterises lead users (1986, p. 796) "as those who display two characteristics:

- They face needs that will be general in a marketplace – but face them months or years before the bulk of that marketplace encounters them, and
- They expect to benefit significantly by obtaining a solution to those needs."[61]

The first lead user characteristic can be described as the capability for innovation. It implies two aspects. The first one is that users exist who are ahead of the market (Luethje & Herstatt 2004, p. 557). This is based on the assumption that new needs disperse gradually across markets and do not impact all customers simultaneously (von Hippel 1988). The main idea is that information, ideas, products, and services never spread instantaneously (Rogers 1995). The second aspect inherent in the first lead user characteristic states that users who realize needs before others are better prepared to develop ideas for future products (Luethje & Herstatt 2004, p. 557) – see figure 17. A possible explanation for this might be that users who have needs which are not satisfied with existing offers experience them because they use products in contexts that lie in the future for most others (Luethje & Herstatt 2004, p. 557). This is also the reason why users at the leading edge do not have to imagine themselves in a future situation. For them this is familiar because they already possess the knowledge (von Hippel 1986, p. 796). This separates them from "normal" users who are restricted by their previous real-world experiences with similar problems (Birch & Rabinowitz 1951, p. 124). It prevents them from using a product in novel way which is referred to as "functional fixedness" (Adamson 1952). Additionally users are overstrained with the complexities of a product, requiring that usage patterns are constantly re-evaluated according to practicability and usage (von Hippel 1986, p. 792).

[61] The assumption that those two statistically independent characteristics together are a valid indication for the lead user status of a user was recently confirmed by empirical studies (Urban & von Hippel 1988, pp. 569; Luethje & Herstatt 2004, p. 565; Franke et al. 2005, pp. 17, Morrison et al. 2004). Morrison et al. (2004) found out that the intensity of lead user characteristics a person displays is a unimodal variable and that therefore the variable has a continuous distribution. For a more detailed description see section 5.4.

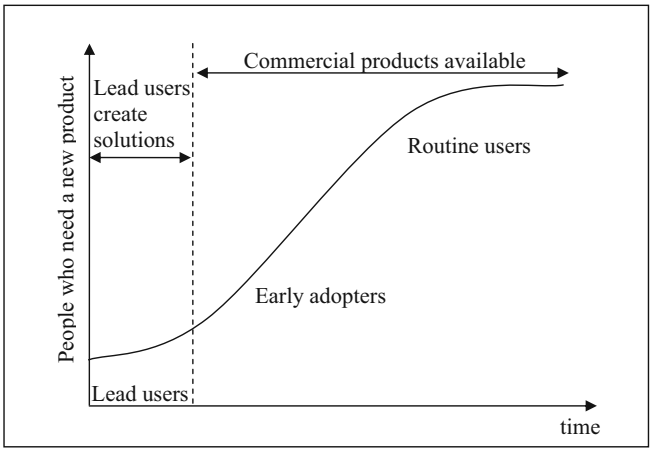



**Figure 17: Lead User Curve**
Source: von Hippel et al. 1999, p. 49

The second lead user characteristic, which is the motivation for innovation, refers to the fact that those users who expect a high benefit from a satisfaction of their need tend to develop a solution on their own (Luethje & Herstatt 2004, p. 558). This means that the greater the benefit a given user expects from a novel product, the greater his or her willingness to devote resources to obtain a new solution (von Hippel 1988). This has been shown by studies of industrial product and process innovations by Mansfield (1968).

Based on those two lead user characteristics, von Hippel (1986) suggests a methodology for best integrating users into the product development process. In order to operationalise the lead user integration into the product development process von Hippel (1986, p. 797) initially proposed the following four-step process:

1.) identify an important market or technical trend
2.) identify lead users who lead that trend in terms of
    a. experience
    b. intensity of need
3.) analyze lead user need data
4.) project lead user data onto the general market of interest

This process was slightly modified and updated by Herstatt and von Hippel (1992) in the following years (see figure 18)

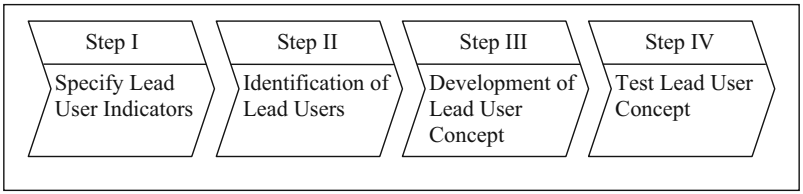



**Figure 18: Steps of the Lead User Concept**
Source: Herstatt & von Hippel 1992, pp. 216-219

Lead users are defined as being ahead of the market in respect to a given dimension. Hence the trends, in which they have a leading position, as well as a reliable measure for it, have to be specified in a first step (Urban & von Hippel 1988, p. 571). Only after this is done can lead users be identified. The identification of trends is mainly concerned with technological and market trends but might also cover more general economic, social and legal developments which might have an impact on the observed market (Luethje & Herstatt 2004, p. 562). In addition to this a measurement for the second lead user indicator, high benefit expectations, must also be defined (Urban & von Hippel 1988, p. 571). Empirical studies found that, among others, own innovations and dissatisfaction with existing products proved to be successful indicators (see for example Urban & von Hippel 1988; Herstatt & von Hippel 1992; Franke & Shah 2003; Luethje 2004). After trends and lead user indicators are determined, users at the leading edge of those trends can be identified in step two (Herstatt & von Hippel 1992, pp. 216-219). In the case of industrial goods the manufacturer is only confronted with a discrete number of users, but the identification of lead users in the field of consumer goods is - due to the sheer size of the target market - the central challenge in the application of the lead user method (Huxold 1990, p. 119). With regard to the previously gathered information and insights, a lead user concept is developed with the identified lead users in step three (Herstatt & von Hippel 1992, pp. 216-219). This concept is based amongst other things on real-life experiences of the lead users with product changes they made to the products to better fit their needs (Urban & von Hippel 1988, p. 572). But a physical meeting might not always be necessary (Gochermann 2004, p. 179). Following the simplified possibilities modern technologies offer to identify lead users in mass markets, not only the transfer of the workshop into the virtual room but also the application of toolkits is advisable (Ernst et al. 2004, p. 128).[62] Due to the two lead user characteristics discussed above, lead user differ from the typical user, which makes it reasonable to test the lead user concept in step four (von Hippel 1986, p. 802). The possible danger of not testing is that the concept generated by the lead users might then not be transferable to the whole market (Herstatt 1994, p. 301). Therefore it should be tested to what extent the product concept developed by lead users can

[62] Toolkits represent user-friendly tools which enables the user to carry out design tasks in new product development themselves. The toolkit concept will be described in more detail in the following section. For more information see (von Hippel & Katz 2002).

be applied to the representative customer in the target market (Herstatt 1991, p. 143). This can be achieved by employing traditional concept test procedures (von Hippel 1988, p. 572).[63] In the following just the lead user identification is explained further, as this is the main challenge in applying the lead user concept.[64]

Several methods for the lead user identification exist. Screening and pyramiding are two ways to identify lead users; screening is a selection method by which users are tested with a questionnaire to find out if they fulfil predefined lead user requirements (Herstatt et al. 2002, p. 64). As a screening of the whole market for the most part is unrealistic, the search field is normally narrowed down to a user group in which a higher lead user concentration is estimated. Although a pre-selection is a reasonable way of reducing the efforts to search for lead users, one has to take into account that disadvantages are inherent to it. Not only can a false user group be identified, but also a promising user group with possible lead users might be neglected. The pyramiding or networking approach appears to be more promising (von Hippel et al. 1999, p. 49; Herstatt et al. 2003; Lilien et al. 2002, p. 1045). It is based on the theoretical principle of the "small-world phenomenon" (Milgram 1967). In the course of an interview, selected customers are asked whether they know persons with similar needs whom they call upon in case they have a question (Herstatt et al. 2002, p. 64; von Hippel et al. 2005, pp. 8). This determined search in customer networks allows a fast identification of lead users and is based on the fact that interested users often know other people in the same area whose expertise they rank higher than their own (von Hippel et al. 1999, p. 49). Pyramiding therefore uses the social knowledge of people (Pruegl 2006).

As this dissertation is concerned with the identification of lead users in communities and as "users at the leading edge of a target market often congregate at specialized sites or events that manufacturers can readily identify" (von Hippel 2005, p. 136), the various methods for the identification of lead users in communities are examined further. In general there are two ways to identify lead users in online communities. Either a questionnaire is used to detect users fulfilling predefined lead user criteria, or users qualify due to the quality of their postings (Ernst et al. 2004, p. 128). Such a screening questionnaire is an efficient tool to identify lead users as it is easy to implement and administer (Ernst et al. 2004, p. 133). For the second way, the screening of online communities, a method for studying online communities was developed by Kozinets (2002b). This method, called netnography, is the adaptation of ethnography to the Internet and uses according to Kozinets (2002b, p. 62) "the information publicly available in online forums to identify and understand the needs and decision influences of relevant online consumer groups."[65] Based on this netnography approach, Tietz

[63] For a discussion of possible methods examining whether lead user concepts are transferable to the whole market see for example Herstatt (1994).

[64] For more information on the other steps of the lead user concept see for example von Hippel (1986).

[65] "Ethnography refers to both the fieldwork, or the study of the distinctive meanings, practices and artefacts of particular social groups, and to the representations based on such a study" (Kozinets 2002b, p. 62). For a more detailed discussion and description of the netnographic approach see for example Kozinets (2002b).

et al. (2006) introduce an alternative method which they term signaling. This approach relies on the self-selection of the community members. The most skilled and motivated members are those who are most likely to share know-how and participate in lead user projects (Fueller et al. 2005). Hence if a firm signals that they are looking for members to participate in lead user projects, it will attract qualified members first.

To summarize the description of the lead user concept, it integrates innovative and creative customers into the innovation processes of a firm. Thereby the implementation of the lead user concept started in the area of industry goods. Herstatt (1991) for example described the performance of the lead user concept at Hilti. It turned out that in comparison to a project with similar focus at Hilti, the resource needs were significantly reduced (Herstatt et al. 1992). Additionally Lilien et al. (2002, p. 1045) report that the product concepts developed with the help of lead users at Hilti enjoyed great commercial success which in turn can be interpreted as a sign of success for the lead user concept since in general only a fraction of all ideas and concepts developed by a firm are implemented and brought to market (Muellers 1988, pp. 24-26). Another firm to begin testing the lead user concept very early was 3M. They started in the area of medical products. Thereby product ideas, amongst others generated by lead users, led to a strategic realignment at 3M (Morrison et al. 2000, p. 56). The success of the lead user concept at 3M can be measured by the fact that the method was extended to other areas and has been used repeatedly since that time. Lilien et al. (2002, p. 1046) for example compared lead user projects conducted by 3M with 42 projects conducted according to "traditional" methods. Thereby it turned out that lead users projects have greater commercial potential than innovations developed with traditional methods and that the probability of generating a major product line is higher when the lead user concept is applied (Lilien et al. 2002). After starting of in the area of industry goods the lead user concept was also recently applied in the area of consumer goods. Luethje (2000) for example examined a slightly adapted lead user concept applied in the consumer goods market. Thereby two out of three lead user concepts had been transferred into product planning and firms as well as lead users gave a positive evaluation to the generated product concepts (Luethje 2000). In that respect the beforehand mentioned empirical studies evoke the impression that the lead user concept seems to be economical beneficial for firms yet hardly any sales figures about the commercial success of lead user projects for example in comparison to “traditionally” developed products are available. The lack of “strong” final evidences might be due to different reasons such as the difficulties of measuring often highly secret product development processes or personal fluctuation within companies making it difficult to assign success or failure to a given idea or concept. Olson et al. (2001, p. 388) are one of the few who examined why the lead user concept is used relatively infrequently, in spite of the successes presented by various researchers in the past (e.g. von Hippel 1986, 1999; Lilien et al. 2002; Herstatt 1991, 1992). By examining the application of the lead user concept at Cinet it turned out that the generated lead user ideas were very successful since the majority of the generated ideas were implemented.

Nevertheless Olsen et al. (2001) observed that against management intensions and the initial success the lead user concept or other concepts of customer integration were not used again by Cinet during the observation. As a reason for this employee fluctuation and lack of time are mentioned (Olson et al. 2001, p. 392).

Nevertheless, it is the opinion of the author that the theoretical considerations and the various examples of products generated with the help of lead users proves that integrating lead users into their innovation processes is beneficial for firms. New means of communication such as online brand communities open up new possibilities for firms to overcome shortcomings such as lack of time and the high initial costs for conducting lead user projects, as they simplify the search and identification of adequate lead users. Although online brand communities might not significantly enhance the capability of customers to express their needs, they significantly reduce the transaction costs associated with the transfer of such need-related information since they provide enhanced, deeper, more permanent and therefore more cost-efficient interaction possibilities between customers and firms. In that respect the application of new means of communication might pave the way for a broader adoption of the lead user concept by firms. Following the simplified possibilities modern technologies offer to identify lead users in mass markets, transferring the workshop into the virtual room and applying toolkits is advisable (Ernst et al. 2004, p. 128).

**User Toolkit**

The user toolkit concept of von Hippel (2002) differs substantially from the lead user concept, although it is also a concept for an active integration of customers into the innovation processes of a firm.[66] While the lead user concept is concerned with the identification of creative and innovative customers, it does "nothing to change the conditions affecting user-innovators at the time of new products or service is being developed" (von Hippel 2005, p. 147). User toolkits instead "enable non-specialist users to design high-quality, producible custom products that exactly meet their needs" (von Hippel 2005, p. 147), meaning that they enable the quicker and cheaper generation of innovations by offering an integrated set of product-design, prototyping, and design-testing tools for end customers. Together with the manufacturer's powerful resources, the customer (Harhoff et al. 2003, p. 1756) can generate a problem solution that far exceeds the capacity of an independently developed solution. In that respect von Hippel and Katz (2002, p. 821) define user toolkits as "coordinated sets of 'user-

[66] In an attempt to categorize the level of interaction (see section 2.4.2.2.1) of the user toolkit concept one has to note that although the concept tries to reduce the interaction to a minimum the degree of interaction between customer and firm varies according to the field of application of the method. If it used for example for the mass customization of a product the interaction is only minimal whereas if the user toolkit is applied for the generation of new ideas a medium level of interaction is generally needed. As explained the level of interaction of user toolkits can vary to a great degree depending for example on the application, the toolkit design, and the product complexity. Nevertheless a user toolkit should always diminish the amount of sticky information that needs to be transferred. In that way the use of a user toolkit always requires less interaction than without using a user toolkit.

friendly' design tools that enable users to develop new product innovations for themselves. The toolkits (…) are specific to the design challenges of a specific field or subfield. (…) Within their fields of use, they give users real freedom to innovate, allowing them to develop producible custom products via iterative trial and error."

The application of a user toolkit might be useful for a firm due to the inherent characteristics of customer needs, especially the existence of sticky information.[67] The more difficult it is for customers to express their needs in codified form, and the larger the given information unit is, the more the stickiness of information increases. Thus, customers are only able to transmit "partial and partially correct need and use-context information to the manufacturer" (von Hippel 2005, p. 149). In that respect the user toolkit avoids the transfer of sticky information by supplying the customer with user-friendly tools to carry out his own product and service innovations thereby shifting the locus of the problem solution to the customer (von Hippel 1998, p. 631).[68] By doing so, the traditionally necessary iteration processes between customers and firms and their associated high transaction costs are reduced (Tyre & von Hippel 1997). "Manufacturers actually *abandon* (!) their efforts to understand users' needs accurately and in detail. Instead, they outsource only *need-related* innovation tasks to their users, who are equipped with appropriate toolkits"" (von Hippel 2005, p. 147).

In order to be successful and effective a user toolkit need to comprise five different characteristics, whereby in general the additional costs for customers using the toolkit must be less than the additional benefit in the form of time and cost savings as well as better satisfaction of needs (von Hippel et al. 1999).

(1) An effective user toolkit enables customers to run through complete trial-and-error cycles so that mistakes of the initial concept can be adapted

(2) Through its structure a user toolkit provides a solution space with possible solution to the customer. Thereby a user toolkit should neither restrict the user's possible innovations too much nor allow too much freedom since then production capacities of a firm might not be sufficient for a generated innovation. Von Hippel and Katz (2002) therefore propose to restrict the solution space of a user toolkit to the production capabilities of a firm. Yet this has the disadvantage that innovations lying slightly outside the solution space and therefore the production capabilities are not considered. Therefore Jokisch (2007) proposes the arrangement of the solution space depending on the innovation objective of the firm. If the firm likes to improve only parts of existing products (incremental innovations) it should restrict the solution space to the firms' production capabilities. If the firm on the other hand is also interested in receiving radical innovations from customers, the toolkit should also allow solution possibilities that go beyond these production capabilities.

[67] According to von Hippel (1994, p. 430) stickiness is defined as the "expenditure required to transfer that unit of information to a specified locus in a form usable by a given information seeker".

[68] For more information on how the appropriate division of tasks can influence the innovation processes of firms see for example von Hippel (1990).

(3) User toolkits should be user-friendly, so that customers can work with it in a familiar way and only need little specialized training (von Hippel 2005, p. 154). In this case the number of potential customers and generated ideas and innovations can be increased.

(4) In order to be efficient a user toolkit should provide a library of the most frequently used modules. This prevents customers from designing the same modules necessary for a number of innovations over and over again and allows them to use their resources for the aspects of the innovation that are actually new.

(5) A user toolkit must enable an easy and understandable transfer of generated information during the design process into the necessary information for the production process.[69]

Depending on how the above mentioned characteristics are implemented, especially the restriction of the solution space (number 3), user toolkits can take on a number of forms depending on how much they limit the customer's innovation possibilities. Therefore the present work follows the categorization of user toolkits into mass customization tools and completely free customer innovations according to Henkel and Thies (2003, p. 2) (see figure 19)

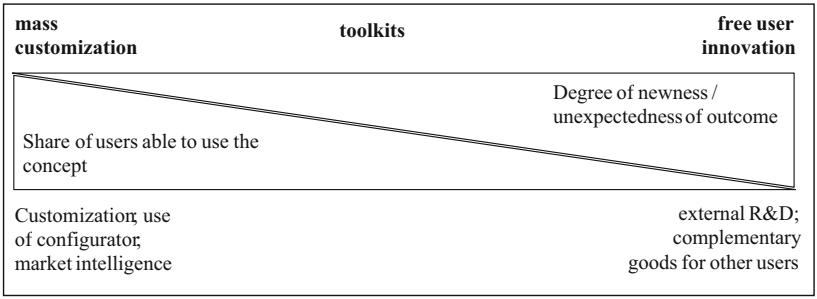



**Figure 19: Customization and Innovation – User Innovation Toolkits**
Source: Henkel and Thies 2003, p. 2

As it turned out firms can realise a number of advantages by using user toolkits. Firms for instance can carry out the development of new products and services "faster or at a lower cost" (Henkel & Thies 2003, p. 5) since they not only gain access to the customers' sticky information but right-away to their solution (von Hippel 2002). Additionally products developed with the help of toolkits can create value for firms since customers are willing to pay a higher price for customized products compared to mass market products (Franke & Piller 2004). Furthermore user toolkits may increase the intensity of innovation activities and increase "the value of the basic product due to user-developed add-ons" (Henkel & Thies

[69] This demand however only applies to products that are not of high complexity and where the information can be transferred directly into digital machine instruction for production.

2003, p. 5).[70] Finally aspects related to the usage of the user toolkit itself such as emerging customer loyalty can be realized (Jokisch 2001, p. 58; Henkel and Thies 2003, p. 11).[71] These benefits for firms stand in opposition to the costs for developing a user toolkit, adapting the production process to it, making the customers aware about its existence and motivating them for participation (Franke and von Hippel 2003).

To summarize, the user toolkit concept is a rather new method for actively integrating customers into the innovation process of a firm. It is especially suitable for situations characterized by complex and rapidly changing user needs. It is less suitable if the goal of the firm is to achieve the highest product performance (von Hippel 2002). Starting in the industry goods sector (von Hippel 1998), it has been practically proven that user toolkits are beneficial for firms in the consumer goods industry as well, and especially in the intangible goods industry (von Hippel 2005; Henkel & Thies 2003; Pruegl and Franke 2005). Thereby it turned out that the success of the application of the user toolkit largely depends on the implementation of the above discussed five characteristics. This is the case as intangible goods offer customers the possibility to immediately generate a workable solution to their specific need. In the tangible goods industry however this is not often the case due to technical restrictions. Nevertheless user toolkits can also adopt one or more functions during different stages of the innovation process in the tangible goods industry. In 1999 the company Swarovski for example offered a toolkit via the Internet which generated 263 new designs within four weeks for evaluation by the firm (Reichwald et al. 2004). In that way they can serve as an additional source of ideas for the firm. The firm can then select the most promising ideas or prototype and finish the development and carry them over to the production processes. Yet also the tangible goods industry applies user toolkits.

#### 2.4.3.2.2 Methods and Areas of Customer Integration

After a look at different concepts to integrate customers actively into innovation processes of firms, this section will examine the various methods firms can use to realize customer integration concepts, and in what way online (brand) communities play a role in achieving this.

So far different concepts for customer integration were applied by firms, yet mainly offline and for certain topics only. As examined in the previous section, numerous empirical studies observed how lead users were selectively integrated successfully into innovation processes of firms (Herstatt & von Hippel 1992; Olson & Bakke 2001; Lilien et al. 2002; Franke et al.

[70] In that respect one has to consider that although user toolkits may increase innovation activities "new developments based on an innovation toolkit will in general be characterized by a lower degree of newness, since the toolkit defines the solution space. On the other hand, *within* (!) this solution space the user's innovative activity is greatly simplified" (Henkel and Thies 2003, p. 5).

[71] Customers as well can derive benefits out of using a user toolkit, such as designing a product that precisely fits their needs or satisfaction from using the toolkit itself (Henkel and Thies 2003; Jokisch 2001; Schreier & Franke 2004)

2006; Dignell & Mattila 2007). The same holds true for user toolkits. Different empirical studies examined the positive effect the application of toolkits has on firms for integrating customers in their innovation processes in the area of product development and design issues (von Hippel 2005; Henkel & Thies 2003; Pruegl and Franke 2005). Yet in some of the more recent studies, the advent of the widespread use of the internet and new communication and information technologies as well as its implications on customer integration methods were considered (e.g. Dahan & Hauser 2002). The internet increased the interactivity, the reach, persistence, speed, and flexibility of virtual environments (Sawhney et al. 2005, p. 6). This is the fact as the internet is a global medium removing geographical barriers. Furthermore it allows firms to overcome the classical trade-off between richness and reach in customer interaction as firms are no longer restricted to a small number of customers if they intend to acquire rich and deep information and interaction due to significantly lower interaction costs (Evans & Wurster 1999). As the internet reduces the interactions costs and efforts for customer as well as firms, they can occur more frequently and persistently. The internet enables a higher flexibility of customer integration since customers can easily vary their degree of interaction during different phases (Hagel & Singer 1999). The characteristics of the internet influence the virtual integration of customers and the generation of collaborative innovations in three ways (Sawhney et al. 2005, pp. 6-7):

- Direction of communication: Changes form a one-way firm to customer knowledge to an interactive two-way dialogue, enabling firms to progressively learn from individual customers and more important group of customers.
- Intensity and richness of the interaction: Increases due to lower costs and efforts for firm to gain access to an individual's knowledge but especially by tapping into the social knowledge of groups of customers.
- Size and scope of the audience: Increases as firms are enabled to more efficient and effectively get in contact with a large number of their customers but also through neutral third-parties with non-customers.

The direct interaction with a large group of customers is one of the predominant effects virtual environments have on customer integration and collaborative innovations. Online communities play a vital role in simultaneously getting in touch with a large number of customers and may serve as a pool of qualified customers for repeated punctual integration (Fueller et al. 2005).

Based on this idea, Fueller and Hienerth (2004) developed a community based innovation method. This enables firms to benefit from the innovative potential of online communities by virtually integrating the most promising members of the online community into the different stages of the innovation processes – see figure 20. Members of an online community can serve as an additional source of ideas during the ideas generation and concept phase, as a co-

creator during the design and engineering phase (by evaluating internally and externally developed concepts of a firm), and as testers and buyers during the test and launch phase of a new product (Fueller & Hienerth 2004). The method consists of the following four steps:

1. Determination of User Indicators
2. Community Identification
3. Virtual Interaction Design
4. User Access and Participation (Fueller & Hieberth, 2004)

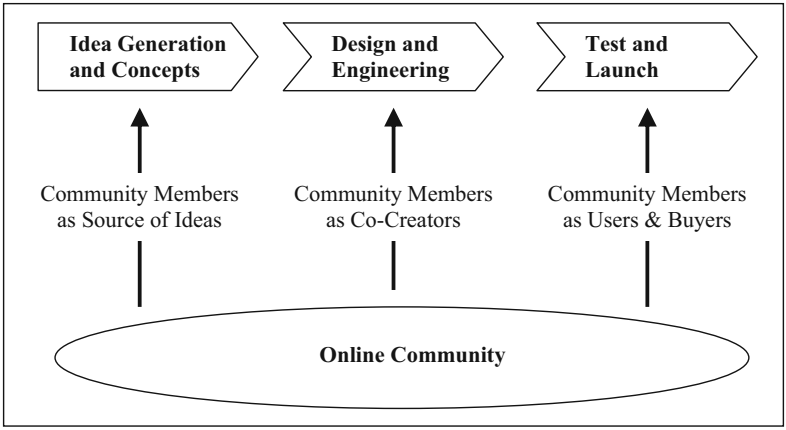



**Figure 20: Integration of Online Community Members in Innovation Processes**
Source: Own Illustration Following Fueller & Hienerth 2004, p. 4

Derived from the task of the customer integration the necessary user indicators are determined in step one. Based on the innovation tasks the integration of lead users might seem especially suitable. After the determination of the designated customer profile online communities are identified where these customers might be encountered. In a third step the virtual interaction with these customers is designed according to the innovation tasks, thereby especially newer methods of customer interaction such as the above described user toolkits proved to be helpful. Finally in step 4 the actual customer integration and interaction is done (Bartl et al. 2003, pp. 148-155). Several empirical investigations show that members of online communities are motivated and capable to provide valuable input into the innovation processes of firms (Bartl et al. 2003; Fueller & Hienerth 2004). The majority even expressed their willingness to join further virtual product development processes.[72] Summarizing one can say that the community based innovation method is a suitable approach for firms to

[72] In the case of Bartl et al. (2003, p. 160) 60% of the participants expressed their willingness to take part in further new product development projects in the area of model railway. The number was even higher in the area of automotive new product development with 78% (Fueller & Hieberth 2004, p. 8)

conduct customer integration. The method thereby integrates different of the beforehand mentioned customer integration concepts such as the lead user or user toolkit concept. The aim of the community based innovation method is to permanently integrate suitable customer for different tasks into new product development processes of firms.

Yet the internet not only enhanced the ability of firms to engage with customers during innovation processes, but also to gain access to customer knowledge through an ongoing dialogue (Dahan & Hauser 2002). While the community based innovation method by Fueller and Hienerth (2004) was mainly concerned with the integration of members of privately organized online communities, firms can also tap into the social dimensions of customer knowledge shared in those communities on an ongoing rather than episodic basis, especially by creating their own online communities (Sawhney et al. 2005, p. 5). By doing so firm can fully exploit the potential of internet based customer integration (Ernst & Gulati 2003) and lower the costs for identifying suitable customers for conducting a customer integration (Bartl et al. 2003). In many cases, this firm-established online community is formed around the brand of the firm initiating the community, as the brand is the topic of shared interests for the customers. As already described and proposed in the present work members of (online) brand communities are especially suitable since they possess a very high product interest and frequently exchange product-specific knowledge as well discuss opportunities for new product ideas and improvements (Fueller et al. 2005, pp. 57-58; McAlexander et al. 2002, pp. 38-54; Schouten & McAlexander 1995, pp. 43-61). Furthermore they represent a collection of what Gruen and Ferguson (1994, p. 3) call “active loyalists,” customers of a brand who are “committed, conscientious - almost passionate” about the brand. Therefore they are not only suited for virtual customer integration but also motivated to do so.

A prominent example for such virtual customer integration with the help of a firm-established brand community is Ducati (Sawhney et al. 2005, pp. 10-12). They integrate members of their online brand community during different stages of the innovation process such as during idea generation and exploring new product concepts as well as during product design and market testing stages. Through their approach Ducati ensures to better understand customer needs and to gain deeper insights into new products and services as well as to receive instantaneous feedback on their development efforts.[73] As indicated by the studies above, firm’s can significantly benefit during virtual customer integration process by creating their own online communities. In the cases of firms, especially in the area of consumer goods, these online communities are mainly formed around the brand of the firm. In that respect, the present thesis will go one step further. It not only proposes members of firm-established (online) brand communities as a suitable source of participants for virtual customer integration into innovation processes of firms, but also examines the effects virtual customer integration has on the involvement and brand loyalty of firm-established (online) brand community members.

[73] For a more detailed description of the internet-based collaborative innovation initiatives based on the brand community of Ducati as well as of Eli Lilly see for example (Sawhney et al. 2005)

2.4.3.2.3 Determination of Customer Firm Interaction in Innovation Processes with the Help of the Transaction Cost Theory

In order to examine these influences further it is helpful to recall the different elements of the transaction cost theory and the influence online brand communities have on these. In general the emergence of a new sense of community in the form of brand communities and new means of communication such as online communities influenced the surrounding conditions of a firm (see section 2.4.1). Thereby new means of communication influenced the technical possibilities surrounding a firm and the emerging new sense of community as well as the active role of customers led to a shift in the socio-cultural environment. Together this yields to a shift and reduction of transaction costs. This is the case as it becomes in general more attractive for firms to interact with customers due to enhanced technical capabilities as well as the increased desire of customers to interact with firms. Besides others the new sense of community described in section 2.1.1. is one of the drivers for the enhanced desire for customers to interact with firms. Those two effects – the change in the technical as well as the socio-cultural surrounding of a firm – is combined in the phenomenon of online brand communities which therefore have significant implications for firms.

Based on the different factors influencing transaction costs, it compares different institutional forms. The resulting costs for the handling and organisation of transactions for different institutional forms are the decision criteria.

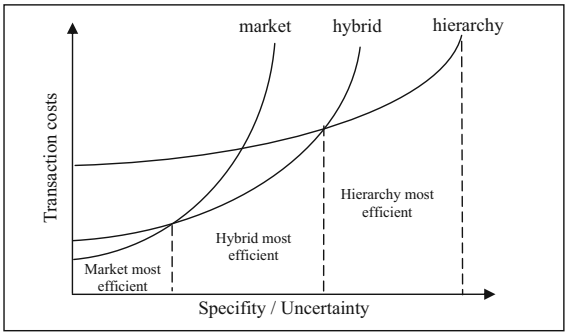



**Figure 21: Transaction Costs Arising in Different Institutional Forms**
Source: Own Illustration Following Picot et al. 2002, S. 84; Williamson 1991b, S. 284

As can be seen in figure 21, the transaction cost theory normally recommends a hierarchical solution the higher specifity, uncertainty, and the arising transaction costs are.[74] All this is also the case in the interaction between firms and customers during innovation processes. First of all, innovation processes of firms target the future, meaning that uncertainty regarding

[74] Transaction characteristics thereby refer to the dimensions to which transactions differ. These comprise the frequency of a transaction, the uncertainty combined with a transaction, and the extent of transaction specific investments (Williamson 1990, p. 59-69). These characteristics have an influence on the emergence of transaction costs and therefore on the identification of a suitable organisational form (Halin 1995, p. 62).

future environmental conditions is inherent to them. Furthermore the behaviour of the firm as well as the customer cannot be fully predicted due to bounded rationality (Williamson 1985, p. 57). A high level of uncertainty combined with bounded rationality of the transaction partner means that it is not possible for exchange partners to predict future behaviour. These two circumstances cause that uncertainty in the customer firm interaction during innovation processes is generally high. This leads to high transaction costs for forming the exchange relationship.[75]

Yet not only uncertainty tends to be high, but also the specifity of the exchange between customers and firms seems equally high. Williamson (1979, p. 142) describes specifity as investments, which are only valuable for selected transactions, specialized for only few customers. This means that they have a significantly lower benefit in another context than the originally intended (Williamson 1989, p. 242). Through such transaction specific investments a special dependence between the transaction partners is created (Williamson 1990a, p. 70-72). [76] This in turn increases the probability that one of the actors involved may display opportunistic behaviour. If the customer provides the firm for instance with customer needs and possible solutions to it, this firm might then be the only one to implement the solution and opportunistically exploit the situation with increasing prices.[77] In addition to those two characteristics the frequency of an exchange is another point to consider.[78] As firms strive to integrate customers permanently into their innovation processes, the frequency of such interaction increases. Summarizing one can therefore say that according to its nature the interaction between customers and firms during the innovation processes of firms are marked by high uncertainty as well as high specifity and that such collaboration is most suitable if just this is the case (Gruner 1997). All this would, according to the transaction cost theory, favour a specialised institution to be set up.

Although, according to the transaction cost theory a hierarchic solution seems to be the most efficient solution, this solution might not be totally appropriate. In order to describe this using

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[75] The transaction partners attempt to revise a part of the uncertainty through contracts that are as complete as possible, which in turn leads to increasing complexity and high transaction costs (Gruner 1997, p. 48). For a more detailed discussion on how more fully specified contracts can lead to the disappearance of agency costs see for example Aghion and Tirole (1994).

[76] Williamson (1991, p.281) distinguishes at least between six different forms of transaction specific investments. These are location specific investments, physical capital specific investments, human capital specific investments, consumer specific investments, investment in reputation, and term specific investments.

[77] In order to confront this different possibilities exist. The transaction partner can for example try to form a exchange agreement that is as detailed as possible thereby reducing the risk of opportunistic behaviour. In turn this results in higher transaction costs due the costs for the initiation and controlling of the transaction (Gruner 1997, S. 48). In that respect the dependent actor should try to achieve a relationship with balanced dependencies and thereby reducing transaction costs (Halin 1995, p. 64). A customer for example could have very specific information regarding future market-relevant needs and solution options thereby creating a two way dependency between itself and the possible manufacturer (von Hippel 1986).

[78] The frequency of a transaction refers to how often an identical transaction is conducted between transaction partners. With increasing frequency of a transaction economies of scale, synergies and learning effects can be realized which lead to a reduction of transaction costs (Halin 1995, p. 80).
"The frequency is also relevant for the selection of an efficient coordination and motivation instrument" (transl. by author) (Picot et al. 2002).For the original citation see Picot et al. (2002).

the transaction cost theory, it is necessary to move from a transaction cost *minimizing* perspective for a *single* actor to a transaction value *maximizing* perspective for a *network* of actors.[79] Thereby it is advisable to choose a trans-organisational strategy. This maximizes the transaction value for all participants, even if it requires less efficient institutional forms from a transaction cost theory perspective. As previously described firms have to open up their innovation strategies in order to develop product innovations more cost-efficiently, to integrate additional sources of ideas into their innovation processes, and to enhance the knowledge of their organisation (Zajac & Olsen 1993, p. 137). All of this leads to an increased innovation potential which cannot be realised with a purely hierarchical solution. In this case it might be suitable for firms to move from a hierarchical solution to a hybrid solution in the form of a firm-established (online) brand community. The reason for this movement is that due to the opening of their innovation strategies firms are confronted with the problem to control and steer their decentralised innovation activities. For this Sahwney and Prandelli (2000) offer a cooperative approach with their community of creation model In their model, a firm acts as a central sponsor in an online community landscape and defines the rules for participation, yet the innovation activity is spread among the entire community. This blends the benefits inherent to market and hierarchy solutions as predominantly described in the transaction costs theory. The community of creation model overcomes the rigid and centralized control mechanism of hierarchical solutions on one side, and the lack of strong governance and coordination mechanism of market systems (often susceptible to chaos) on the other side. This is done by the means of a community of creation - a permanable system with ever changing boundaries. Although the community of creation model enables self-organization of the community, it still preserves implicit and explicit sanction mechanisms to control the encounter of community members, as well as to limit the community participation to those who are really interested in knowledge sharing (Sawhney & Prandelli 2000, p. 48).[80] By combining the two extreme forms of hierarchical and market solutions, the community of creation model tries to overcome the inefficiencies of both. These inefficiencies are especially prevalent in turbulent environments.

Based on this method, a firm-established brand community, as a hybrid solution, enables firms to open up their innovation strategies and therefore enhance their innovative potential, yet still control their decentralized innovation activities with customers (Sawhney & Prandelli 2000). In the following, the suitability of the transaction cost theory for determining the division of tasks between customers and firms is examined in more detail.

In order to do so an extension of the transaction cost theory is used – the so called concept of **"**wissensökonomische Reife" (knowledge economy maturity; transl. by author). The

[79] The transaction value maximizing perspective assumes that a transaction cost minimization is less effective than maximizing the capital value of a trade-off (Zajac & Olsen 1993).

[80] The community of creation model is based on the concept of "ba" developed by Nonaka and Konno (1998). The concept of "ba" refers to a shared space for emerging relationships that serve as a basis for the creation of knowledge. For more information see for example Nonaka and Konno (1998).

proposition of the transaction cost theory is thereby that amongst all solutions with the same level of labour productivity, the solution with the lowest number of transaction and the simplest transaction form is used. In this respect Picot et al. (1999, p. 74) regard two characteristics as crucial. On the one hand the interdependencies between the sub-tasks and therefore the coordination efforts shall be minimised, on the other hand it has to be ensured that an expedient division of sub-tasks eliminates unnecessary transfer of knowledge between transaction partners. This is the case as certain human knowledge – so called implicit knowledge – cannot be articulated and transferred and therefore constitutes an additional form of interdependence.[81] Those two requirements imply that only goods or services are transferred which contain implicit knowledge (Dietl 1993). This implicit knowledge is then not required any further by the transaction partner for further handling. In that respect one has to bear in mind, that the task is divided in such a way that those person holding the implicit knowledge solve the responding sub-task (Picot et al. 2002). If this is not the case others would first have to acquire the necessary implicit knowledge, which is combined with high transaction costs (Picot et al. 2002). By introducing a standardized exchange procedure whenever a stage of "wissensökonomischer Reife" (knowledge economy maturity; transl. by author) is reached the transaction costs of such a transfer can be reduced.[82] This concept can also be applied to the integration of customer into innovation processes of firms with the help of firm-established online brand communities. First of all customers often possess particularly application-specific and need-oriented knowledge. This knowledge is mainly based on experiences and hard to articulate, therefore it is implicit in nature. On the contrary firms often hold specified knowledge in the area of problem solution and manufacturing, whose nature is often implicit as well. Due to these points the transfer of the implicit knowledge from either side to the other is costly, time consuming, and implies unreasonable high transaction costs, if possible at all (Dietl 1993).[83] Furthermore firm-established online brand communities may serve as such a standardised exchange procedure between customers and firms whenever a stadium of knowledge maturity is reached and thereby reduce the transaction costs normally associated with the integration of customers in innovation processes of firms.

Based on this method, a firm-established brand community, as a hybrid solution, enables firms to open up their innovation strategies and therefore enhance their innovative potential,

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[81] The concept of implicit or tacit knowledge comes originally from Polanyi (1966). According to him implicit knowledge is knowledge that people carry in their minds and which is therefore difficult to access. Yet this knowledge is extremely valuable during an innovation process and therefore of major importance for firms. For more information see for example Polanyi (1966) or Dietl (1993).

[82] For a more detailed description of standard exchange procedures see for example Dietl (1993, pp. 171-179).

[83] This concept of knowledge maturity is very similar to the sticky information concept by von Hippel (2005) as both base their recommendation on minimizing transaction costs by task division on the locus of implicit or sticky knowledge. With his sticky information concept von Hippel (2005) tries to examine why users are motivated to conduct innovations themselves. Thereby central aspects of his concept are already integrated in the transaction cost theory. Yet von Hippel is aware of this as he describes stickiness as consequence and not as a cause.

yet still control their decentralized innovation activities with customers (Sawhney & Prandelli 2000). Compared to a total market solution, such a hybrid solution has the advantage that some control and interaction mechanism, suitable especially in the case of frequent interactions, are still available to reduce opportunistic behaviour and therefore possible transaction costs due to prevailing norms and behavioural patterns within the community (Donaldson 1990; Ouchi 1980). Furthermore, as described in the previous sections, firm-established online brand communities reduce the transaction costs for firms to identify suitable customers since the time and costly search for customers is reduced, as well as the transaction costs for actually conducting the customer integration due to the increased possibilities for interacting and communicating virtually (Bartl et al. 2003). Yet most importantly for this thesis, a firm-established brand community stimulates brand loyalty and word-of-mouth communication due to higher customer firm interaction and integration as described in the previous sections.

## 2.5 Conclusion

The aim of chapter two was to show the importance of brand communities not only for customers but also for firms. It started with a description of negative developments in traditional community forms and the decline of a sense of community. Yet this development also triggered the emergence of alternative community forms and the re-embedding of individual action in social coherences (Dollhausen & Wehner 2000, p. 78; Giddens 1990). Technology, and especially communication technology such as the internet, proved to be an enabler since place is no longer a prerequisite. Communities, which enable the combination of abstract online relations with real-world offline relations, will increasingly induce social capital (Blanchard & Horan 1998, p. 305). The re-emergence of a new form of community thereby combines traditional community values with individual needs such as self-realisation as well as functional needs. Decisive for this new sense of community is the existence of shared interests, identification with the community, and thereby the creation of a social identity. Brands can play a significant role in this perspective, due to their strong potential for emotional attachment. Thereby the analysis of prominent brand community studies in section 2.2.2 showed the special characteristics of brand communities and the overall relevance brand communities constitute for consumers and firms.

In an analysis of the implications of brand communities for consumers, interaction theories proved to be helpful in identifying general reasons for participation. Moreover people especially join brand communities, as (a) brand communities increase the influence of consumers in brand shaping (consumer empowerment), (b) represent an important information resource about the brand, and (c) provide wider social benefits to its members through the interaction with other community members and the brand itself.

This re-empowerment of consumers through brand communities can lead to problems for firms such as (a) opposition to other brands, (b) definition of who is a legitimate customer of the brand, (c) desired marginality of brand community by its members, and (d) claim of ownership on the brand by the brand community (Muniz & O'Guinn 2005). Therefore section 2.4 was then concerned with the implications of brand communities for firms.

Yet an abundance of reasons for firms to engage in brand communities exist. The transaction cost theory proved to be helpful in analysing the implications for firms as it provided a general overview. The emergence of a new sense of community in the form of brand communities and new means of communication such as online communities influenced the surrounding conditions of a firm. New means of communication influenced the technical possibilities surrounding a firm and the emerging new sense of community as well as the active role of customers led to a shift in the socio-cultural environment. Together this yields a shift and reduction of transaction costs. This is the case as it becomes in general more attractive for firms to interact with customers due to enhanced technical capabilities as well as the increased desire of customers to interact with firms. These two effects come together in the phenomenon of online brand communities.

Two implications for firms out of brand communities were described further – achieving brand loyalty and integrating members of brand communities in innovation processes. Section 2.4.2 examined - based on several studies - how brand communities contribute to the economic success of firms namely in the form of increased brand loyalty. It turned out that brand communities play a decisive role in creating brand loyalty since the differentiation through product features mainly exists for a short time, whereas the social capital and differentiation derived out of a brand community membership serves as a long-term added value compared to competitors. This leads to increased word-of-mouth communication and a stronger brand loyalty. This effect was then analyzed further from a transaction cost theoretical perspective. Although firm-established (online) brand communities do not have a direct influence, they allow firms to more (transaction cost) efficiently interact with a larger number of customers in a deeper and more thorough way, thereby increasing the loyalty of their customers to their brand. The same holds true for word-of-mouth communication. Brand community members acquire new customers for the firm without (transaction) costly marketing initiatives from their side.

Section 2.4.3 then further analyzed a second implication – integrating members of brand communities in innovation processes. Therefore an overview about existing concepts such as the lead user concept and the user toolkit concept and methods for the integration of customers into innovation processes of firms was given. It turned out that the topic of customer integration is more important than ever before for firms and that new communication technologies arising with the advent of the internet enable firms to do just this more effectivly and efficiently as ever before. Online brand communities significantly reduce

the search costs normally associated with identifying adequate customers and the transaction costs necessary for conducting the customer integration, since it offers a virtual surrounding with social control mechanism. These are sometimes more efficient than economic mechanisms. Furthermore while the integration of customers into innovation processes of firms in the past was mainly selective, firm-established (online) brand communities provide firms with a tool to integrate customers permanently into innovation processes. Thus brand communities serve as an efficient and effective way to achieve this by lowering the transaction costs normally associated with such processes. In this case firm-established (online) brand communities enable firms to open up their innovation strategies and therefore enhance their innovative potential, yet still control their decentralized innovation activities with customers (Sawhney & Prandelli 2000). Firm-established (online) brand communities as hybrid organisational forms are proposed in this thesis as an appropriate interaction institution for firms and customers with equally relevant effects and implications for both.

## 2.6 Research Questions

As summarized in the preceding section, brand communities provide firms with the possibility of tying their customers to the brand, and with a source of customer-specific knowledge firms can leverage in their product development process. While the effects brand communities have on company goals - mainly brand loyalty - were already examined in several studies (e.g. von Loewenfeld 2006; Algesheimer et al. 2006), these studies did not explicitly and quantitatively prove that by creating their brand community, firms can significantly increase the brand loyalty of their customers. This means that a study examining whether the brand loyalty of firm-established brand community members increases with the time of membership and brand community existence needs to be conducted.

A related point holds true for customer integration. While a large body of empirical research already showed that the integration of users in product development processes is attractive for firms (Herstatt & von Hippel 1992; Lilien et al. 2002; Franke et al. 2006), the main drawbacks of customer integration are the time and costs for its implementation (Olson & Bakke 2001; Lilien et al. 2002; Dignell & Mattila 2007). The existence of brand communities has the potential to reduce these costs, as brand communities not only provide firms with a pool of suitable and highly motivated customers to choose from (Bartl et al. 2003), but also allow them to tap the social knowledge of a large number of customers in an efficient and effective way (Duray 2002; Sawhney et al. 2005). Thus it was not yet examined as to whether firm-established brand communities – as a hybrid institutional form – represent a promising source of qualified customers as well as a suitable virtual environment with social mechanisms to reduce the transaction costs for conducting customer integration. Furthermore the involvement of the brand community members towards the product, the brand, and other customers can be enhanced by firms when they try to integrate these customers into virtual

customer integration projects. During a new product development process, many situations arise in which customers add valuable input for firms and have various contact points. This increased interaction of firm-established brand community members in turn increases the involvement of the members with the brand, the product and the brand community and hence their brand loyalty and word-of-mouth communication.

Based on these theoretical foundations, the further empirical examination will be manifold. It will analyse the implications of a membership in a firm-established brand community with regard to possibilities for customer loyalty. This leads to an outlook as to how firms can leverage their brand communities by integrating members permanently into their product- and marketing development processes and thus increase their involvement and brand loyalty & word-of-mouth communication. To do so, the following research questions will be empirically examined with the help of the M Power World, a firm-established brand community by BMW M:

1. Does the creation of a firm-established brand community have a positive influence on brand loyalty and word-of-mouth communication? Is it worthwhile for a firm to create its own brand community?
2. Is a firm-established brand community suitable for a successful integration of customers in the new product development processes?
3. Does customer integration increase the involvement and thus the brand loyalty & word-of-mouth communication of firm-established brand community members?

# 3 Derivation of Hypotheses

## 3.1 Brand Loyalty

Based on the discussion about brand loyalty effects of brand communities in section 2.4.2 and the analysis of previous brand community studies, section 3.1.1 examines the influences of firm-established brand community membership before section 3.1.2 distinguishes between different types of community members. Part 3.1.3 focuses on the interrelation between brand loyalty and displayed lead user characteristics.

### 3.1.1 Membership Influence

**Static effects –** Members of brand communities influence each other in their brand and product selection. Differentiation through product features exist for a short time only whereas the social capital and differentiation derived out of a brand community membership serves as a long-term added-value compared to competitors. In that way brand communities induce loyalty to a brand (e.g. Algesheimer 2004, p. 110). This observation is in line with a growing body of research indicating that loyalty is built in more complex and dynamic ways than just in the classical satisfaction leads to loyalty model (e.g. Fournier 1998; Oliver 1999).[84] Other indicators such as involvement, trust, or commitment were identified as influencing loyalty (Oliver 1999; Berry 1995; Garbarino & Johnson 1999).[85] Brand loyalty is defined as a "deeply held commitment to re-buy or re-patronize a preferred product / service consistently in the future, thereby, causing repetitive same brand set purchasing, despite situational influences and marketing efforts having the potential to cause switching behaviour" (Oliver 1999, p. 34).

Several studies already examined that individuals influence each other in their purchasing decision, which in turn leads to brand loyalty (Holt 1995; Holt 2002; Cova & Cova 2002). Brand communities in particular play a decisive role, since the interaction between members of a brand community is centred around a brand (Schau & Muniz 2002, pp. 344-345). Based on this, McAlexander, Kim and Roberts (2003) investigated the importance of brand community integration for creating brand loyalty. Algesheimer, Dholakia and Herrmann (2005) confirmed that brand community membership leads to intended positive behaviour for firms such as membership continuance, brand recommendation, active participation, and loyalty. They even attested that all intentions translated into corresponding subsequent behaviour.[86] Participation in the Harley Owner's Group has been found to increase members'

[84] The predominant view was that customer satisfaction leads to brand loyalty (Homburg et al. 2003).
[85] For more information see for example Delgado-Ballester (2002) and Garbarino and Johnson (1999).
[86] They also observed that brand community membership does not only influence their members in positive way for firms but also in negative such as normative pressure and the obligation to abide by the brand

affection for the Harley brand, making them committed, dependable, and in many cases, even evangelical consumers (Fournier et al. 2001).

While these studies mainly examined physical brand communities, online brand communities have an even greater impact, since they simply reach a larger group of customers. In his study von Loewenfeld (2006) quantitatively examined different types of brand communities, the majority of which were firm-established and online. It turned out that brand communities increase the loyalty to a brand and that brand community members are more loyal to the brand than non-members. This finding was confirmed by a recent study by Algesheimer and Dholakia (2006). In this study members of a brand community were as well more loyal to a brand than non members. Furthermore firm-established (online) brand communities enable firms to employ this brand loyalty leverage on a larger scale, as they are no longer bounded to the trade-off between reach and richness of interaction. Virtual environments enable them to interact with a greater number of customers in a more thorough way at even lower transaction costs.

On the basis of the findings above, word-of-mouth communication is seen as part of the brand loyalty construct for this thesis. Both aspects measure intended behaviour (see figure 13 in section 2.4.2) and as brand community members are devoted to the brand and membership in a brand community represents a social benefit to them, they are very active and positive brand ambassadors. They actively and frequently recommend the brand to potential customers. By doing so, they acquire new customers for the brand and the firm through positive word-of-mouth communication. This was confirmed by a study from von Loewenfeld (2006), who observed that community members exhibit higher word-of-mouth recommendations by brand community members. This in turn can lead to the acquisition of new customers for a brand as a study by Helm (2000) in the consumer goods sector showed.[87] As most empirical studies found a positive effect between brand community membership and brand loyalty as well as word-of-mouth communication, the following hypotheses are proposed:

> ***H1a:*** *Members of a firm-established online brand community exhibit a higher brand loyalty to this brand than non members.*

> ***H1b:*** *Members of a firm-established online brand community exhibit a higher word-of-mouth communication of this brand than non members.*

**Dynamic effects -** While the effects brand communities have on brand loyalty have already been examined in several studies (see above), these studies did not explicitly examine whether by creating their own brand community, firms can significantly increase the brand loyalty of their customers. This means that these studies did not observe any variation over time of

communities' norms and thereby influencing the customer's behavioural intentions in a negative way (Algesheimer et al. 2005).

[87] The finding of higher loyalty to a brand by members of a brand community compared with non members was also confirmed by recent studies by Algesheimer and Dholakia (2006) as well as Algesheimer, Herrmann and Dimpfel (2006).

brand community membership on brand loyalty and word-of-mouth communication. Yet Algesheimer, Dholakia and Herrmann (2005) confirmed that brand community membership leads to intended positive behaviour for firms such as membership continuance, brand recommendation, active participation, and brand loyalty. They even attested that all intentions translated into corresponding subsequent behaviour by conducting a second wave study. Similarly Algesheimer and Dholakia (2006) observed the difference between members and non-members of the official ebay community „The differences were astonishing. Lurkers and community enthusiasts bid twice as often as members of the control group, won up to 25% more auctions, paid final prices that were as much as 24% higher, and spent up to 54% more money (in total)“ (Algesheimer and Dholakia 2006, p.26).

As these studies show, brand loyalty is not merely a consequence of a positively perceived relationship to the brand, but is significantly influenced by social experiences customers experience with like-minded individuals in brand communities. This is the case when members of brand communities communicate and interact with each other over the course of time about the central aspect of the brand community – the brand itself. Thus interaction and brand community participation integrates members deeper into their community (Kozinets 1999).

Coming back to the brand community concept of Muniz & O'Guinn (2001), they describe brand communities with a triadic relationship between customer-customer-brand. They thereby emphasize the role intercustomer relationship play "in the loyalty equation" (McAlexander et al. 2002, p. 39). Participation in a brand community enables members to use witherto unrealized product features, to share these experiences with others and to experience the brand in a more thorough way. All this leads to increased brand loyalty the longer and more engaged the member is in the brand community. Hence the following hypothesis examines whether the brand loyalty of brand community members increases with the time of membership and brand community existence:

> ***H2a:*** *The creation of a firm-established online brand community has a positive influence on the brand loyalty of the participants.*
>
> ***H2b:*** *The creation of a firm-established online brand community has a positive influence on the word-of-mouth communication of the participants.*

### 3.1.2 Different Types of Community Members

Similar to the distinction between brand community members and non members, this section analyses the brand loyalty effects of membership in firm-established brand communities for differing types of community members. Thereby the same differentiation between static and dynamic effects is made. Yet before this is done the different types of community members are explained.

**Types of Community Members** – In a most basic differentiation Algesheimer and Dholakia (2006) distinguish between "community enthusiasts" and "lurkers". They describe community enthusiasts as those members who actively participate in brand communities. This means that they post messages, join discussions and help others. In contrast, lurkers represent those members who read others' posts yet do not actively participate in the brand community themselves.

In a more thorough analysis Kozinets (1999) distinguishes between community members according to their attachment and reason for joining. He thereby classifies members according to two factors – the relation with the consumption activity, and the relation with the community. The first refers to how central the consumption activity is to a person's psychological self-concept. If the consumption is important to a person he is more likely to pursue and value membership in a community centred around this consumption. The second factor describes the intensity of social relationships with other community members. Although the two factors often interrelate, they allow for differentiation between four distinct member "types" (see figure 22). In the lower left corner tourists are marked by weak social ties to the group, and only a passing interest in the consumption activity. In contrast, minglers maintain strong social ties, but are also only temporarily interested in the consumption activity.

The next two types differ insofar as they maintain a strong interest in, and enthusiasm for the consumption activity. Devotees have few social attachments to the group whereby insider have strong social ties and strong personal ties to the community (Kozinets 1999, pp. 254). This distinction between different member types allows a more specific description of the motivation for participation and enables companies to target these customers more subtly (Kozinets 1999, p. 255).

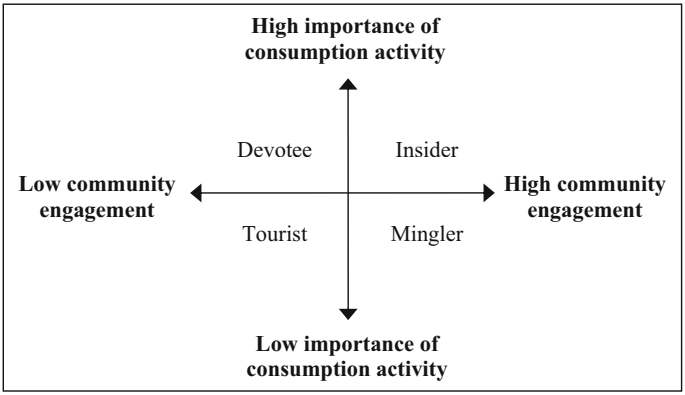


**Figure 22: Types of Community Members**
Source: Own Illustration Following Kozinets 1999, p. 255

Comparing both concepts and bringing them together, the community enthusiasts of Algesheimer and Dholakia (2006) match the insiders of Kozinets (1999). Both are marked by highly active brand community participation. In contrast, lurkers correspond to the description of both minglers and tourists of Kozinets (1999). However, the difference between these members is that minglers are willing to get engaged in the brand community over time whereas tourists are not interested in a high brand community engagement.

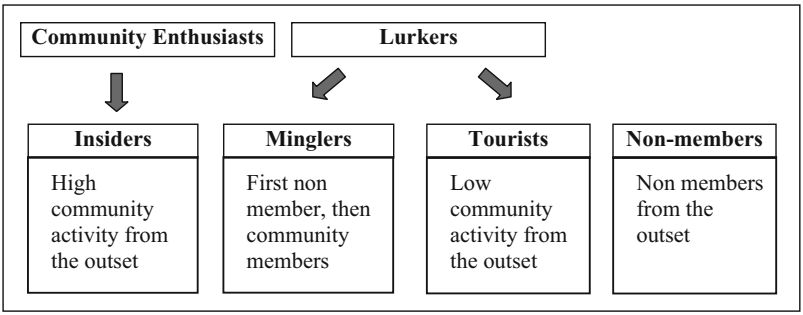


**Figure 23: Types of Community Members**
Source: Own Illustration Following Algesheimer and Dholakia 2006; Kozinets 1999

For the present thesis, minglers are thus defined as those community members who did not join the brand community from the outset, but who did become members later. From then on they become willing to engage in the brand community. In contrast, tourists represent those community members who display a low community activity from the outset, whereas insiders display a high community activity from the start. Devotees are not considered further, as the consumption activity or brand is already important to them and they are not interested in a high brand community engagement. Of more importance for this thesis is the comparison with non members. Based on those findings figure 23 summarizes the differing types of community members, the present thesis will focus on.

**Static effects** – As already described in preparation for hypothesis 1 members of a brand community influence each other in their brand and product selection. In general one can say that the brand loyalty effects of brand communities arise from the fast diffusion of knowledge about and experience with, products and brands. These exchanges of opinion then influence the product and brand selection of other members (McAlexander et al. 2002, pp. 40). Although a stronger integration into the brand community leads to higher brand loyalty as well as to higher satisfaction, the influences differ between different types of brand community members. In the case of Algesheimer and Dholakia (2006) the differences were astonishing. Brand community members with a high community engagement were significantly more loyal to the brand than more passive users. Already McAlexander et al. (2003, pp 6-7) observed that in case of more experienced users the integration into the physical brand community is more important than the overall satisfaction in building loyalty.

Algesheimer and Dholakia (2006, p. 26) examined this further and found out that community enthusiasts are far more engaged in the community than lurkers and members of the control group. Thus community enthusiasts exhibit higher brand loyalty intentions as well as word-of-mouth recommendations. This is the case with community insiders, who normally exhibit the highest interest in the consumption activity or brand (Kozinets 1999). This leads to the following hypothesis:

> ***H3 a:*** *The higher the status of a participant within a firm-established brand community the higher his / her brand loyalty intentions are.*
>
> ***H3 b:*** *The higher the status of a participant within a firm-established brand community the higher his / her word-of-mouth communication is.*

**Dynamic effects –** In order to analyse the dynamic effects membership in a firm-established brand community has on different types of members it is helpful to recall that members of brand communities communicate and interact with each other over the course of time about the central aspect of the brand community – the brand itself. Through their participation in a brand community, members are able witherto to use unrealized product features, share these experiences with others and experience the brand in a more thorough way. This leads to increased brand loyalty, the longer and more engaged the member is in the brand community. How these brand loyalty effects spread between different types of brand community members is explained, by the loyalty ripple effect described by Gremler and Brown (1998). According to them loyal customers have two types of benefits – direct and indirect. The direct benefit results from higher brand loyalty due to company activities. Yet similar to the analogy of a "pebble tossed into a still pond" (Gremler & Brown 1998, p. 274) not only to the targeted customers get more loyal, but also the effects reach even further. These loyal customers win new customers for the firm or convince less loyal customers through word-of-mouth communication. The analogy of ripples refers to the far reaching influences a loyal customer has on the organization and other customers. Such loyal customers who are so satisfied with a brand that they refer it to others are described as "apostles" (Heskett et al. 1994) or "advocates" (Cross & Smith 1995). Similarly Reichheld (1996) argues that some customers are inherently more loyal than others.

Transferred to the differing brand community member types apostels correspond with the highly engaged and loyal community enthusiasts (insider) (Algesheimer & Dholakia 2006; Kozinets 1999). Firm-established brand communities – as a direct effort by firms to maintain or even increase the brand loyalty of insiders – offers them the ideal platform to recommend the brand to other less loyal customers through word-of mouth communication in the form of forum posts (Gremler & Brown 1998; Muniz & O'Guinn 2001, Algesheimer et al. 2006). Through this word-of-mouth communication by insiders, the brand loyalty of brand community minglers and novices should increase while the brand loyalty of tourists should stay the same since they are not willing to get more engaged into the brand community.

The spread of brand loyalty over the duration of brand community membership corresponds to McAlexander et al. (2003, p. 7), who states that loyalty "is an evolutionary process driven by experience". Experience serves as a way to create strong bonds with the brand community and in that respect has effects on satisfaction and loyalty. "Community-integrated customers serve as brand missionaries, carrying the marketing messages into other communities" (McAlexander et al. 2002, p. 51). This discussion leads to the following hypothesis for the different types of firm-established brand community members:

> ***H4 a:*** *The higher the status of a participant within a firm-established brand community the higher the positive effect on the change of brand loyalty intentions from the creation of a firm-established brand community.*
>
> ***H4 b:*** *The higher the status of a participant within a firm-established brand community the higher the positive effect on the change of word-of-mouth communication from the creation of a firm-established brand community.*

### 3.1.3 Product Quality Perception

The preceding sections were concerned with the effects membership in a firm-established brand community has on brand loyalty (static and dynamic) for members and between different types of members, this section deals with the effects product quality perception has on brand loyalty.

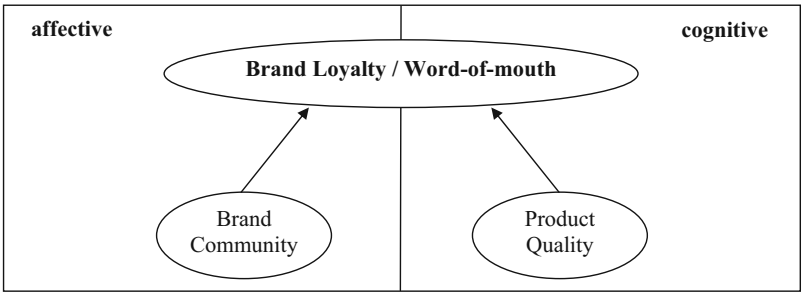


**Figure 24: Enhanced Brand Community Model**
Source: Own Illustration Following von Loewenfeld 2006, p. 277

As different studies pointed out, product quality perception is one of the main contributors to brand loyalty (e.g. Algesheimer et al. 2004; Algesheimer et al. 2005). This was also considered by von Loewenfeld (2006) in his brand community study. He extended his Brand Community Quality construct with a cognitive branch in the form of product quality in order to measure the economic relevance of brand communities. With this model Loewenfeld (2006) examines the effect of brand community quality (affective) on word-of-mouth and loyalty behaviour of the customer as well as the effect of product quality (cognitive) (see figure 24).

It turned out that brand community membership, as well as product quality perception increases the loyalty to a brand. Yet the affective brand community membership is even more responsible for creating word-of-mouth communication and a stronger brand loyalty than the more cognitive affected product quality perception. Following these findings hypothesis 5a is postulated.

> ***H5 a:*** *The higher the static product quality perception of a participant the higher its brand loyalty intentions are.*

The same effect is postulated for the change in the product quality perception over time on the dynamic brand loyalty intentions:

> ***H5 b:*** *The higher the dynamic product quality perception of a participant the higher the positive effect on the change of brand loyalty intentions.*

### 3.1.4 Effects of Private versus Firm-Established Brand Communities

In addition to brand community membership and product quality perception, this section is concerned with the effect membership in a privately organized brand community has on the brand loyalty (static and dynamic). As was anticipated above for firm-established brand communities a membership in a privately organized brand community should also have a positive effect on brand loyalty intentions. The reason being that the underlying relationships (customer-customer, customer-brand, and customer-community) are also valid for privately organized brand communities. Hence the following hypothesis is postulated:

> ***H6a:*** *Members of a private online brand community exhibit a higher brand loyalty to this brand than non members.*

Yet compared to membership in a firm-established brand community this effect should not be as strong, especially since the relation customer-brand can be leveraged more intensely throughout a firm-established brand community were a direct interaction between firms and customers exist. Therefore the following hypothesis is postulated:

> ***H6b:*** *Membership in a firm-established online brand community has a stronger effect on brand loyalty than membership in a privately organized online brand community.*

The same two effects are also postulated for the analysis of the change of brand loyalty over time.

> ***H6c:*** *Membership in a private online brand community has a positive effect on the change of brand loyalty intentions.*

> ***H6d:*** *Membership in a firm-established online brand community has a stronger positive effect on the change of brand loyalty intentions than membership in a privately organized online brand community.*

### 3.1.5 Lead User Characteristics and Its Influences on Brand Loyalty

This section deals with the mediating effects lead user characteristics have on brand loyalty. Already Muniz and O'Guinn (2001) suggest that brand communities are a good place to look for lead users of the brand. This is the case as "users at the leading edge of a target market often congregate at specialized sites or events that manufacturers can readily identify" (von Hippel 2005, p. 136). Through their community membership they have access to a bigger information source and receive more information from more individuals. It has been shown by empirical studies that users with high lead user characteristics posses more information than other users. An empirical study of Jeppesen and Frederiksen (2006) arrived at similar results. In their case, especially innovative users rated their online user community membership as helpful in finding people who contributed to their ideas (Jeppesen & Frederiksen 2006). In addition to that, innovators in particular rate community memberships helpful in increasing their own experience and skills and getting input for their ideas and innovations (Jeppesen & Frederiksen 2006).

As explained above, the reasons for brand community membership, besides a shared sense of belonging, are to obtain support and information. On behalf of the brand, those communities carry out two important functions for users: sharing information and providing assistance (Muniz & O'Guinn, p. 427). Furthermore the users themselves possess and exchange product-specific knowledge (Fueller et al. 2005, pp. 57-58). Brand communities therefore embody a large pool of product know-how which members with high lead user characteristics can tap into. This corresponds with findings of Kozinets (1999). He reveals that devoted, enthusiastic, actively involved and sophisticated users in online communities demonstrate lead user characteristics and are highly respected within the community (Kozinets 1999, p. 255; Fueller et al. 2004, p. 3). Therefore the following hypothesis is postulated:

> ***H7 a:*** *Firm-established brand community members exhibit higher lead user characteristics than non members.*

Based on these findings brand community members with higher lead user characteristics represent those members who are very engaged and involved in the community. They are likely to belong to the insider member type. Thus it is assumed that participants with higher lead user characteristics are also more brand loyal than participants with lower lead user characteristics. Therefore the following hypotheses are examined:

> ***H7 b:*** *Participants with higher lead user characteristics exhibit higher brand loyalty intentions.*

Similar to the derivation of the hypotheses in the previous sections it is assumed that brand loyalty varies over the course of time, whereby the effect depends on the level of lead userness of a participant. The reason for this assumption is that brand community members are more likely to display lead user characteristics and that they interact with each other over

the course of time about the central aspect of the brand community – the brand itself. Thus the following hypotheses is proposed

> ***H7 c:*** *Participants with higher lead user characteristics exhibit higher positive change of brand loyalty intentions.*

### 3.1.6 Summary

The afore-mentioned hypotheses on brand loyalty were first concerned with the effects firm-established brand communities have on its members compared to non-members on a static basis yet also over the duration of membership. On this basis the next section examine steps how brand loyalty effects differ between various types of community members. Finally the mediating effects of product quality perception, private versus firm-established brand communities, and lead user characteristics were taken into account. For an overview about the interplay of the different hypotheses on brand loyalty effects of firm-established brand communities see figure 25.

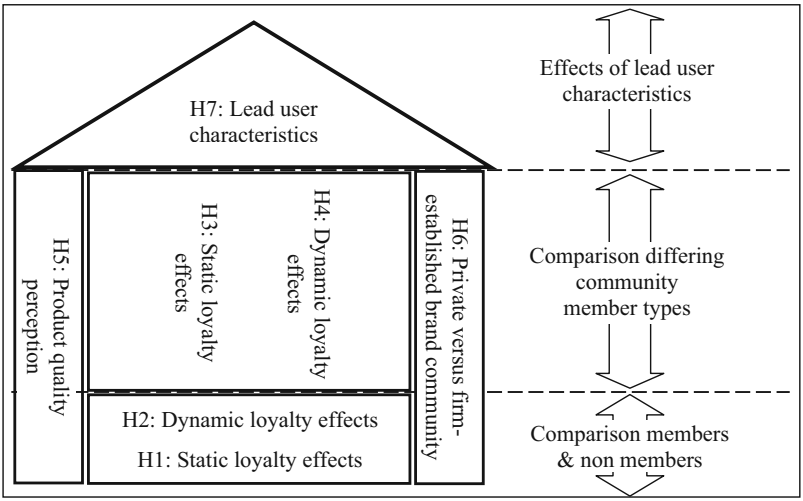


**Figure 25: Overview Hypotheses on Brand Loyalty**

## 3.2 Customer Integration

As previously indicated members of firm-established brand communities seem to be suitable for conducting customer integration. They represent a large product-related knowledge-base and are a promising source of innovations (Verona et al. 2006). Integrating these firm-established brand community members increases the involvement with the brand, the product and the brand community and hence the brand loyalty & word-of-mouth communication.

Hence the following sections analyse whether virtual toolkits are suitable to integrate members of firm-established brand communities into the innovation processes of firms. Based on this, sections 3.2.2 and 3.2.3 deal with generated ideas and the willingness of participants to take part in customer integration projects. Finally section 3.2.4 examines the effects of participating in customer integration on brand loyalty and word-of-mouth communication.

### 3.2.1 Suitability of Virtual Toolkits

The aim of toolkits is to help customers generate solutions to their needs. Von Hippel (2005, p. 147) writes: "The goal of a toolkit is to enable non-specialist users to design high-quality, producible custom products that exactly meet their needs".[88] A virtual toolkit in combination with a firm-established online brand community therefore enables brand community members to generate novel ideas and innovations and transfer these to firms. In order to achieve this, these toolkits should enable participants to describe their ideas in a clear and structured manner, describe their ideas completely and in full and to create completely new ideas. Yet von Hippel (2005, p. 147) demanded that user toolkits should enable non-specialized users to be innovative.

### 3.2.2 Idea Generation

Although virtual toolkits should enable non-specialized users to be innovative and to create novel ideas, it is the ideas of lead users that are especially interesting for firms. As von Hippel et al. (1999) revealed lead users in particular create "breakthrough products" in companies. Moreover, Lilien et al. (2002) argue that products developed with the help of lead users have a higher economic potential than traditionally developed products. Furthermore considering the two different lead user characteristics Franke and von Hippel (2003) found out that innovators exhibiting higher lead user characteristics generate ideas and innovations, which offer greater commercial attractiveness.

### 3.2.3 Participation Intentions

This section examines how participants are willing to engage in customer integration through virtual toolkits, not only on product development topics but also on marketing- and sales-issues. Up to now user innovation and virtual toolkits merely focused on product development topics (e.g. Herstatt & von Hippel 1992; Olson & Bakke 2001). Yet online brand communities gain an increasing amount of production as well as marketing legitimacy (Muniz & Schau 2007; O'Guinn & Muniz 2005). First studies examined how different methods and concepts of virtual customer integration with a high level of interaction can be suitable for firms in the area of marketing and sales. These studies indicate the marketing potential of

[88] See section 2.4.3.2.1. for more information on the user toolkit method.

brand communities (Muniz & Schau 2007). Thus it is assumed, that a high interest for customer integration on marketing- and sales topics exist as well.

Furthermore the different concepts for customer integration were applied by firms for certain topics only (Herstatt & von Hippel 1992; Olson & Bakke 2001; Lilien et al. 2002; Franke et al. 2006; Dignell & Mattila 2007; von Hippel 2005). Thus the widespread use of the internet and new communication in the form of new information technologies enable firms to do customer integration on a more permanent basis (e.g. Dahan & Hauser 2002). In different empirical investigations, it turned out that members of online communities are not only motivated but also capable of providing valuable input into the innovation processes of firms (Bartl et al. 2003, Fueller & Hieberth 2004). The majority of the members even expressed their willingness to join further virtual product development processes. In the case of Bartl et al. (2003, p. 160) 60% of the participants expressed their willingness to take part in further new product development projects in the area of model railways. The number was even higher in the area of automotive new product development. There, Fueller and Hieberth (2004, p.8) found that 78% of the participants were interested in further customer integration projects..

### 3.2.4 Influences of Participation on Brand Loyalty

From the manufacturer's point of view a virtual toolkit is a way of interacting with customers, whereby the customers have the opportunity to influence the product development processes of the company. By getting integrated into the innovation processes of firms, participants are also getting more involved with the product, the brand, and hence also the brand community.

But has the integration of customers in the innovation process of a firm also have a positive effect on brand loyalty? The importance of this question for firms lies in the central thesis that increased brand loyalty leads to higher sales and profits (Chaudhuri and Holbrook 2001). As discussed previously, the integration of customers into the innovation processes of firms leads to higher involvement on the part of the buyer. This in turn results in a stronger affective relationship with the product, the brand, and the brand community. Subsequently this leads to increased brand and customer loyalty (Gommans et al. 2001, p. 49). This effect was already indicated at in selected studies. Fueller and Hieberth (2004) for instance attested in their study that integration of community members into innovation processes of firms leads to increased brand loyalty intentions.

This discussion leads to the hypotheses that customer integration in the innovation process leads to higher involvement and ultimately higher brand loyalty and word-of-mouth communication among the persons who were integrated:

> *H1 a: The participation in virtual toolkits has a positive influence on brand loyalty intentions.*

*H1 b: The participation in virtual toolkits has a positive influence on word-of-mouth recommendations*

### 3.2.5 Summary

The preceding section started with an analysis of the suitability of virtual toolkits for integrating members of firm-established online brand communities. Based on this the willingness of participants to engage in projects concerned with marketing- and sales- issues and not merely product development projects was analysed. Thereafter, brand loyalty effects of customer integration projects were examined.

# 4 Concept and Methodology of Empirical Analysis

In order to measure the influence the creation of a firm-established brand community has on brand loyalty and word-of-mouth communication, an experiment is conducted. For the second object of investigation - the suitability of members of firm-established brand communities for customer integration – a customer integration is conducted with the members of the firm-established brand community. For these purposes the recently started firm-established brand community the "BMW M Power World" is used.

Chapter five starts with an analysis of the suitability of the automobile industry to examine the research questions posed by this thesis. Following this, an overview about the BMW Group is given, before the object of examination the "BMW M Power World" is described in more detail.

Based on this, section 4.2 explains the methodology of the empirical study on brand loyalty. The empirical analysis of brand loyalty effects is presented in detail in section 4.3. This section comprises the data description, a first descriptive analysis, and the empirical results of the hypothesis generated in chapter 3.

Section 4.4 is concerned with the second purpose of the empirical analysis. It explains the methodology and concepts of the empirical analysis of customer integration before section 4.5 describes the sample and the empirical results of the afore-generated hypotheses. Section 4.6 finally concludes chapter 4.

## 4.1 Suitability of the Automobile Industry

The fact that the automobile itself is a very emotional product is a first indicator for the suitability of the automobile industry for the empirical analysis of this thesis. Furthermore consumers are in general highly involved with their automobile as they have to make significant investments in time or money. Additionally automobiles are consumed and experienced in public (see for example Bearden & Etzel 1982, p. 185 ff.).[89]

As "things that are publicly consumed may stand a better chance of producing communities than those consumed in private" (Muniz & O'Guinn 2001, p. 415) the automobile industry is very eligible for communities. A large majority of brands in the automobile industry are emotional cult brands and fulfil many of the criteria a brand normally needs to fulfil in order for brand communities to emerge.[90] Therefore clubs and communities have a long tradition in the automobile industry and attract a high number of members. This critical number of members is necessary, because only then can consumer groupings influence the economic

[89] Due to these points automobile customers have a large economic relevance for firms as attested by several studies (Johnson et al. 1997; Unger 1998).

[90] For more information on the different criteria a brand needs to fulfil see for example (von Loewenfeld 2006, p. 278 ff.).

goals of firms. The same is true for online consumer groupings. In that area the automobile industry is one of the single most prominent topic (e.g Algesheimer et al. 2006; von Loewenfeld 2006).

Within the automobile industry the BMW brand is chosen as the subject of investigation for this thesis, as it is one of the most discussed brands in (online) brand communities.[91] Hence the BMW brand is examined further.

### 4.1.1 Background BMW Group

The automotive company BMW AG is a globally operating car manufacturer. The BMW Group consists of three brands: BMW, MINI, and Rolls Royce. They are all positioned in the premium car segment. The cars of the BMW brand are especially known for their sportive design, their innovative technical equipment, and the driving pleasure they give. At the core of all this is BMW M. While products of the BMW brand stimulate the fantasy of many people, this is even more the case for BMW M automobiles.

The BMW M GmbH is a wholly owned subsidiary of the BMW Group and consists of three business segments: BMW Individual, BMW Driver Training and BMW M Automobile. For this thesis BMW M Automobile is of importance.[92] The goal of BMW M Automobile is to develop innovative and sportive high-performance engines, whereby the core competence lies in the conception and development of individual and exclusive high-performance automobiles. Although BMW M emerged out of motor sport, its aim is to develop high-performance automobiles which are suitable for everyday life as well as for race courts. Around the BMW M automobiles and their victories in the motor sport an enthusiasm has emerged which has come to constitute the BMW M myth. This myth is the reason for the high involvement of customers and the nearly religious affiliation to the brand. Yet this differs between the different target groups of BMW M - “enthusiasts” and “me-too-customer”.

**The enthusiasts** are very technophile. They concentrate on tuning and caring for their automobile not only in their free time. Besides every-day use, the car is used on race courts. These customers generate a cult around the brand BMW M and are very brand loyal. The age lies between 19 and 49 years. Besides their passion for BMW M automobiles this target group is marked by a high internet affinity.

**The „Me-too-customer“** represent the bigger target group. These customers exhibit a lower brand loyalty than the enthusiasts. They would also buy a comparable product from another

[91] This can be confirmed for example with the fact that within one of the biggest privately organized communities concerned with automobiles in Germany – www.motortalk.de – the BMW brand is the one with the most threads and posts. www.motortalk.de last accessed on February 24th, 2009.

[92] BMW Individual of the BMW Group caters to the demanding requirements of some customers to individualize their car. By offering exclusive colour combinations and equipment, BMW Individual compositions enable an individual style. BMW Driver Training is a program from the BMW Group with the aim to enhance the driving ability and personal potential of the participants. For more information see www.bmw.com; last accessed on February 24th, 2009.

brand. The level of education is above average and the average age lies between 35 and 55 years. The internet affinity is lower and mainly concentrates on information search.

As the previous remarks on the target group of BMW M automobiles show, BMW M drivers represent an exclusive, demanding, and enthusiastic target group with sometimes very high brand identification. Due to this many clubs and brand communities formed around the BMW M brand. BMW M owners and devotees eager to meet like-minded individuals could, up to recently, only become a member in privately organized offline clubs or online brands communities. Offline BMW M Clubs are characterised by frequent rallies and tours organised by their members. Occasionally such a BMW M Club operates a homepage, but then its primarily use is to support the offline activities of the club and to bridge the time in between.[93] In contrast to this, BMW M brand communities are organised online and mainly consist of discussions in forums. Smaller offline events exist but the majority takes place online. Up to recently all BMW M online brand communities were privately organised by customers.[94]

Yet in order to fully utilise the effects of brand communities described in chapter two BMW M decided to initiate their "own" online brand community – the "**M Power World**". One of the main reasons for this decision lies in the high need for information and interaction around the BMW M brand. The departments of BMW M cannot fulfil this demand for continuous information and discussion with conventional communication channels.[95] In contrast to this, the creation of a firm-established brand community offers the possibility for simplified communication among customers and between customers and BMW M. This dialogue with BMW M through a firm-established online community is not only accepted by BMW M customers but highly desired (Wiegandt 2006).[96] The concept of the M Power World is explained in more detail in the next section.

### 4.1.2 Background M Power World

The M Power World – a firm-established online brand community - was started for German speaking countries in spring 2007. The M Power World is exclusively for BMW M drivers only. On the most basic level it can be separated into two areas:

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[93] Such a BMW M club can apply for the status of an official BMW M Club when it fulfils strict requirements of the BMW Group. They are then allowed to use the BMW logo and finance themselves by selling merchandise apparel with the BMW logo and their club name. Information on BMW Clubs was received from the person within the BMW Group who is responsible for the Council of BMW Clubs

[94] Information on BMW online communities was received from the person within the BMW Group who is responsible for the Council of BMW Clubs.

[95] This is the case as BMW M products cannot be marketed through mass-media communication channels such as radio, TV, or newspapers. The reason being that BMW M products are targeted at a small target group and mass-media communication would therefore have extremely high spreading losses.

[96] Yet an official BMW M community needs to provide an added value compared to privately organised communities. According to BMW M customers this could be answers to technical questions, deeper product information and exclusive driving experiences. For more information see Wiegandt (2006).

- an editorial part where editorial content is generated and published by BMW M and
- a user part where the content solely comes from the brand community members.

In the editorial part BMW M edits and publishes relevant topics about the BMW M brand and its products. This covers for instance product information or technical questions. In order to generate an added-value compared to classical communication channels and to privately organized brand communities, the editorial part contains previously un-released reports and film footage from product testing, background information on new automobiles, or just general first hand reports from BMW M employees.

The forum, as part of the user section, constitutes the main component of the M Power World. It enables the interaction between like-minded customers. In order to convey the fundamental idea of brand communities no content is predetermined by BMW M. Yet in order to maintain a certain level of quality in the discussions in the forum, the forum is moderated by a community manager from BMW M. The community manager is supported by selected customer co-moderators. In the M Power World BMW M combines the virtual with the physical world by organizing "official" brand community events and offering customers tools to organize their own gatherings and drives.[97]

Since the start of the M Power World in spring 2007 approx. 2500 to 3000 BMW M drivers registered (as of April 2008). This accounts for about 20 % of BMW M new car buyer in Germany. Thereby the distribution of the different BMW M models in the M Power World corresponds with the overall market distribution in Germany.[98]

Following the above mentioned points BMW M and the M Power World are an ideal object of investigation for this thesis. Due to its recent start the M Power World allows the examination of brand loyalty effects resulting from the creation of firm-established brand communities. Furthermore the high involvement and enthusiasm of BMW M customers leads to the assumption that members of the M Power World provide ideal prerequisites for customer integration projects. Yet before customer integration effects are analysed in sections 4.4 and 4.5, the next sections first of all describes the empirical research on brand loyalty effects of firm-established brand communities.

## 4.2 Method and Concept of Empirical Research on Brand Loyalty

In order to measure the influence the creation of a firm-established brand community has on brand loyalty and word-of-mouth communication, this thesis conducts a quasi-experiment. For this quasi-experiment, the start of the firm-established brand community by BMW M the "M Power World" is used. The BMW M Power World started at the beginning of 2007 and is

[97] According to Blanchard and Horan (1998) it is t his combination of abstract online relations with real-word offline relations that increasingly induces social capital. For more information see section 2.1.1.

[98] Information on the BMW M Power World was received from the persons within the BMW Group who are responsible for the M Power World.

therefore ideal for investigating the research questions of this thesis as it enables a measurement of the effect the start of a firm-established brand community has on the customers of the firm initiating the brand community.

A quasi-experiment describes a certain research design. It is similar to a "real" experiment except that the allocation of the participants to the different groups is not randomized (Stock & Watson 2007, pp. 494-495). Experimental research in general distinguishes itself from non experimental research in two respects:

- It is possible to measure effects of change on dependent variable through active and systematic modification of at least one independent variable.
- Through the elimination of the effects of other variables, disruptive factors can be controlled (Stock & Watson 2007).

The requirements for an experiment are that it produces measurable effects and that it is comprehensible, repeatable, and objective. This means that the same results emerge when the experiment is repeated by other individuals at different places and / or at differing times.[99]

The difference with a quasi-experiment is that, due to the missing randomization, mere coherences can be detected, but not the direction of the coherences, as no control over disruptive factors is possible.[100] Yet a quasi-experiment still has the advantage that it allows one to measure the effects the modification of one variable produces and the resulting coherences.[101] This research design is therefore well suited to investigate the effects the membership in a firm-established brand community has on its members.

In order to utilize the advantages of a quasi-experiment a reference measurement was conducted during the start of the M Power World. In this reference measurement, BMW M customers answered questions about their brand loyalty intentions and word-of-mouth communication with the help of an online questionnaire. As the M Power World takes place on the Internet and the members mainly interact over the Internet an internet-based questionnaire seemed highly appropriate. The population could hardly have been reached in other ways and virtually all BMW M online community members have access to the Internet. The reference measurement was followed by a second wave study six month later and a third wave study 12 month later. By this a variation in brand loyalty intentions and word-of-mouth communication can be examined. Furthermore participants in the quasi-experiment were divided into a reference and a control group, depending on whether they are members of the M Power Word. Members serve as the reference group and BMW M customers who do not

[99] For more information on experiments see for example Stock and Watson (2007).

[100] Within a "real" experiment this problem is solved by the randomization of the group allocation. Through this the results of a valid experiment can be explained with the modification of the independent variables as the other influences have not been changed.

[101] The disadvantages of quasi-experiments and experiments in general are the high costs and the necessary time to conduct them. For more information on the advantages and disadvantages of an experimental research design see for instance Stock and Watson (2007).

participate in the M Power World as the control group. This differentiation enables a more precise specification of causes for possible brand loyalty variations. As explained above the participants could not be divided into two groups randomly, therefore the present research design represents a quasi-experiment and not a "real" experiment (Stock & Watson 2007, pp. 494-495). The following paragraphs describe the online questionnaire in more detail, before the three phases of the quasi-experiment are examined

In the online questionnaire, the participants answered questions about their participation in the M Power World, privately organized BMW M brand communities, and brand communities of other brands. Furthermore participants were questioned on their ownership and usage of BMW M automobiles and whether they had undertaken innovative changes to their car. In addition to that they were asked about their perception of the product quality, their satisfaction with it, and their brand loyalty intentions and word-of-mouth communication. Finally the participants were asked about their socio-demographical background and their contact details. With the help of the Email addresses and their stated answers, the participants can be divided into customers participating in the newly created BMW M Power World and those who do not participate. Participating customers serve as the reference group while customers who do not join the BMW M Power World function as the control group, thereby ensuring that changes in brand loyalty over time can be explicitly connected to membership in a firm-established brand community. The mapping of the answers to the individual participants over time is achieved through the Email addresses.

The content of the questionnaire was based on different sources. Several items are either taken directly from other brand community studies or are adapted slightly to fit the examination of the M Power World. This allows a comparison with previous empirical studies. Questions on the participation and integration in brand communities are based on the study by Muniz and O'Guinn (2001). As presented in section 2.2.2 of this thesis they identified three relationships which a brand community influences.[102] Furthermore, through the development of brand community indices and possible items McAlexander et al. (2003) and especially von Loewenfeld (2006) further extended these relationships. Comprising these points the brand community integration was measured in the questionnaire on the following three levels: customer-brand, customer-customer, and customer-community.

Customer - brand relationship: This relationship is mentioned in the brand integration measurement by McAlexander et al. (2003) and in the BCQ index by von Loewenfeld (2006). This relationship is according to von Loewenfeld (2006) made up of three different factors: enduring brand involvement, brand identification and brand-customer interaction. The first refers to the fact that a brand community combines enthusiasts of a brand. Yet a sole focus on enthusiasts neglects all members who have an enduring brand interest. Therefore enduring brand involvement is used as a measurement since it comprises personal interest and

[102] Those relationships have been discussed in detail in section 2.2.2

relevance of a brand (e.g. Costley 1988, p. 554).[103] The second item measures the identification a person has with a brand. Although similar to brand involvement it refers more to the attractiveness of a brand. Furthermore a brand community not only combines brand enthusiasts but also gives these members the possibility of interacting with each other and the brand itself. This is measured with the third factor – brand - customer interaction. Combined these factors provide a comprehensive measurement of the customer - brand relationship

Customer - customer relationship: This relationship is mentioned in both measurements by McAlexander et al. (2003) and von Loewenfeld (2006) as a constitutive element of brand communities. The customer – customer relationships refers to three differing factors: customer – customer interaction, commonness and friendship and support (von Loewenfeld 2006). The first factor measures the social interaction like-minded persons can experience in brand communities. In addition the second factor refers to the degree of commonness members of a brand community exhibit. Already two of the brand community characteristics described by Muniz and O'Guinn (2001) refer to the commonness of its members.[104] The third item describes the "caring and sharing ideal" (Kozinets 2002a, p. 20) of communities from a traditional point of view. As described in the section on community development in this thesis newer forms of communities combine traditional community values with more functional and personal needs. In combination these factors make up the customer – customer relationship.

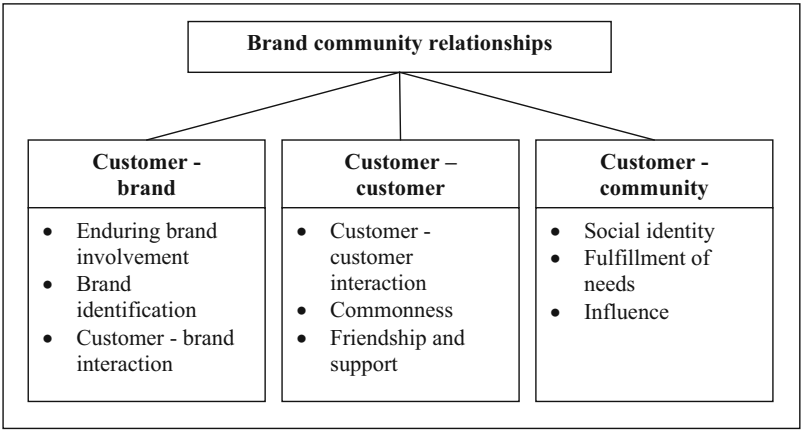


**Figure 26: Brand Community Relationships and Conceptualisation**
Source: Own Illustration Following von Loewenfeld 2006, p. 146

[103] For the different levels of involvement – situational, enduring, and felt involvement - see for example Richins and Bloch (1991), Kapferer and Laurent (1993), or Pham (1992).

[104] The two characteristics "consciousness of kind" and "shared rituals and traditions" are mentioned by Muniz and O'Guinn (2001). For more information on these characteristics and the study by Muniz and O'Guinn (2001) see section 2.2.2 of this thesis.

Customer - community relationship: The customer – customer relationships refers to three differing factors: social identity, fulfilment of needs and influence (von Loewenfeld 2006). Social identity – one central brand community characteristic – means that members within a brand community develop a shared identity. In contrast to identification with the brand and interpersonal identification, which is referred to as commonness, identification with the community describes a collective identification. The second factor refers to the development of communities. Thereby newer forms of communities combine traditional values with the fulfilment of individual needs. Finally the third factor describes the fact that a brand community is perceived as more attractive when members have the chance to influence the brand community. This is important in cases where the brand community is established by a firm. Figure 26 provides an overview of the different brand community relationships and the differing factors of each relationship.

Furthermore participants were questioned on their ownership and usage of BMW M automobiles and whether they had undertaken innovative changes. Questions about innovative changes were based on empirical studies by Jokisch (2007) and Franke and Shah (2003). The latter examined the importance of assistance and sharing of information between members of different sports communities (sailplaning, canyoning, snowboarding, and handicapped cyclists). Furthermore they enhanced the construct for lead user identification with a community-based resource approach.[105] Therefore their lead user construct proved to be especially valuable for this questionnaire.

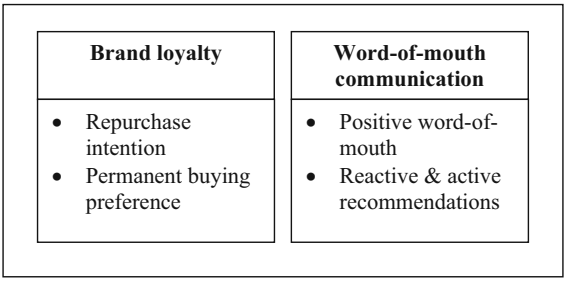


**Figure 27: Measurement Brand Loyalty and Word-of-Mouth Communication**

Finally, yet importantly, participants were asked about their perception of the product quality, their satisfaction with it, and their brand loyalty intentions and word-of-mouth communication. Several items are either taken directly from other empirical studies or are adapted slightly to fit the examination of this thesis (e.g. Algesheimer et al. 2006, von Loewenfeld 2006, and McAlexander et al. 2003). Brand loyalty and word-of-mouth communication in the questionnaire refer to intended behaviour. Brand loyalty is measured with repurchase intention and permanent buying preference, while word-of-mouth

[105] For more information on the community-based resource approach see Franke and Shah (2003).

communication is measured with the amount of positive word-of-mouth communication as well as the frequency of reactive and active recommendations.[106] In this context reactive means that the person is asked by others for his opinion whereas active recommendations occur out of an intrinsic motivation. For an overview of brand loyalty and word-of-mouth communication construct see figure 27.

In addition to these studies, an examination of the M Power World and the privately organized BMW M brand community helped to understand underlying processes. The internet-based questionnaire itself consisted of open and closed questions.[107] The closed questions were mainly five-point rating scales with a few yes / no questions. Although in discussion, five-point rating scales are considered to be interval-scaled according to Bortz and Doering (2002, pp. 180-181) and are therefore suitable for parametric statistical analysis.

The internet-based questionnaire was designed with the commercial software Equestionnaire and was stored on the server provided by the company.[108] By finishing the internet-based questionnaire, participants submitted the questionnaire directly to the database. Due to the high enthusiasm of BMW M online community members for BMW M, the questionnaire was branded in the BMW M design. By doing so, a high number of participants should be ensured. As a reward for participation customers could win one of two BMW M Driver Trainings or several exclusive BMW M key rings.

After the internet-based questionnaire was designed and set up a pre-test to this experiment was conducted during the beta phase of the BMW M Power World. For the start of the BMW M Power World, a beta phase of about 2-3 weeks took place where specially selected customers (around 300) were invited to test the BMW M Power World, before the BMW M Power World was opened to all BMW M customers in Germany. From those selected customers, a sample served as pre-tester for the online questionnaire. The responses came either personally or per Email. The overall perception of the online questionnaire was very positive, with only minor changes in the formulation necessary. In the following, the three different phases of the quasi-experiment are explained in more detail

**Reference measurement -** For the start of the M Power World in March 2007, the existing customers of BMW M were invited via Email on April 5th, 2007. This Email included a link to the online questionnaire. In addition, a link to the online questionnaire was posted on the M Power World itself. Furthermore, a link was posted in privately organized BMW M online brand communities – the BMW M Forum and the BMW Treff - in order to receive answers from BMW M owners who are not yet a member of the M Power World. The BMW M

[106] For a discussion on the suitability of intended behaviour for the measurement of brand loyalty see section 2.4.2 of this thesis.
[107] The questionnaire can be found in the appendix (see appendix 1).
[108] The major advantage of this software is the reliability of the server and the vast possibilities to adapt the design, which was necessary to fulfil the BMW M corporate design requirements. For more information see www.equestionnaire.de; last accessed on February 24th, 2009.

Forum is the largest privately-organized online brand community in Germany solely concerned with BMW M and therefore used in this empirical study. It has 4,781 members.[109] The BMW Treff is one of the biggest online brand communities in Germany concerned with BMW in general.[110] They have a subgroup which is solely focused on BMW M. These privately-organized online brand communities were chosen because they consist mostly of BMW M drivers and enthusiasts, who communicate about brand related topics, exchange information about cars and technical components. Members of these online brand communities ideally fit the targeted user group. Of this privately organized brand community the community presidents were asked to post the link in their forums. On these forums the link to the questionnaire was online from March 16th, 2007 until May 3rd, 2007. The questionnaire to which this link referred to was online from March 16th, 2007 until May 3rd, 2007.[111]

**Second wave** – On September 20th, 2007 the participants of the reference measurement received an Email invitation to participate in the second wave of this quasi-experiment. On October 4th, 2007those participants of the reference measurement who did not yet participate in the second wave received an Email reminder. The questionnaire to which the link of the second wave referred was online from September 20th, 2007 until October 15th, 2007.[112]

**Third wave** – Similar to the second wave study participants of the reference measurement received an Email invitation to participate in the third and final wave on March 13th, 2008. On April 2nd, 2008 those participants of the reference measurement who did not yet participate in the third wave study received an Email reminder. The questionnaire to which the link of the third wave referred to was online from March 13th, 2008 until April 14th, 2008.[113]

In a last step the survey method is examined in terms of quality criteria. Those quality criteria are objectivity, reliability, and validity (Bortz & Doering 2002). The selected research method fulfils a high degree of objectivity, as the questioning situation is independent of the researcher and the interpretation of the answers is provided by scales (Bortz & Doering 2002, p. 194). Also the second criterion reliability is assured. Reliability refers to the fact that a research method always measures the same subject under the same conditions in the same way. It therefore measures the repeatability of a method (Bortz & Doering 2002, p. 195). As the internet-based questionnaire is static, reliability is ensured. Validity is the most important criteria and requires that a test indeed measures what it intended (Bortz & Doering 2002, p. 199). As for most of the questionnaire this seems not to be a problem, since most empirical

[109] Number of members as of February 24th, 2009. For more information see www.m-forum.de; last accessed on February 24th, 2009.
[110] BMW Treff has 64.566 members as of February 28th, 2009. There is no number for the BMW M subgroup but 2.978 out of 222.731 themes are concerned with BMW M (February 24th, 2009) For more information see www.auto-treff.com/bmw; last accessed on February 24th, 2009.
[111] See appendix 1 for the questionnaire of the reference measurement
[112] See appendix 2 for the questionnaire of the second and third wave.
[113] See appendix 2 for the questionnaire of the second and third wave.

constructs are based on previous studies which have been proved empirically. Only the questions measuring the perception of a firm-established online community are not so established yet.

### 4.3 Empirical Analysis on Brand Loyalty

Based on the afore-mentioned research design this section deals with the empirical analysis of brand loyalty. To do this, section 4.3.1 describes the population and the sample. Section 4.3.2 describes the data. A first descriptive analysis follows in section 4.3.3 before section 4.3.4 provides the multivariate analysis and the resulting findings on the hypothesis generated in chapter 3. Section 4.3.5 finally concludes this chapter.

#### 4.3.1 Population and Sample

The discussion on the response to the internet-based questionnaire as well as potential bias in the sample is divided into the three different phases of the quasi-experiment.

**Reference measurement -** During the time the internet-based questionnaire was online from March 16th, 2007 until May 3rd, 2007 494 persons participated and filled out the questionnaire. Of those participants 49 owned no BMW M car. Those responses were excluded as it was assumed that they were just visitors of privately organized BMW M online brand communities. By doing this the quality of the responses should be ensured.

| responses | total | Mrz 07 | | | | | | | | | | | | | | | | Apr 07 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| number of responses | 360 | 6 | 8 | 7 | 13 | 11 | 7 | 13 | 26 | 6 | 11 | 12 | 21 | 9 | 9 | 7 | 3 | 7 | 2 | 7 | 4 | 112 | 25 | 8 | 11 | 15 |

| | | Apr 07 | | | | | | | | | | | | | | | | | | | | May 07 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 1 | 2 | 3 |
| number of responses | 85 | 17 | 13 | 5 | 2 | 8 | 5 | 1 | 3 | 6 | 0 | 4 | 1 | 1 | 3 | 9 | 3 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 |

**Table 1: Responses to Questionnaire of Reference Measurement (by Date)**

Hence for the rest of the quasi-experiment, the reference measurement was confined to 445 usable datasets. Out of those datasets 269 responses belonged to members of the M Power World. This leads to 269 datasets in the reference group and 176 datasets in the control group. A response rate cannot be calculated, as the link to the questionnaire was also posted in two privately organized BMW M brand communities, with no figures available of how many people are active in these communities. For the distribution of the responses over time see table 1.

As the response rate cannot be calculated, it is especially important to test for potential bias in the internet-based survey (Roztocki 2001). The most important bias is the non-response problem, which is tested here. It refers to the fact that some user groups may find it more interesting to participate in the survey than others (Armstrong & Overton 1977). There are several ways to identify non-response bias (Armstrong & Overton 1977, pp. 396-397). One

way is to compare the results of the survey with information already known about the population. Thus the results of the survey were compared with previous market research gathered by the BMW Group on its BMW M customers. A comparison with socio-demographic variables showed no significant differences. The average age of the participants (mean: 39,89; s.d.: 10,00) for instance fits in the average age of the BMW M target groups discussed in section 4.1.1.[114] Thus no bias towards more active customers exists in this reference measurement.

**Second wave –** For the second wave, the 445 M drivers who filled out the questionnaire of the reference measurement were questioned again. From them 264 participated and filled out the questionnaire again. The questionnaire itself was online from September 20th, 2007 until October 15th, 2007. Thereby 165 responses came from the original reference group (276 in the reference measurement) and 99 responses from the control group (176 in the reference measurement). Yet 47 became a member of the M Power World between the reference measurement and the second wave phase. They were classified in a separate category of community novices. Four others left the M Power World in the meantime and were excluded from the sample. This leads to 165 datasets in the reference group of M Power World members, 48 datasets in the control group of non members, and 47 datasets for community novices. For the distribution of the responses over time see table 2.

| responses | total | Sep 07 | | | | | | | | | | | Okt 07 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| number of responses | 264 | 103 | 47 | 12 | 11 | 16 | 9 | 8 | 4 | 1 | 1 | 1 | 3 | 2 | 0 | 25 | 5 | 2 | 2 | 7 | 2 | 1 | 0 | 1 | 0 | 1 |

**Table 2: Responses to Questionnaire of Second Wave (by Date)**

**Third wave -** For the third wave the 445 M drivers who filled out the questionnaire of the reference measurement were questioned again. From them 227 participated and filled out the questionnaire of the third wave, which was online from March 13th, 2008 until April 14th, 2008. Thereby 139 responses came from the original reference group and 88 responses from the control group. Out of them 47 became a member of the M Power World between the reference measurement and the third wave phase and were classified in a separate category of community novices. One left the M Power World in the meantime and was excluded from the sample. This leads to 139 datasets in the reference group of M Power World members, 40 datasets in the control group of non members, and 47 datasets for community novices. For the distribution of the responses over time see table 3.

| responses | total | Mrz 08 | | | | | | | | | | | | | | | | | | | Apr 08 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 1 | 2 | 3 | 4 | 5 | 6 |
| number of responses | 221 | 99 | 37 | 19 | 7 | 8 | 6 | 1 | 2 | 3 | 2 | 3 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 19 | 4 | 2 | 3 | 2 |

| | | Apr 08 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| number of responses | 6 | 0 | 3 | 1 | 1 | 0 | 0 | 0 | 1 |

**Table 3: Responses to Questionnaire of Third Wave (by Date)**

[114] The same holds true for gender, education, profession and type of automobile owned.

**Summary –** After the three different measurements were conducted, the sample for the quasi-experiment was examined further. It turned out that 19 participants were no longer owners of a BMW M automobile during the course of the three measurements and four individuals terminated their M Power World membership. These datasets were deleted, leading to 422 datasets in the reference measurement, 245 datasets for the second wave phase and 213 datasets for the third wave phase.

From those 422 participants of the reference measurement, 159 participated also in the second and third wave phase, further 86 individuals only participated in the reference measurement and the second wave phase. Additional 54 individuals only participated in the reference measurement and the third wave phase. Table 4 gives an overview about the participation in the different phases of the empirical analysis divided into the different groups.

| Participation | Reference measurement | Reference & 2nd or 3rd wave | Reference & 2nd and 3rd wave |
|---|---|---|---|
| Reference group - community member | 250 | 189 | 104 |
| Control group - non community member | 172 | 51 | 23 |
| Contorl group - community novice | | 59 | 32 |
| Overall | 422 | 299 | 159 |

**Table 4: Overview of Sample of the Quasi-Experiment on Brand Loyalty**

As can be calculated out of table 4, 70.85 % of the participants of the reference measurement at least participated in one more phase of the empirical analysis. 37.68 % even participated in all three phases. Upon examining the different groups, it turned out that further participation is higher in the reference group with 189 out of 250 (75.60 %) for participation in at least one more phase, respectively 104 out of 250 (41.60 %) for participation in all phases. Compared to this the numbers are slightly lower for the control group. The control group consists of non community members and community novices, as these are the participants who originally were non members and joined the M Power World during the course of the empirical analysis. Combining both, it turns out that 110 out of 172 (63.95 %) individuals participated in at least one more phase, respectively 55 out of 172 (31.98 %) participated in all phases. The results of this comparison make a further analysis of the panel data on possible participation bias necessary.

In order to do this, a regression was conducted with “participation in the different phases of the empirical analysis” as dependent variable and several independent variables which are relevant for the further course of the empirical analysis. These comprise, brand loyalty and word-of-mouth communication index, lead user status, education, technical profession, age, and gender. For a description of the operationalisation of the independent variables see the following section 4.3.2.

The dependent variable panel participation was operationalised as follows. The value of panel participation is “one” if the individual participated in all three phases. Otherwise the value is

"zero". As the dependent, as well as some of the independent variables, are continuous or even categorical in nature a probit model was used. This model uses maximum likelihood estimation to predict the probability of a certain event occurring (Greene 1997, p. 882). The aim of this is to estimate the parameter of the independent variable of the binary regression model in such a way that the likelihood to obtain the observed data is maximized. By this the binary regression model, in contrast to the linear regression model, does not try to obtain estimates for the observations of the binary dependent variable, but seeks to derive the probability of occurrence for the observed data.

| | **Model 1** |
|---|---|
| | **Panel participation** |
| Brand Loyalty and WOM | -0.007 |
| | (0.005) |
| Lead User Status | -0.007 |
| | (0.007) |
| Product quality perception | 0.030 |
| | (0.015) |
| Membership in private BMW M communities | 0.059 |
| | (0.051) |
| Membership in communities on other brands | -0.007 |
| | (0.063) |
| Experience | -0.000 |
| | (0.000) |
| Education | -0.037 |
| | (0.048) |
| Technical profession | -0.031 |
| | (0.046) |
| Age | 0.001 |
| | (0.002) |
| Observations | 417 |
| log-likelihood | -246.004 |
| Wald chi2 | 12.09 |
| Prob > chi2 | 0.208 |
| Pseudo R2 | 0.024 |

Robust standard errors in parentheses
The marginal effect of each independent variable is reported holding the remaining variables at their mean

* significant at 10%; ** significant at 5%; *** significant at 1%

**Table 5: Probit Model for Test on Panel Bias**

In addition, since binary regression models are non-linear, the change in the outcome probability due to the change of the independent variable depends on the levels of the remaining independent variables. Therefore binary regression models can be used to predict a dependent variable on the basis of continuous and / or categorical independent variables, to determine the percentage of variance in the dependent variable explained by the independent variable and to assess interaction effects (Greene 1997).

As can be seen in table 5 no significant effects were returned for model 1 (participation in all phases). The sample is therefore suitable for the further empirical analysis. In a next step, section 4.3.2 further describes the data and the operationalisation of the variables used in the empirical analysis.

### 4.3.2 Data Description

This section describes the operationalisation of the variables and indices.

**Dependent variable:**

**Brand loyalty & wom index –** As described in section 2.4.2, brand loyalty is referred to in this thesis as the intended behaviour to repurchase the brand. The intended behaviour is therefore made up of two different aspects, i.e. repurchase probability and permanent buying preference. Repurchase probability was measured by asking the participants if they would also be loyal to the brand BMW M in the future. This item is based on Peter (1997, p. 183) and was measured on a scale from five (does not apply at all) to one (applies fully).

The second item - permanent buying preference - was measured by asking the participants whether BMW M is there preferred brand in the area of high performance automobiles now and in the future. This item is based on von Loewenfeld (2006, p. 235) and was measured on a scale from five (does not apply at all) to one (applies fully). As a third item, participants were asked about their brand loyalty in general. This item was obtained with the question ”I see myself as loyal towards the BMW M brand”. Answers were measured on a scale from five (does not apply at all) to one (applies fully).

As described in section 2.4.2 word-of-mouth (WOM) communication is seen as part of the brand loyalty construct. It is referred to in this thesis as the extent to which someone is an active ambassador of the brand and how often he recommends the brand.[115] One distinguishes between active and reactive recommendations. In the first case individuals recommend the brand without being explicitly asked for advice. In the second case the recommendation is only made when someone is asked for an opinion. Positive WOM measures the extent to which someone is a brand ambassador. To obtain this variable, participants were asked whether they speak positive about the BMW M brand in general. For better comparability of

[115] Word-of-mouth communication is therefore just viewed in its positive form. For more information on word-of-mouth communication see section 2.4.2 of this thesis

the results this item, as well as the next two, are based on the work of Zeithaml, Berry and Parasuraman (1996, pp. 31). The second variable reactive recommendation was measured by asking the participants whether they recommend the brand BMW M if someone asks them for advice on high performance automobiles. Active recommendations – the third item – were obtained by asking the participants whether they encourage friends and relatives to buy the BMW M brand. As a fourth item participants were asked about their word-of-mouth communication in general. This item was obtained with the question ”I use every opportunity in order to recommend the BMW M brand”. For all these items the answers were measured on a scale from five (does not apply at all) to one (applies fully).

To test whether the three brand loyalty and the four word-of-mouth items can be combined into a brand loyalty & wom index, Cronbach’s Alpha is calculated. Cronbach’s alpha measures how well a set of variables can be integrated into one index (Bortz & Doering 2002, pp.195-199). As can be seen in table 6 the value of Cronbach’s alpha (0.90) for the 159 datasets who participated in all three phases of the quasi-experiment shows a high internal consistency of the index. [116]

| Item | Obs | Sign | item-test correlation | item-rest correlation | average inter-item covariance | alpha |
|---|---|---|---|---|---|---|
| Repurchase probability | 159 | + | 0.74 | 0.65 | 0.46 | 0.90 |
| Permanent buying preference | 159 | + | 0.82 | 0.75 | 0.42 | 0.89 |
| Global Brand Loyalty | 159 | + | 0.76 | 0.68 | 0.46 | 0.89 |
| Positive WOM | 159 | + | 0.79 | 0.73 | 0.48 | 0.89 |
| Reactive recommendation | 159 | + | 0.83 | 0.77 | 0.44 | 0.89 |
| Active recommendation | 159 | + | 0.84 | 0.76 | 0.41 | 0.89 |
| Global WOM | 159 | + | 0.85 | 0.77 | 0.39 | 0.89 |
| Test scale | | | | | 0.44 | 0.90 |

**Table 6: Cronbach’s Alpha for Brand Loyalty & Wom Index**

Throughout the course of the empirical analysis this calculated brand loyalty & wom index is used for a static analysis and a dynamic analysis. For the static analysis the brand loyalty & wom index of the reference measurement is taken. This index was divided into two groups with the help of a new dummy variable (static brand loyalty). Values larger than zero imply a high static brand loyalty & wom; values equal to zero or smaller do not. Hence participants of

[116] Internal consistency is a measurement of the reliability of the index. Normally a value of >=0.7 is seen as sufficient. See Greene (1997) for more information.

the first group display a higher than average static brand loyalty & wom whereas participants of the second group display a lower than average brand loyalty & wom.

For the dynamic analysis the difference between the reference measurement and the third wave study is taken. The difference is calculated by subtracting the brand loyalty & wom index value of a participant from the reference measurement for this participant's brand loyalty & wom index from the third wave measurement. This index was divided into three groups with the help a new dummy variable (dynamic brand loyalty). Values larger than zero thereby imply a positive change in the brand loyalty & wom; values equal to zero no change in the brand loyalty & wom; and values smaller than zero a negative change in the brand loyalty & wom. Hence participants in the first group display a higher brand loyalty & wom communication at the end of the quasi-experiment than at the beginning, participants in the second group an equal level, and members of the third group a lower level of brand loyalty & wom communication at the end than at the beginning of the examination.

**Independent variable:**

**Membership status –** This variable measures whether participants are a member of the firm-established brand community M Power World. In order to observe this, respondents were asked whether they are a member or not. An answer of 1 stands for members and 3 for non-members. Those participants of the quasi-experiment whose status changed from non-member (3) to member (1) were separated into the category of community novices (2). For this variable they were not taken into further consideration.

**Community status –** Based on the previous variable membership status, this variable distinguishes between differing community types. Therefore those participants who have a membership status of one were divided into two different groups: insiders and tourists. As explained in section 4.1.2, insiders are made up of a high connection to the brand as well as the community. In contrast to this tourists show a lower connection to the brand as well as the community. In order to be able to separate these two groups the brand community activity was measured. As a result insiders are those who show a high brand community activity from the beginning, whereas tourists show a permanently low brand community activity. Activity was measured with number of visits to the M Power World and post written on the M Power World in the time between two measurements. This means once between the reference measurement and the second wave measurement and once between the second and the third wave measurement. To receive this data, internal reports of BMW M on the M Power World were used. The data was matched with the help of the provided usernames and Email addresses. As a third group, minglers were taken from membership status. They are those participants who became a member of the M Power World during the course of the quasi-experiment. In general minglers are willing to become more connected into the community and the brand whereas tourists are not. Additionally non members were taken from

membership status as the forth group. They are those participants who did not become a member of the M Power World during the course of the quasi-experiment.

Out of these figures community participants were classified in four groups:

1. **Insider:** M Power World members from reference measurement on with a constantly high community activity (at least two posts or weekly community visits) receive a value of 4
2. **Mingler:** Non members at the reference measurement and M Power World members at the third wave measurement receive a value of 3.
3. **Tourists:** M Power World members from reference measurement on with a constantly low high community activity (less than two posts or weekly community visits) receive a value of 2.
4. **Non members:** Non members of the M Power World receive a value of 1.

**Lead user index:** As explained in section 2.4.3.2.1, lead users display two characteristics according to von Hippel (1986). They are at the leading edge of an important trend and therefore experience needs before the rest of the market and they obtain a high benefit from a solution to their needs (von Hippel 1986). In order to identify such lead users in the M Power World, indicator variables were used. Until recently most empirical studies on lead users have just segmented the sample into dichotomous lead user vs. non-lead user clusters (see for example Herstatt & von Hippel, 1992). As Morrison et al. (2004) showed in an empirical analysis of innovative libraries, the intensity of lead user characteristics of a person is a unimodal and not a bipolar variable. Therefore a dichotomous lead user cluster is not a good representation of the population and neglects useful information (Morrison et al. 1999, p. 24). This continuous distribution of lead user characteristics was hypothesized to be applicable for other industries as well (Morrison et al. 2004) as the empirical study of Franke et al. (2005) on the kite surfing community shows. Based on those findings a lead user index is built for the empirical analysis of the M Power World. The lead user index is defined as the intensity of lead user characteristics a person exhibits in the sample. Although the lead user index builds on findings of the Leading Edge Status (LES) by Morrison (1995) it differs in some ways as this LES index is still discussed in literature (Franke et al. 2005). Therefore findings of other empirical studies (e.g. Franke et al. 2005) are considered as well. In addition to that a different kind of sample was questioned as in the case of Morrison et al. (2004). And as Franke et al. (2005, p. 22) found out the variables best suited to identify users with high lead user characteristics depend “upon study conditions and goals”. In the present paper the lead user index is built by summing up four indicator variables: ahead of a trend, dissatisfaction, unsatisfied needs and perceived LES.

**Ahead of a trend -** This variable is based on the first lead user characteristic, i.e. that lead users face needs before the bulk of the marketplace encounters them (von Hippel 1986, p.

796). This characteristic was verified in different empirical studies. Urban and von Hippel (1988) for example found that lead users adopt new technologies significantly earlier than non-lead users. Similar are the findings of Franke and Shah (2003) that lead users in particular benefit from new products and services. This is one of the reasons why lead users are "early adopters of new products and services" (Morrison et al. 2004, p. 353). Hence according to Franke et al. (2005) the first lead user characteristic - ahead of a trend - measures the commercial attractiveness of innovations. As all these empirical studies suggest doing so, this variable is integrated into the lead user index. The variable, ahead of a trend, was obtained by asking the respondents whether they are constantly searching for new technical possibilities for their automobile. Answers were measured on a scale from five (does not apply at all) to one (applies fully).

**Dissatisfaction** - According to the second lead user characteristic by von Hippel (1986), lead users benefit significantly by obtaining a solution to their needs. This characteristic measures the innovation likelihood of a user (Franke et al. 2005, p. 4). They are more dissatisfied than average customers with the overall performance of currently available automobiles, because these fulfil their needs to a lesser degree (or not at all). The level of dissatisfaction of the participants with currently available products on the market was measured by the item "I have needs existing BMW M automobiles cannot satisfy". The answers were collected on a scale from five (does not apply at all) to one (applies fully) as well.

**Unsatisfied needs -** Similarly to dissatisfaction, Herstatt and von Hippel (1992) found that users with new and unfulfilled needs turned out to be lead users. In their empirical study Franke and Shah (2003) found as well that lead users receive high benefits from innovating. In addition Luethje (2004) successfully used the measurement of unfulfilled needs to identify lead users. Those results are all based on the fact that lead users experience needs which are uncommon and new at present but will become general in the marketplace in the future. Therefore the level of needs, which the current overall performance of the BMW M automobile cannot fulfil, is measured and integrated as a variable in the lead user index. Participants were asked whether they have new needs their current BMW M cannot fulfil. The answers were collected on a scale from five (does not apply at all) to one (applies fully) as well.

**Perceived LES -** Perceived LES is based on the LES index developed by Morrison (1995). One of the variables used by Morrison (1995) is the leading edge status of a person perceived by others. It refers to the leading edge status of a person seen through the eyes of others. As it proved to be a good enhancement to the other lead user variables it is included in the lead user index. It serves as a good "direct elicitation of the construct from respondents" (Morrison et al. 1999, p.9). The perceived leading edge status of a person by others was measured by asking the participants to what degree they are viewed by relatives and friends as a good

information source. Answers were collected on a scale from five (does not apply at all) to one (applies fully).

To test whether the four variables, i.e. ahead of a trend, dissatisfaction, unsatisfied needs, and perceived LES can be combined into a lead user index, Cronbach's Alpha was calculated. As can be seen in table 7 the value of Cronbach's alpha (0.79) for the 159 participants who answered all three measurements shows a high internal consistency of the index. [117]

| Item | Obs | Sign | item-test correlation | item-rest correlation | average inter-item covariance | alpha |
|---|---|---|---|---|---|---|
| Ahead of a trend | 159 | + | 0.84 | 0.67 | 0.45 | 0.70 |
| Dissatisfaction | 159 | + | 0.83 | 0.67 | 0.48 | 0.70 |
| Unsatisfied needs | 159 | + | 0.81 | 0.62 | 0.49 | 0.73 |
| Perceived LES | 159 | + | 0.64 | 0.47 | 0.74 | 0.80 |
| Test scale | | | | | 0.54 | 0.79 |

**Table 7: Cronbach's Alpha for Lead User Index**

The generated index would have a minimum value of 4 and a maximum of 19 (mean: 14.54; s.d.: 3.31; obs.: 159), whereby lower values indicate higher lead user characteristics of a person. For better readability, the generated index was standardized and inverted. Graph 1 gives an overview of the lead user score of the 159 participants of all measurements. A comparison with the normal distribution shows that the lead user score is approximately normally distributed. Thus unimodal continuous distribution of the lead user score assumed above can be confirmed for this empirical study.

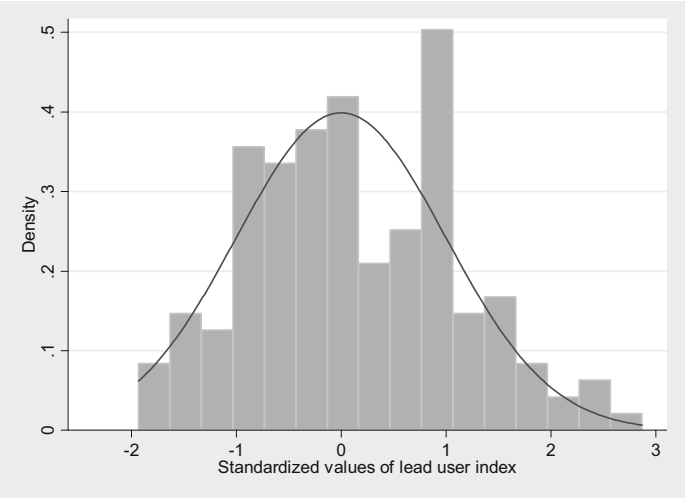


**Figure 28: Histogram of Lead User Index Compared to Normal Distribution**

[117] Internal consistency is a measurement of the reliability of the index. Normally a value of >=0.7 is seen as sufficient. See Greene (1997) for more information.

For the course of the empirical analysis this calculated lead user index is divided into two groups with the help of a new dummy variable (lead user status). Values larger than zero imply a high lead user status; values equal to zero or smaller do not. Hence participants of the first group display higher than average lead user characteristics whereas participants of the second group display lower than average lead user characteristics.

**Product quality perception:** This variable measures the perception of the product quality. It is a subjective evaluation of different characteristics of an object based on its fulfilment of needs. The product quality was measured by three different items, whereby the first item measured the overall perception and the remaining items different product attributes.

The first item, which measured the global product quality, was retrieved by asking the participants how they evaluate the quality of BMW M in general. The second item was concerned with the product itself. Therefore participants were asked how they evaluate the quality of BMW M automobiles. Item 3 finally was concerned with the quality of the buying process and was retrieved by asking the participants how they evaluate the quality of a BMW M new car buying process. The answers were collected on a scale from five (does not apply at all) to one (applies fully) for all four items.

To test whether the three items can be combined into a product quality index, Cronbach's Alpha was calculated.[118] As can be seen in table 8 the value of Cronbach's alpha (0.74) for the 159 datasets who participated in all three phases of the quasi-experiment shows a high internal consistency of the index. [119] Although Cronbach's Alpha would be slightly higher without the item measuring the quality of the buying process, the item is left within the index as the buying process is an elementary part of the overall quality perception within the automobile industry.

| Item | Obs | Sign | item-test correlation | item-rest correlation | average inter-item covariance | alpha |
|---|---|---|---|---|---|---|
| Global | 159 | + | 0.78 | 0.59 | 0.31 | 0.57 |
| Product | 159 | + | 0.83 | 0.65 | 0.23 | 0.48 |
| Buying | 159 | + | 0.82 | 0.43 | 0.30 | 0.84 |
| Test scale | | | | | 0.28 | 0.70 |

**Table 8: Cronbach's Alpha for Product Quality Index**

For the course of the empirical analysis this calculated product quality index is used for a static analysis as well as a dynamic analysis. In the static analysis the product quality index of the reference measurement is taken. This index was divided into two groups with the help of a new dummy variable (static product quality). Values larger than zero imply a high static product quality perception; values equal to zero or smaller do not. Hence participants of the

[118] Cronbach's alpha measures how well a set of variables can be integrated into one index (Bortz & Doering 2002, pp.195-199).

[119] Internal consistency is a measurement of the reliability of the index. Normally a value of >=0.7 is seen as sufficient. See Greene (1997) for more information.

first group display a higher than average product quality perception whereas participants of the second group display a lower than average product quality perception.

For the dynamic analysis the difference between the reference measurement and the third wave measurement of the quasi-experiment was taken. The difference was calculated by subtracting the product quality index value of a participant from the reference measurement from the value of the third wave measurement. This index was divided into three groups with the help of a new dummy variable (dynamic product quality). Values larger than zero imply a positive change in the product quality perception; values equal to zero no change in the product quality perception; and values smaller than zero a negative change in the product quality perception. Hence participants of the first group display a higher product quality perception at the end of the quasi-experiment than at the beginning, participants of the second group an equal level, and member of the third group a lower level of product quality perception at the end than at the beginning of the examination.

**Education:** This variable was obtained by asking the participants of the questionnaire to state their level of education. Answers were retrieved on a scale from one (no degree) to six (doctoral degree). By combining 1 (no degree), 2 (secondary school), 3 (secondary modern school) and 4 (equivalent to A-levels) as well as 5 (university or college) and 6 (doctoral degree) a dummy variable was created. An education score of 1 implies higher education.

**Technical profession:** To obtain the variable technical profession respondents were asked whether they have a technical profession. A score of 1 stands for yes and a score of 0 for no.

**Experience:** In the questionnaire respondents were asked in what year they bought their first BMW M automobile. In order to retrieve the variable experience the difference between 2007 and the year in which the participant bought their first BMW M automobile was calculated.

**Membership in private BMW M brand communities:** To obtain the variable membership in private BMW M brand communities the respondents were asked if they are a member in privately organized brand communities concerned with BMW M. A score of 1 stands for membership and a score of 0 for no membership.

**Membership in brand communities on other brands:** To obtain the variable membership in brand communities on other brands the respondents were asked if they are a member in brand communities concerned with other brands than BMW M. A score of 1 stands for membership and a score of 0 for no membership.

**Gender:** Asking the participants of the questionnaire for their gender resulted in the variable age. A score of 1 stands for male and a score of 0 for female.

**Age:** Asking the participants of the questionnaire for their age resulted in the variable age. For the multivariate analysis the stated age was logarithmised.

### 4.3.3 Descriptive Statistics

Participants in all three phases of the internet-based questionnaire were on average 40 years old, with a range from 21 years to 61 years (see table 9). In addition they have a rather high level of education. 35% of the respondents received a higher education meaning they have a university degree or a doctoral degree (see table 9). Furthermore 98% of the respondents were male and 50% of all respondents had a technical profession (see table 9). Concerning experience with BMW M automobiles the participants in the mean have owned a BMW M automobile for seven years (mean: 6.60; s.d.: 5.37; 159 obs.) This means that the respondents on average bought their first BMW M automobile in 2001. The distribution ranges from zero years of experience with BMW M automobiles (respondents who bought their first BMW M automobile in 2007) up to 35 years of product experience (first BMW M automobile bought in 1972) (see table 9).

| Variable | Obs. | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Membership private BMW M brand communities* | 159 | 0.47 | | 0 | 1 |
| Membership communities on other brands* | 159 | 0.16 | | 0 | 1 |
| Experience | 159 | 6.60 | 5.37 | 0 | 35 |
| Education* | 159 | 0.35 | | 0 | 1 |
| Technical profession* | 159 | 0.50 | | 0 | 1 |
| Gender* | 157 | 0.98 | | 0 | 1 |
| Age | 157 | 40.13 | 9.01 | 21 | 61 |

* 0/1 dummy variable

**Table 9: Descriptive Statistics**

Besides their usage of BMW M automobiles and development of innovative ideas participants were asked about their membership in privately organized BMW M brand communities and in brand communities on other brands. This disclosed that 47% of the respondents of all three phases are members of a privately organized BMW M brand community (see table 9). These 47 % (74 respondents) had on average membership of two privately organized BMW M brand communities (mean: 1.88; s.d.: 0.96; 74 obs.). Additionally 16% of all respondents were members of brand communities on another brand than BMW M (see table 9)

Before the independent variables are further analysed in the multivariate analysis, an examination whether the BMW M Power World fulfils the characteristics of a brand community is undertaken.

**Brand community characteristics:**

In order to examine this point, the three brand community relationships identified by Muniz and O'Guinn (2001) and their operationalisation in form of the brand community quality index by von Loewenfeld (2006) are used. As these three relationships and the differing factors were already explained in section 4.2 only the operationalisation and the outcomes are described.

| Relationship | Item | Obs | Sign | item-test correlation | item-rest correlation | average inter-item covariance | alpha |
|---|---|---|---|---|---|---|---|
| Customer - brand | Permanent brand involvement | 104 | + | 0.81 | 0.59 | 0.38 | 0.66 |
| | Identification with the brand | 104 | + | 0.86 | 0.67 | 0.28 | 0.55 |
| | Brand customer interaction | 104 | + | 0.78 | 0.49 | 0.43 | 0.77 |
| | **Test scale** | | | | | **0.37** | **0.75** |
| Customer - customer | Customer - customer | 104 | + | 0.90 | 0.71 | 0.41 | 0.65 |
| | Commonness | 104 | + | 0.81 | 0.65 | 0.74 | 0.74 |
| | Friendship & support | 104 | + | 0.84 | 0.62 | 0.57 | 0.74 |
| | **Test scale** | | | | | **0.57** | **0.79** |
| Customer - community | Social identity | 104 | + | 0.84 | 0.64 | 0.34 | 0.67 |
| | Fulfillment of needs | 104 | + | 0.85 | 0.61 | 0.32 | 0.71 |
| | Influence | 104 | + | 0.81 | 0.60 | 0.41 | 0.71 |
| | **Test scale** | | | | | **0.36** | **0.78** |

**Table 10: Cronbach's Alpha for Brand Community Relationship Indices**

The customer-brand relationship consists of three factors: permanent brand involvement, identification with the brand, and brand-customer integration.[120] The analysis is based on those respondents who participated in all three phases of the online questionnaire and were members of the M Power World from the start. These respondents agreed on every item, with means ranging form 1.77 to 2.55. The second relationship (customer-customer) consists of the three factors customer-customer interaction, commonness, and friendship & support.[121] The respondents agreed on these items as well, with means ranging form 2.38 to 2.75. For the third relationship between customer and community, social identity, fulfilment of needs, and

[120] The three items were operationalized as follows: permanent brand involvement with "For me BMW M creates positive feelings.", identification with the brand with "I can identify myself with BMW M." and brand customer interaction with "BMW M gives me the feeling that I am welcomed as a customer". Answers to these questions were retrieved on a scale from five (does not apply at all) to one (applies fully).

[121] The three items were operationalized as follows: customer-customer interaction with "I like to talk about BMW M with other M Power World members.", commonness with "M Power World members have similar interests and needs." and friendship & support with "I like to assist other M Power World members whenever I can". Answers to these questions were retrieved on a scale from five (does not apply at all) to one (applies fully).

influence were used as items.[122] Similarly to the above two relationships, the respondents agreed on every item too, with means ranging form 1.95 to 2.46.[123]

Based on this, a calculation of Cronbach's Alpha revealed that the items for each relationship can be combined into an index. The value of Cronbach's Alpha for the 104 datasets shows a high internal consistency for the customer-brand relationship (0.75), the customer-customer relationship (0.79), and the customer-community relationship (0.78). For an overview see the following table.[124]

In a next step, the responses to each index were added up and then divided by the number of item measuring each relationship. These summarised responses show a high high approval level for all three relationships with means ranging from 2.07 to 2.48.[125] This approval was further tested by examining whether the three relationships indices can be combined into one brand community index. To do this Cronbach's Alpha for the three relationship indices (customer-brand, customer-customer, and customer-community) was calculated.

| Item | Obs | Sign | item-test correlation | item-rest correlation | average inter-item covariance | alpha |
|---|---|---|---|---|---|---|
| Customer-brand relationship | 104 | + | 0.78 | 0.53 | 2.44 | 0.63 |
| Customer-customer relationship | 104 | + | 0.81 | 0.50 | 2.28 | 0.69 |
| Customer-community | 104 | + | 0.81 | 0.60 | 2.12 | 0.56 |
| Test scale | | | | | 2.28 | 0.71 |

**Table 11: Cronbach's Alpha for Brand Community Index**

As can be seen in table 11 the value of Cronbach's alpha (0.71) for the 104 datasets shows a high internal consistency of the index. [126] It is therefore justifiable to regard the M Power World as a firm-established online brand community. Although this brand community index is not included in the multivariate analysis later on, it was necessary to test whether the M Power World fulfils the typical brand community characteristics for the further course of the empirical analysis.

[122] The three items were operationalized as follows: social identity with "It was a good idea to become a member of the M Power World.", fulfilment of needs with "The M Power World completely fulfils my expectations." and influence with "I can influence the arrangement of the M Power World". Answers to these questions were retrieved on a scale from five (does not apply at all) to one (applies fully).

[123] The answers to all items were taken from the third wave measurement as this measurement was the latest to be conducted and therefore measured the longest participation in the M Power World.

[124] Internal consistency is a measurement of the reliability of the index. Normally a value of >=0.7 is seen as sufficient. See Greene (1997) for more information.

[125] The overall mean for the brand community index is rather high as well (mean: 2.24; s.d.: 0.60; 104 obs.). Here again the figure was divided by the number of relationships for better readability.

[126] Internal consistency is a measurement of the reliability of the index. Normally a value of >=0.7 is seen as sufficient. See Greene (1997) for more information.

In a next step a more thorough examination of the independent variables described above is carried out.

**Membership status:**

| Variables | Significance | Mean (standard deviation) | |
|---|---|---|---|
| | | Membership = 0 (n=23) | Membership = 1 (n=104) |
| Brand loyalty/wom static | n.s. | 15.96 (6.53) | 15.81 (5.53) |
| Brand loyalty/wom dynamic | n.s. | 2.61 (5.31) | 0.73 (4.93) |
| Lead user status (+) | n.s. | 0.65 | 0.58 |
| Static product quality perception | n.s. | 6.30 (2.08) | 6.40 (1.97) |
| Dynamic product quality perception | n.s. | 0.30 (1.36) | 0.01 (1.87) |
| Membership private BMW M brand communities (+) | < 0.01 | 0.17 | 0.61 |
| Membership communities on other brands (+) | n.s. | 0.09 | 0.19 |
| Experience | < 0.01 | 9.26 (5.75) | 5.91 (5.37) |
| Education (+) | n.s. | 0.30 | 0.36 |
| Technical profession (+) | n.s. | 0.61 | 0.49 |
| Age | < 0.01 | 45.30 (9.55) | 38.19 (8.99) |

n.s. = not significant
(+) 0/1 dummy variable

**Table 12: Descriptive Statistics for Membership Status**

Table 12 shows the mean and standard deviations for a membership status of 0 (no member of the M Power World) and a membership status of 1 (member of the M Power World). It turned out that a significant difference at the 1% level exists for membership in private BMW M brand communities between participants who are members of the M Power World and those who are not. For experience with BMW M automobiles, education and age difference was significant at the 1% level as well. Yet no significant difference exists for brand loyalty & wom index during the reference measurement and the difference between this brand loyalty &

wom index between third wave and reference measurement. Yet the change in the brand loyalty & wom index is close to zero while it drops over two points for non-members.[127]

What follows is a more thorough description of the effects membership in the M Power World has on the static brand loyalty & wom index and the variation between the reference measurement and the third wave measurement. In order to do this, the brand loyalty & wom index is divided into a low and a high static brand loyalty & wom status as well as a negative change, no change, and positive change for the dynamic variation as described in the variables section above.

| Variables | Significance | Mean (standard deviation) | |
|---|---|---|---|
| | | Brand loyalty / wom= 0 (n=61) | Brand loyalty / wom = 1 (n=66) |
| Membership status M Power World (+) | n.s. | 0.79 | 0.85 |
| Lead user status (+) | n.s. | 0.57 | 0.61 |
| Static product quality perception (+) | < 0.01 | 0.33 | 0.67 |
| Membership private BMW M brand communities (+) | n.s. | 0.48 | 0.58 |
| Membership communities on other brands (+) | n.s. | 0.20 | 0.15 |
| Experience | n.s. | 6.08 (4.48) | |
| Education (+) | < 0.05 | 0.25 | 0.44 |
| Technical profession (+) | n.s. | 0.57 | 0.45 |
| Age | n.s. | 40.39 (8.94) | 38.64 (9.94) |

n.s. = not significant
(+) 0/1 dummy variable

**Table 13: Descriptive Statistics for Static Brand Loyalty & Wom (Membership)**

Table 13 shows the mean and standard deviations for a static brand loyalty & wom status of 0 (low brand loyalty & wom value) and a static brand loyalty & wom status of 1 (high brand loyalty & wom value). It turned out that a significant difference at the 1% level exists between participants displaying a low static brand loyalty & wom status and those displaying

[127] To test for potentially significant differences a t-test was conducted for the continuous variables. The same was done for the binary-coded variables but with a $chi^2$ test. The difference was significant for "membership in private BMW M brand communities" (one sided test: chi2(1) = 14.0934 and p<0.001) and "age" (two sided test: t(123) = 3.3926 and p<0.001).

a high static brand loyalty & wom status concerning the static product quality perception. For education, the difference was significant at the 5% level. No significant difference exists concerning membership status in the M Power World.[128]

| Variables | Significance | Mean (standard deviation) | | |
|---|---|---|---|---|
| | | Brand loyalty / wom= -1 (n=60) | Brand loyalty / wom= 0 (n=19) | Brand loyalty / wom = 1 (n=48) |
| Membership status M Power World (+) | < 0.1 | 0.77 | 0.74 | 0.92 |
| Lead user status (+) | n.s. | 0.57 | 0.74 | 0.56 |
| Dynamic product quality perception (+) | < 0.01 | -0.25 | 0.00 | 0.25 |
| Membership private BMW M brand communities (+) | n.s. | 0.55 | 0.63 | 0.46 |
| Membership communities on other brands (+) | n.s. | 0.17 | 0.11 | 0.21 |
| Experience | n.s. | 6.67 (4.99) | 6.74 (6.27) | |
| Education (+) | n.s. | 0.35 | 0.48 | 0.29 |
| Technical profession (+) | n.s. | 0.50 | 0.63 | 0.48 |
| Age | n.s. | 40.05 (9.49) | 36.84 (10.35) | 39.87 (9.09) |

n.s. = not significant
(+) 0/1 dummy variable

**Table 14: Descriptive Statistics for Dynamic Brand Loyalty & Wom (Membership)**

In contrast to this, table 14 shows the mean and standard deviations for a variation in the brand loyalty & wom status between the reference measurement and the third wave. A dynamic brand loyalty & wom status of -1 stands for a negative change, a dynamic brand loyalty & wom status of 0 stands for no variation, and a dynamic brand loyalty & wom status of 1 stands for a positive change (higher brand loyalty & wom status at third wave compared to reference measurement. As can be seen a significant difference at the 1% level exists between participants whose brand loyalty & wom status decreased, stayed the same, and increased concerning dynamic product quality perception. Furthermore, membership status is

[128] To test for potentially significant differences a t-test was conducted for the continuous variables. The same was done for the binary-coded variables but with a $chi^2$ test. The difference was significant for "static product quality perception" (one sided test: chi2(1) = 14.5559 and p<0.001) and "education" (one sided test: chi2(1) = 5.2417 and p<0.05)..

significantly higher at the 10% level for those members whose brand loyalty & wom status increased.[129]

The next stage analyses what effects belonging to different community groups has on brand loyalty & wom status.

**Community status:**

As described in section 3.1.2, M Power World members are divided into different community groups for the rest of the empirical analysis. These groups are defined as follows:

5. **Insider:** M Power World members from reference measurement on with a constantly high community activity (at least two posts or weekly community visits)
6. **Mingler:** Non members at the reference measurement and M Power World members at the third wave measurement.
7. **Tourists:** M Power World members from reference measurement on with a constantly low high community activity (less than two posts or weekly community visits)
8. **Non members:** Non members of the M Power World

| | Frequency | Percent |
|---|---|---|
| Insider | 44 | 27.67% |
| Mingler | 32 | 20.13% |
| Tourist | 60 | 37.74% |
| Non member | 23 | 14.47% |
| Sum | 159 | 100.00% |

**Table 15: Different Community Status Groups**

Table 16 shows the mean and standard deviations for a community status of 4 (Insider), a community status of 3 (Mingler), a community status of 2 (Tourist), and a community status of 1 (non member). It turned out that a significant difference at the 1% level exists between the different community groups concerning membership in private BMW M brand communities. For membership of communities for other brands and dynamic product quality perception, the effects are significant at the 5% level. In addition age is significant at the 10% level. No significant difference exist for brand loyalty & wom index during the reference measurement and the difference in this brand loyalty & wom index between third wave and reference measurement. Yet the decrease in the brand loyalty & wom index with over two

[129] To test for potentially significant differences, a one-way analysis of variance with a Scheffe multiple-comparison test was conducted for the continuous variables. The same was done for the binary-coded variables but with a $chi^2$ test. The difference was significant for "membership status M Power World" (one sided test: chi2(1) = 5.0601 and $p<0.1$) and "dynamic product quality perception" (one sided test: chi2(1) = 12.9250 and $p<0.05$)..

points is higher for non members than for the three community groups. In particular the change for minglers is close to zero.[130]

| Variables | Significance | Mean (standard deviation) | | | |
|---|---|---|---|---|---|
| | | Insider (n=44) | Mingler (n=32) | Tourist (n=60) | Non member (n=23) |
| Brand loyalty/wom static | n.s. | 15.39 (6.00) | 16.78 (5.17) | 16.12 (5.19) | 19.96 (6.53) |
| Brand loyalty/wom dynamic | n.s. | 0.68 (5.77) | 0.41 (4.41) | 0.77 (4.28) | 2.61 (5.31) |
| Lead user status (+) | n.s. | 0.64 | 0.41 | 0.53 | 0.65 |
| Static product quality perception | n.s. | 0.55 | 0.56 | 0.48 | 0.48 |
| Dynamic product quality perception | < 0.05 | -0.09 | 0.13 | 0.07 | -0.22 |
| Membership private BMW M brand communities (+) | < 0.01 | 0.82 | 0.22 | 0.45 | 0.17 |
| Membership communities on other brands (+) | < 0.05 | 0.30 | 0.13 | 0.12 | 0.09 |
| Experience | n.s. | 5.45 (6.12) | 6.91 (4.55) | 6.25 (4.78) | 9.26 (5.75) |
| Education (+) | n.s. | 0.36 | 0.34 | 0.35 | 0.30 |
| Technical profession (+) | n.s. | 0.43 | 0.44 | 0.53 | 0.61 |
| Age | < 0.1 | 37.79 (9.83) | 42.63 (6.47) | 38.47 (8.42) | 45.30 (9.55) |

n.s. = not significant
(+) 0/1 dummy variable

**Table 16: Descriptive Statistics for Community Status**

What follows is a more thorough description of the effects the different community groups of the M Power World have on the static brand loyalty & wom index and the variance between the reference measurement and the third wave measurement. In order to do this the brand loyalty & wom index is divided into a low and a high static brand loyalty & wom status as well as a negative change, no change, and positive change for the dynamic variation as described in variables section above.

Table 17 reveals the mean and standard deviations for a static brand loyalty & wom status 0 (low brand loyalty & wom value) and a static brand loyalty & wom status of 1 (high brand

[130] To test for potentially significant differences a one-way analysis of variance with a Scheffe multiple-comparison test was conducted. The difference was significant for "dynamic product quality perception" (one sided test: chi2(3) = 9.5497 and p<0.05) , "membership private BMW M brand communities" (one sided test: chi2(1) = 37.7454 and p<0.001), "membership communities on other brands" (one sided test: chi2(1) = 7.8951 and p<0.05) and "age" (one sided test: chi2(3) = 6.2657 and p<0.1).

loyalty & wom value). As can be seen in table 17, a significant difference at the 1% level exists between the education of users displaying a low static brand loyalty & wom status and those displaying a high static brand loyalty & wom status. For technical professions, the difference was significant at the 5% level. No significant difference exists concerning the community status in the M Power World.[131]

| Variables | Significance | Mean (standard deviation) | |
|---|---|---|---|
| | | Brand loyalty / wom= 0 (n=78) | Brand loyalty / wom = 1 (n=81) |
| Community status M Power World (+) | n.s. | 2.49 (1.03) | 2.30 (1.05) |
| Lead user status (+) | n.s. | 0.54 | 0.57 |
| Static product quality perception (+) | < 0.01 | 0.36 | 0.67 |
| Membership private BMW M brand communities (+) | n.s. | 0.44 | 0.49 |
| Membership communities on other brands (+) | n.s. | 0.18 | 0.15 |
| Experience | n.s. | 6.59 (4.61) | 6.60 (6.05) |
| Education (+) | < 0.01 | 0.24 | 0.44 |
| Technical profession (+) | < 0.05 | 0.58 | 0.42 |
| Age | n.s. | 0.58 | 0.42 |

n.s. = not significant
(+) 0/1 dummy variable

**Table 17: Descriptive Statistics for Static Brand Loyalty & Wom (Community)**

In contrast to this, table 18 shows the mean and standard deviations for a variation in the brand loyalty & wom status between the reference measurement and the third wave. A dynamic brand loyalty & wom status of -1 stands for a negative change, a dynamic brand loyalty & wom status of 0 stands for no variation, and a dynamic brand loyalty & wom status of 1 stands for a positive change (higher brand loyalty & wom status at third wave compared to reference measurement). It turned out that a significant difference at the 1% level exists

[131] To test for potential significant differences a t-test was conducted for the continuous variables. The same was done for the binary-coded variables but with a $chi^2$ test. The difference was significant for "static product quality perception" (one sided test: chi2(1) = 15.0628 and p<0.001) , "education" (one sided test: chi2(1) = 7.0851 and p<0.01), and "technical profession" (one sided test: chi2(1) = 3.9264 and p<0.05).

between participants whose brand loyalty & wom status decreased, stayed the same, and increased, concerning dynamic product quality perception. Furthermore a significant difference at the 105 level exists for education.[132]

| Variables | Significance | Mean (standard deviation) | | |
|---|---|---|---|---|
| | | Brand loyalty / wom= -1 (n=74) | Brand loyalty / wom= 0 (n=24) | Brand loyalty / wom = 1 (n=61) |
| Community status M Power World | n.s. | 2.51 (1.06) | 2.42 (1.14) | 2.23 (0.97) |
| Lead user status (+) | n.s. | 0.58 | 0.67 | 0.48 |
| Dynamic product quality perception (+) | < 0.01 | -0.27 | 0.00 | 0.31 |
| Membership private BMW M brand communities (+) | n.s. | 0.50 | 0.50 | 0.41 |
| Membership communities on other brands (+) | n.s. | 0.15 | 0.08 | 0.21 |
| Experience | n.s. | 6.73 (4.79) | 6.21 (5.70) | 6.59 (5.96) |
| Education (+) | < 0.1 | 0.35 | 0.54 | 0.26 |
| Technical profession (+) | n.s. | 0.47 | 0.54 | 0.51 |
| Age | n.s. | 40.38 (8.76) | 38.96 (10.40) | 40.30 (8.84) |

n.s. = not significant
(+) 0/1 dummy variable

**Table 18: Descriptive Statistics for Dynamic Brand Loyalty & Wom (Community)**

**Summary:**

These preliminary findings serve as a first indicator in favour of hypothesis 2a and 2b. In order to further analyse this, a multivariate analysis will be conducted in addition to the above univariate description. However before the next section describes the model for the multivariate analysis, the pairwise correlation of the variables is examined in order to see whether they are suitable for a multivariate analysis.

As can be seen in table 19, the correlation of the variables for membership status is rather low, with no value exceeding 0.30 except for the correlation between membership in private BMW M brand communities and membership in communities of other brands as well as membership status. However this can be explained. All three variables are concerned with membership of communities; therefore a significant correlation seems plausible. The same is

[132] To test for potentially significant differences, one-way analysis of variance with a Scheffe multiple-comparison test was conducted for the continuous variables. The same was done for the binary-coded variables but with a $chi^2$ test. The difference was significant for “dynamic product quality perception” (one sided test: chi2(1) = 18.9336 and p<0.01), and “education” (one sided test: chi2(1) = 5.9594 and p<0.1).

the case for the correlation between static product quality perception and static brand loyalty as well as dynamic product quality perception and dynamic brand loyalty. As it is anticipated that the product quality perception has an effect on the brand loyalty this correlation is plausible. Furthermore the correlation between age and experience with BMW M was also anticipated, as the experience with BMW M was measured in years. The correlation between the static and the dynamic product quality perception is not relevant, as both variables are tested in two different models.

| | Brand loyalty / wom static | Brand loyalty / wom dynamic | Membership status | Lead user status | Static product quality perception | Dynamic product quality perception | Member private BMW M communities | Member communities other brands | Experience with BMW M | Education | Profession | Age |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Brand loyalty / wom static** | 1,00 | | | | | | | | | | | |
| **Brand loyalty / wom dynamic** | -0,06<br>0,47 | 1,00 | | | | | | | | | | |
| **Membership status** | 0,08<br>0,37 | 0,17<br>0,05 | 1,00 | | | | | | | | | |
| **Lead user status** | 0,03<br>0,71 | 0,00<br>0,99 | -0,06<br>0,51 | 1,00 | | | | | | | | |
| **Static product quality** | 0.34<br>0,00 | -0.05<br>0,57 | 0.02<br>0,79 | 0.22<br>0,01 | 1.00 | | | | | | | |
| **Dynamic product quality** | -0.01<br>0,93 | 0.30<br>0,00 | 0.10<br>0,26 | 0.02<br>0,84 | -0.37<br>0,00 | 1.00 | | | | | | |
| **Member private BMW M** | 0.10<br>0,26 | -0.08<br>0,37 | 0.33<br>0,00 | 0.21<br>0,02 | 0.07<br>0,43 | 0.03<br>0,73 | 1.00 | | | | | |
| **Member communities** | -0,06<br>0,51 | 0,05<br>0,60 | 0,11<br>0,23 | 0,13<br>0,15 | -0,09<br>0,33 | 0,02<br>0,81 | 0,35<br>0,00 | 1,00 | | | | |
| **Experience with BMW M** | 0,08<br>0,40 | -0,03<br>0,71 | -0,23<br>0,01 | 0,12<br>0,19 | -0,02<br>0,82 | 0,02<br>0,79 | -0,20<br>0,03 | -0,12<br>0,17 | 1,00 | | | |
| **Education** | 0,20<br>0,02 | -0,05<br>0,57 | 0,04<br>0,64 | 0,00<br>1,00 | -0,01<br>0,95 | -0,03<br>0,78 | 0,06<br>0,51 | -0,03<br>0,76 | 0,04<br>0,64 | 1,00 | | |
| **Profession** | -0,12<br>0,18 | -0,01<br>0,87 | -0,09<br>0,31 | 0,15<br>0,10 | -0,24<br>0,01 | 0,03<br>0,74 | -0,04<br>0,65 | 0,03<br>0,73 | 0,04<br>0,66 | 0,02<br>0,86 | 1,00 | |
| **Age** | -0,10<br>0,26 | -0,01<br>0,93 | -0,27<br>0,00 | -0,22<br>0,01 | 0,13<br>0,14 | 0,09<br>0,32 | -0,13<br>0,16 | 0,04<br>0,63 | 0,37<br>0,00 | 0,07<br>0,41 | 0,01<br>0,95 | 1,00 |

**Table 19: Pairwise Correlation of Variables for Membership Status**

The same holds true for the analysis of the community status. As can be seen in table 20 the correlation of the variables is quite low, with no value exceeding 0.25 except for the same variables as in table 19. As the explanation for membership status is also plausible for community status, the variables are suitable for a multivariate analysis.

| | Brand loyalty / wom static | Brand loyalty / wom dynamic | Community status | Lead user status | Static product quality perception | Dynamic product quality perception | Member private BMW M communities | Member communities other brands | Experience with BMW M | Education | Profession | Age |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Brand loyalty / wom static** | 1.00 | | | | | | | | | | | |
| **Brand loyalty / wom dynamic** | -0.13<br>0,11 | 1.00 | | | | | | | | | | |
| **Community status** | 0,09<br>0,25 | 0,12<br>0,12 | 1,00 | | | | | | | | | |
| **Lead user status** | 0,03<br>0,71 | -0,09<br>0,24 | 0,00<br>0,96 | 1,00 | | | | | | | | |
| **Static product quality** | 0.31<br>0,00 | -0.02<br>0,82 | 0.06<br>0,45 | -0.21<br>0,01 | 1.00 | | | | | | | |
| **Dynamic product quality** | -0.04<br>0,63 | 0.33<br>0,00 | 0.01<br>0,88 | -0.02<br>0,78 | -0.31<br>0,00 | 1.00 | | | | | | |
| **Member private BMW M** | 0,06<br>0,47 | -0,08<br>0,31 | 0,36<br>0,00 | 0,25<br>0,00 | -0,03<br>0,71 | 0,01<br>0,93 | 1,00 | | | | | |
| **Member communities** | -0.04<br>0,60 | 0.08<br>0,34 | 0.20<br>0,01 | 0.09<br>0,26 | -0.12<br>0,15 | 0.02<br>0,76 | 0.34<br>0,00 | 1.00 | | | | |
| **Experience with BMW M** | 0,00<br>0,99 | -0,01<br>0,87 | -0,17<br>0,03 | 0,09<br>0,24 | -0,03<br>0,72 | 0,02<br>0,84 | -0,16<br>0,04 | -0,09<br>0,26 | 1,00 | | | |
| **Education** | 0,21<br>0,01 | -0,08<br>0,32 | -0,03<br>0,70 | -0,01<br>0,88 | 0,04<br>0,59 | 0,01<br>0,94 | 0,04<br>0,64 | -0,07<br>0,37 | 0,01<br>0,90 | 1,00 | | |
| **Profession** | -0.16<br>0,05 | 0.03<br>0,67 | -0.12<br>0,12 | 0.18<br>0,02 | -0.22<br>0,01 | 0.05<br>0,50 | 0.03<br>0,70 | 0.04<br>0,65 | -0.03<br>0,72 | 0.02<br>0,82 | 1.00 | |
| **Age** | -0.11<br>0,18 | -0.01<br>0,94 | -0.16<br>0,05 | -0.21<br>0,01 | -0.07<br>0,41 | 0.10<br>0,21 | -0.17<br>0,03 | 0.00<br>1,00 | 0.36<br>0,00 | 0.08<br>0,32 | 0.00<br>0,99 | 1.00 |

**Table 20: Pairwise Correlation of Variables for Community Status**

### 4.3.4 Multivariate Analysis and Findings

The preceding section provided a first univariate analysis and an examination of the suitability of the data for a multivariate analysis. This section now examines the effects of a membership of a firm-established brand community on the brand loyalty & wom status with a multivariate analysis. The static brand loyalty & wom effects are analysed with a probit model and the dynamic brand loyalty & wom effects with an ordered probit model – described in section 4.3.4.1. Section 4.3.4.2 provides the resulting findings on the hypotheses.

#### 4.3.4.1 Model Description

In order to examine the effects the independent variables have on the dependent variable, a regression model for binary outcomes is used. This is due to the fact that the dependent

variables static brand loyalty & wom status and dynamic brand loyalty & wom status as well as the independent variables membership status, lead user status, memberships of private BMW M brand communities, membership communities for other brands, own innovations, education, and technical profession are binary-coded variables. This violates one of the assumptions of linear regression - metric scaled dependent variables (Greene 1997).[133] Therefore the survey of static brand loyalty & wom effects uses a probit model and the examination of dynamic brand loyalty & wom effects, an ordered probit model. Both models are latent models with an unobservable dependent variable which is related to a number of independent variables. They use maximum likelihood estimation to predict the probability of a certain event occurring (Greene 1997, p. 882). The aim of this is to estimate the parameter of the independent variable of the binary regression model in such a way that the likelihood of obtaining the observed data is maximized. In doing this, the binary regression model, in contrast to the linear regression model, does not try to obtain estimates for the observations of the binary dependent variable, but seeks to derive the probability of occurrence for the observed data. In addition, since binary regression models are non-linear, the change of the outcome probability due to the change of the independent variable depends on the levels of the remaining independent variables. Therefore binary regression models can be used to predict a dependent variable on the basis of continuous and/or categorical independent variables, to determine the percentage of variance in the dependent variable explained by the independent variable and to assess interaction effects (Greene 1997).

Although some assumptions of the linear regression do not apply to binary regression, the probit and ordered probit model still have to fulfil several conditions, because in other cases the estimation can lose its efficiency conditions or the power of explanation can be limited.[134] In general it has to be ensured that all relevant variables are integrated in to the regression model. If this is not the case, the variance they share with relevant variables included might be wrongly attributed to those variables (Greene 1997). Similarly all irrelevant variables have to be excluded, as otherwise the common variance they share with included variables might be wrongly attributed to the irrelevant variables. Besides those general guidelines, assumptions exist about the sample size, multicollinearity, autocorrelation and the independence of the error terms (Greene 1997). The data fulfils all of these assumptions; therefore a first probit and ordered probit model is calculated.[135]

[133] For more information on linear regression and its assumptions please see (Greene 1997, pp. 220-333).

[134] Binary regression does not assume linearity of relationship between the independent variables and the dependent variable does not require normally distributed variables and does not assume homoscedasticity. For more detailed information see Greene (1997, pp. 225. and pp. 882).

[135] The sample size is sufficient, a test of the data on multicollinearity (see appendix 3) and autocorrelation produced no negative results: Furthermore it is conservatively assumed that the variance of the error terms is not constant and therefore heteroscedastic robust standard errors are used.

**Calculation of membership models:**

For the probit model (Model 1) the static brand loyalty & wom status is used as the dependent variable and membership status, static product quality perception, and lead user status as independent variables. The second probit model (Model 2) displayed in table 21 is used to control for potential further influences on the static brand loyalty & wom status. Membership of private BMW M brand communities, membership of communities for other brands, number of BMW M, experience with BMW M, own innovations, education, technical profession, and age are included as control variables.

| | Model 1 | Model 2 | Model 3 | Model 4 |
|---|---|---|---|---|
| | Static brand loyalty / wom | Static brand loyalty / wom | Dynamic brand loyalty / wom | Dynamic brand loyalty / wom |
| Membership status M Power World | 0.108 (0.122) | 0.100 (0.141) | 0.486* (0.285) | 0.651** (0.317) |
| Lead User Status | 0.132 (0.100) | 0.102 (0.114) | -0.035 (0.223) | 0.061 (0.246) |
| Static product quality perception | 0.358*** (0.087) | 0.343*** (0.095) | | |
| Dynamic product quality perception | | | 0.451*** (0.133) | 0.465*** (0.136) |
| Membership private BMW M brand | | 0.052 (0.113) | | -0.513** (0.254) |
| Membership communities on other brands | | -0.052 (0.135) | | 0.303 (0.314) |
| Experience | | 0.014 (0.011) | | -0.006 (0.022) |
| Education | | 0.234** (0.095) | | -0.055 (0.228) |
| Technical profession | | -0.069 (0.100) | | -0.069 (0.224) |
| Age | | -0.173 (0.229) | | -0.030 (0.495) |
| Observations | 125 | 125 | 125 | 125 |
| log-likelihood | -78.494 | -74.162 | -118.267 | -116.082 |
| Wald chi2 | 16.23 | 24.89 | 15.59 | 19.96 |
| Prob > chi2 | 0.0010 | 0.0031 | 0.0014 | 0.0182 |
| Pseudo R2 | 0.0937 | 0.1437 | 0.0618 | 0.0792 |

Robust standard errors in parentheses
The marginal effect of each independent variable
is reported holding the remaining variables at their
* significant at 10%; ** significant at 5%; *** significant at 1%

**Table 21: Different Membership Models**

**Tests:**

**Model appropriateness:** In order to test Models 2 and 4 for model appropriateness, a goodness-of-fit test was conducted. By doing this it is observed whether the model as a whole is significant and whether all independent variables together have an influence on the dependent variable (Greene 1997, p. 225). As can be seen in table 21 the goodness-of-fit test in form of a Wald chi-square test indicates that Model 2 as a whole is significant at the 1% level and Model 4 is significant at the 5% level. [136]

**Significance of independent variables:** As can be seen in table 22 the Wald statistic reveals that the independent variables membership status in the M Power World, lead user status, membership of private BMW M brand communities, membership of communities for other brands, experience with BMW M, technical profession, and age are not significant in model 2.

| Effect | Model 2 | | | Model 4 | | |
|---|---|---|---|---|---|---|
| | Chi-Quadrat | Degree of freedom | Sign. | Chi-Quadrat | Degree of freedom | Sign. |
| Membership status M Power World | 0.45 | 1 | n.s. | 4.23 | 1 | < 0.05 |
| Lead user status | 0.80 | 1 | n.s. | 0.06 | 1 | n.s. |
| Static product quality perception | 11.39 | 1 | < 0.01 | | | |
| Dynamic product quality perception | | | | 11.64 | 1 | < 0.01 |
| Membership private BMW M brand communities | 0.21 | 1 | n.s. | 4.10 | 1 | < 0.05 |
| Membership communities on other brands | 0.15 | 1 | n.s. | 0.93 | 1 | n.s. |
| Experience | 1.80 | 1 | n.s. | 0.08 | 1 | n.s. |
| Education | 5.71 | 1 | < 0.05 | 0.06 | 1 | n.s. |
| Technical profession | 0.48 | 1 | n.s. | 0.09 | 1 | n.s. |
| Age | 0.57 | 1 | n.s. | 0.00 | 1 | n.s. |

n.s. = not significant

**Table 22: Wald Statistic of Significance of Independent Variables**

In model 4 the independent variables lead user status, membership of communities of other brands, experience with BMW M, education, technical profession, and age are not significant.

[136] This goodness-of-fit test in logistic regression is similar to the F-Test in linear regression. For more information please see Greene (1997, pp. 225).

This may be a sign that model 2 and model 4 are overfitted, which means that the models might incorporate irrelevant independent variables (Greene 1997). In this case the marginal effects are not distorted but are estimated less precisely. Estimating alternative models without the insignificant variables did not lead to any relevant changes; therefore Model 2 and Model 4 are used further.[137]

**Control Variable:** It turned out that the marginal effect of one of the control variables is significant in Model 2. The marginal effect of education on the dependent variable is significant at the 5% level. Yet, as examined above, including these control variables in either model does not lead to any relevant changes. These findings therefore do not have an effect on the following multivariate analysis of the hypothesis..

**Endogeneity:** Endogeneity refers to the situation where a correlation is found to exist between the independent variables and the error term. If this is the case, the effects are inconsistent and cannot be assigned exactly to the different variables. To counter endogeneity problems this thesis first of all used a quasi-experimental research design. Additionally several control variables were included in the different models. In order to test these models for further possible endogeneity problems the stock price – as an exogenous variable – is included in the models.

In order to operationalise the stock price, the value of the stock price for the BMW Group was taken on the day a respondent filled out the reference measurement and it was assigned to him. In this way a static stock price was taken for the measurement of static brand loyalty and wom influences. In contrast to this, the difference between the stock price on the day a respondent filled out the third wave measurement and the day he filled out the reference measurement was taken for the analysis of dynamic brand loyalty and wom influences. The results for Model 2 and Model 4 – once with and once without the stock price- for membership status can be seen in table 23.

Estimating alternative models with the stock price as a further variable does not lead to a significant change for Model 2 as well as for Model 4; therefore Model 2 and Model 4 without the stock price are used further.

[137] See appendix 4 for membership models without insignificant variables.

| | Model 2 | | Model 4 | |
|---|---|---|---|---|
| | Static brand loyalty / wom | Static brand loyalty / wom with IV | Dynamic brand loyalty / wom | Dynamic brand loyalty / wom with IV |
| Membership status M | 0.100 | 0.100 | 0.651** | 0.657** |
| Power World | (0.141) | (0.141) | (0.317) | (0.318) |
| Lead User Status | 0.102 | 0.100 | 0.061 | 0.064 |
| | (0.114) | (0.114) | (0.246) | (0.246) |
| Static product quality perception | 0.343*** | 0.346*** | | |
| | (0.095) | (0.095) | | |
| Dynamic product quality perception | | | 0.465*** | 0.468*** |
| | | | (0.136) | (0.137) |
| Membership private BMW M brand | 0.052 | 0.024 | -0.513** | -0.534** |
| | (0.113) | (0.118) | (0.254) | (0.262) |
| Membership communities on other brands | -0.052 | -0.063 | 0.303 | 0.298 |
| | (0.135) | (0.136) | (0.314) | (0.315) |
| Experience | 0.014 | 0.013 | -0.006 | -0.007 |
| | (0.011) | (0.011) | (0.022) | (0.022) |
| Education | 0.234** | 0.230** | -0.055 | -0.052 |
| | (0.095) | (0.095) | (0.228) | (0.229) |
| Technical profession | -0.069 | -0.069 | -0.069 | -0.070 |
| | (0.100) | (0.099) | (0.224) | (0.224) |
| Age | -0.173 | -0.145 | -0.030 | -0.007 |
| | (0.229) | (0.232) | (0.495) | (0.501) |
| Stock price | | -0.032 | | 0.020 |
| | | (0.042) | | (0.065) |
| Observations | 125 | 125 | 125 | 125 |
| log-likelihood | -78.162 | -73.880 | -118.267 | -116.035 |
| Wald chi2 | 24.89 | 25.46 | 15.59 | 20.06 |
| Prob > chi2 | 0.003 | 0.005 | 0.001 | 0.029 |
| Pseudo R2 | 0.144 | 0.147 | 0.062 | 0.080 |

Robust standard errors in parentheses
The marginal effect of each independent variable
is reported holding the remaining variables at their
* significant at 10%; ** significant at 5%; *** significant at 1%

**Table 23: Instrumental Variable for Membership Models**

### Calculation of community status models:

In addition to the membership models, the same is done for community status. For the probit model (Model 5) the static brand loyalty & wom status is used as the dependent variable and community status, static product quality perception, and lead user status as independent variables. The second probit model (Model 6) displayed in table 24 is used to control for potential further influences on the static brand loyalty & wom status.

| | Model 5 | Model 6 | Model 7 | Model 8 |
|---|---|---|---|---|
| | Static brand loyalty / wom | Static brand loyalty / wom | Dynamic brand loyalty / wom | Dynamic brand loyalty / wom |
| Community status M Power World | 0.033 (0.041) | 0.016 (0.046) | 0.151 (0.093) | 0.197* (0.103) |
| Lead User Status | 0.069 (0.084) | 0.105 (0.096) | -0.274 (0.195) | -0.263 (0.214) |
| Static product quality perception | 0.397*** (0.074) | 0.296*** (0.083) | | |
| Dynamic product quality perception | | | 0.513*** (0.120) | 0.533*** (0.122) |
| Membership private BMW M brand | | 0.013 (0.100) | | -0.429* (0.228) |
| Membership communities on other brands | | 0.001 (0.121) | | 0.376 (0.291) |
| Experience | | 0.006 (0.009) | | 0.006 (0.020) |
| Education | | 0.239** (0.084) | | -0.157 (0.204) |
| Technical profession | | -0.142 (0.087) | | 0.122 (0.202) |
| Age | | -0.236 (0.202) | | -0.348 (0.451) |
| Observations | 157 | 157 | 157 | 157 |
| log-likelihood | -100.523 | -95.111 | -147.125 | -144.264 |
| Wald chi2 | 16.59 | 27.42 | 23.14 | 28.86 |
| Prob > chi2 | 0.000 | 0.001 | 0.000 | 0.001 |
| Pseudo R2 | 0.076 | 0.126 | 0.073 | 0.091 |

Robust standard errors in parentheses
The marginal effect of each independent variable is reported holding the remaining variables at their
* significant at 10%; ** significant at 5%; *** significant at 1%

**Table 24: Different Community Status Models**

Therefore membership in private BMW M brand communities, membership of communities of other brands, number of BMW M, experience with BMW M, own innovations, education, technical profession, and age are included as control variables. For the ordered probit model (Model 7) the dynamic brand loyalty & wom status is used as the dependent variable and community status, dynamic product quality perception, and lead user status as independent variables. The second ordered probit model (Model 8) displayed in table 24 is used as a control for potential further influences on the static brand loyalty & wom status. Therefore membership of private BMW M brand communities, membership of communities of other

brands, number of BMW M, experience with BMW M, own innovations, education, technical profession, and age are included as control variables.

It turned out, that the control variable membership of private BMW M communities is significant at the 10% level in model 8 (Wald-Test: chi2 (2) = 3.75, P. = 0.0527) and the control variable education is significant at the 5% level in model 6 (Wald-Test: chi2 (2) = 5.64, P. = 0.0176). It is assumed that potential influences of the control variables are not displayed by the independent variables. Therefore the control variables are included in order to reduce the omitted variable bias.

**Tests:**

**Model appropriateness:** In order to test models 6 and 8 for model appropriateness, a goodness-of-fit test is conducted. By doing this it is observed whether the model as a whole is significant and whether all independent variables together have an influence on the dependent variable (Greene 1997). As can be seen in table 24 the goodness-of-fit test in form of a Wald chi-square test indicates that Model 6 and Model 8 as a whole are significant at the 5% level.[138]

**Significance of independent variables:** As can be seen in table 25, the Wald statistic reveals that the independent variables community status, lead user status, membership of private BMW M brand communities, membership communities of other brands, experience with BMW M, technical profession, and age are not significant in model 6.

In model 8 the independent variables lead user status, membership communities of other brands, experience with BMW M, education, technical profession, and age are not significant. This may be a sign that model 6 and model 8 are overfitted, which means that the models might incorporate irrelevant independent variables (Greene 1997). In this case the marginal effects are not distorted but are estimated less precisely. Estimating alternative models without the insignificant variables did not lead to any relevant changes; therefore Model 6 and Model 8 are used further.[139]

[138] This goodness-of-fit test in logistic regression is similar to the F-Test in linear regression. For more information please see Greene (1997, pp. 225).

[139] See appendix 5 for community status models without insignificant variables..

| Effect | Model 6 | | | Model 8 | | |
|---|---|---|---|---|---|---|
| | Chi-Quadrat | Degree of freedom | Sign. | Chi-Quadrat | Degree of freedom | Sign. |
| Community status M Power World | 0.13 | 1 | n.s. | 3.70 | 1 | < 0.1 |
| Lead user status | 1.18 | 1 | n.s. | 1.51 | 1 | n.s. |
| Static product quality perception | 11.47 | 1 | < 0.01 | | | |
| Dynamic product quality perception | | | | 18.99 | 1 | < 0.01 |
| Membership private BMW M brand communities | 0.02 | 1 | n.s. | 3.54 | 1 | < 0.1 |
| Membership communities on other brands | 0.00 | 1 | n.s. | 1.67 | 1 | n.s. |
| Experience | 0.38 | 1 | n.s. | 0.10 | 1 | n.s. |
| Education | 7.38 | 1 | < 0.01 | 0.59 | 1 | n.s. |
| Technical profession | 2.60 | 1 | n.s. | 0.37 | 1 | n.s. |
| Age | 1.37 | 1 | n.s. | 0.60 | 1 | n.s. |

n.s. = not significant

**Table 25: Wald Statistic of Significance of Independent Variables**

**Control Variable:** It turned out that the marginal effect of one of the control variables is significant in Model 6. The marginal effect of education on the dependent variable is significant at the 5% level in Model 6, but as examined above, including these control variables in either model does not lead to any relevant changes. These findings therefore do not have an effect on the following multivariate analysis of the hypothesis.

The next step is for the hypotheses derived in chapter 4 to, be examined according to the findings of the different models. The next section is thereby split into three parts – first findings concerning the membership status are discussed, before the community status and lead user characteristics are examined.

**Endogeneity:** Similar to membership status stock price was also used as a further variable for community status. The reasons are the same as explained above for membership status. The stock price was also measured in the same way.

Estimating alternative models with the stock price as a further variable does not lead to a significant change for Model 6 as well as for Model 8; therefore Model 6 and Model 8 without the stock price are used further.

| | Model 5 | Model 6 | Model 7 | Model 8 |
|---|---|---|---|---|
| | Static brand loyalty / wom | Static brand loyalty / wom with IV | Dynamic brand loyalty / wom | Dynamic brand loyalty / wom with IV |
| Community status M | 0.016 | 0.014 | 0.197* | 0.197* |
| Power World | (0.046) | (0.046) | (0.103) | (0.103) |
| Lead User Status | 0.105 | 0.104 | -0.263 | -0.264 |
| | (0.096) | (0.096) | (0.214) | (0.214) |
| Static product quality | 0.296*** | 0.294*** | | |
| perception | (0.083) | (0.083) | | |
| Dynamic product quality | | | 0.533*** | 0.533*** |
| perception | | | (0.122) | (0.122) |
| Membership private | 0.013 | 0.003 | -0.429* | -0.433* |
| BMW M brand | (0.100) | (0.104) | (0.228) | (0.234) |
| Membership communities | 0.001 | -0.004 | 0.376 | 0.375 |
| on other brands | (0.121) | (0.122) | (0.291) | (0.292) |
| Experience | 0.006 | 0.005 | 0.006 | 0.006 |
| | (0.009) | (0.009) | (0.020) | (0.020) |
| Education | 0.239** | 0.239** | -0.157 | -0.157 |
| | (0.084) | (0.084) | (0.204) | (0.204) |
| Technical profession | -0.142 | -0.145 | 0.122 | 0.122 |
| | (0.087) | (0.088) | (0.202) | (0.202) |
| Age | -0.236 | -0.226 | -0.348 | -0.344 |
| | (0.202) | (0.204) | (0.451) | (0.455) |
| Stock price | | -0.014 | | 0.005 |
| | | (0.038) | | (0.059) |
| Observations | 157 | 157 | 157 | 157 |
| log-likelihood | -95.111 | -95.042 | -144.264 | -144.261 |
| Wald chi2 | 27.42 | 27.56 | 28.86 | 28.86 |
| Prob > chi2 | 0.001 | 0.002 | 0.001 | 0.001 |
| Pseudo R2 | 0.126 | 0.127 | 0.091 | 0.091 |

Robust standard errors in parentheses
The marginal effect of each independent variable
is reported holding the remaining variables at their
* significant at 10%; ** significant at 5%; *** significant at 1%

**Table 26: Instrumental Variable for Community Status Models**

#### 4.3.4.2 Findings on Brand Loyalty

**Membership influences:**

In section 3.1.1 the importance of membership of a firm-established brand community for the brand loyalty and word-of-mouth communication of the members was examined. Thereby a distinction was made between static brand loyalty and word-of-mouth communication and

their development over the duration of membership – the dynamic brand loyalty & word-of-mouth communication.

**Static** – Concerning static brand loyalty and word-of-mouth communication, it was argued:

> ***H1a:*** *Members of a firm-established online brand community exhibit a higher brand loyalty to this brand than non members.*
>
> ***H1b:*** *Members of a firm-established online brand community exhibit a higher word-of-mouth communication of this brand than non members.*

A first descriptive analysis in section 4.3.3 could not confirm this hypothesis, as members and non-members at the start of the M Power World showed nearly the same level of static brand loyalty and word-of-mouth communication. The same is true for the multivariate analysis in form of Model 2 from table 21. The effect has the expected signs yet is not significant. Hence the empirical analysis does not support hypothesis H1a and hypothesis H1b. The underlying assumption for this hypothesis was that the demographics and the brand loyalty differ between those members who join the M Power World from the beginning and those who are not interested in registering for the M Power World. It was assumed that those who register from the start display a higher brand involvement and hence brand loyalty. Yet this was not the case. An internal study by BMW M showed that the distribution of the different BMW M models and other demographics in the M Power World corresponds with the overall market distribution in Germany.[140] Hence it is not surprising that no significant difference existed in the level of brand loyalty at the start of the M Power World. Yet brand loyalty & word-of-mouth communication changed over the time of membership.

**Dynamic –** As indicated above, in addition to static brand loyalty and word-of-mouth communication of members and non-members at the start of the M Power World, the change in this brand loyalty and word-of-mouth communication during the existence of the M Power World was also measured. Section 3.1 argued:

> ***H2a:*** *The creation of a firm-established online brand community has a positive influence on the brand loyalty of the participants.*
>
> ***H2b:*** *The creation of a firm-established online brand community has a positive influence on the word-of-mouth communication of the participants.*

In order to examine this Model 4 from table 21 is used, as it analysed the change in the brand loyalty and word-of-mouth communication of the participants throughout the quasi-experiment. According to Model 4, an increase of the membership status by one unit from its mean increases the likelihood that a respondent displays a positive change in its brand loyalty and word-of-mouth communication by 64.5%. The marginal effect of membership status on

[140] Information on the BMW M Power World was received from the persons within the BMW Group who are responsible for the M Power World. For more information on the M Power World and the demographics see section 4.1.2.

dynamic brand loyalty and word-of-mouth communication is significant at the 5% level. Hence the empirical analysis supports hypothesis H2a and hypothesis H2b and hence that brand loyalty and word-of-mouth communication of brand community members increases with the duration of membership and brand community existence. As anticipated, the level of brand loyalty & word-of-mouth communication differed between members and non members of the M Power World after one year of existence, although the level was nearly the same at the start of the M Power World. This positive change in the brand loyalty & word-of-mouth communication of M Power World member is due to the increased involvement with the brand community along all three brand community dimensions: community-product, community-community, and community-brand. As the examination of the M Power World revealed, the M Power World displays all relevant characteristics of a brand community. The higher involvement in the three brand community dimensions – due to the membership in the M Power World - leads to the eventually higher brand loyalty & word-of-mouth communication of the M Power World members. This finding and explanation is in line with earlier findings and indications (e.g. Algesheimer et al. 2005, Muniz & O'Guinn 2001).

This difference between the intended brand loyalty and word-of-mouth communication during the reference measurement and the third wave measurement was further measured. Participants were asked about the number of recommendations they made for BMW M in the last six months as well as the number of BMW M automobiles they bought in the last six months. Table 27 shows the difference between the answers of the reference measurement and the third wave measurement. It is divided into M Power World members and non-members.

As can be seen in table 27 the findings for the intended behaviour could be confirmed for the word-of-mouth communication in form of number of recommendations. While the figure decreased for non-members during the time of the quasi-experiment it increased by 0.78 for members. This effect is significant at the 10% level.[141] Yet the same could not be confirmed for brand loyalty in the form of the number of BMW M's bought in the last 6 month. There the figure slightly decreased for members and non members. The reason for this could be that an automobile is not an item that users buy very often. Therefore a change in intended behaviour translates with a time lag into the corresponding actual behaviour.

[141] To test for potentially significant differences, a two-way analysis of variance with a t test was conducted. The difference was significant for "difference recommendations of BMW M" (two sided test: $t(76) = -1.7569$ and $p<0.1$).

| Variables | Significance | Mean (standard deviation) | |
|---|---|---|---|
| | | Membership = 0 (n=22) | Membership = 1 (n=104) |
| Difference number of BMW M bought | n.s | -0.14 (0.07) | -0.14 (0.06) |
| Difference recommendations of BMW M | < 0.1 | -1.32 (0.82) | 0.78 (0.87) |

n.s. = not significant

**Table 27: BMW M Bought and Recommendations Made by Membership Status**

**Different types of community members:**

In section 3.1.2 the influence of membership of a firm-established brand community for different types of community members on the brand loyalty and word-of-mouth communication was examined. Similar to membership influences above, a distinction was made between static brand loyalty & word-of-mouth communication and the development over the duration of membership – the dynamic brand loyalty & word-of-mouth communication.

**Static –** Concerning static brand loyalty and word-of-mouth communication, it was argued:

> ***H3 a:*** *The higher the status of a participant within a firm-established brand community the higher his / her brand loyalty intentions are.*
>
> ***H3 b:*** *The higher the status of a participant within a firm-established brand community the higher his / her word-of-mouth communication is.*

A first descriptive analysis in section 4.3.3 could not confirm this hypothesis as there was no significant difference between the different community groups at the start of the M Power World concerning static brand loyalty & word-of-mouth communication. The same is true for the multivariate analysis in form of Model 6 from table 24. The effect has the expected outcome yet is not significant. Hence the empirical analysis does not support hypothesis H3a and hypothesis H3b.[142] Yet the brand loyalty & word-of-mouth communication changed with existence of the M Power World.

**Dynamic –** As indicated above, in addition to the static brand loyalty & word-of-mouth communication of different community groups during the start of the M Power World, the change in this brand loyalty and word-of-mouth communication during the existence of the M Power World was also measured. Section 3.1.1 argued:

> ***H4 a:*** *The higher the status of a participant within a firm-established brand community the higher the positive effect on the change of brand loyalty intentions from the creation of a firm-established brand community.*

[142] For an explanation why this is the case, see the previous explanation for membership status. As the community status was derived out of membership status the same results were to be expected.

> ***H4 b:*** *The higher the status of a participant within a firm-established brand community the higher the positive effect on the change of word-of-mouth communication from the creation of a firm-established brand community.*

This could be confirmed already in the previous section for brand community membership. What is of importance now is whether this effect varies between community groups. In order to examine this Model 8 from table 24 is used, as it analysed the change in the brand loyalty & word-of-mouth communication of the different community groups throughout the quasi-experiment. According to Model 8 an increase of the community status by one unit from its mean increases the likelihood that a respondent displays a positive change on its brand loyalty & word-of-mouth communication by 18.4%. The marginal effect of membership status on dynamic brand loyalty and word-of-mouth communication is significant at the 10% level. Hence the empirical analysis supports hypothesis H4a and hypothesis H4b.[143]

Similar to the analysis of membership status, this difference between the intended brand loyalty & word-of-mouth communication during the course of the quasi-experiment was further measured. Participants were asked about the number of recommendations they made for BMW M in the last six months as well as the number of BMW M automobiles they bought in the last six months. Table 28 shows the difference between the answers of the reference measurement and the second wave measurement divided into the different community types of the M Power World.[144]

As can be seen in table 28, the findings for the intended behaviour could be confirmed for the word-of-mouth communication in form of number of recommendations. The figure not only shows the expected outcome but is also significant at the 1% level. The same is true for the number of BMW Ms bought. Starting with insiders and going up to non members, the decrease in the number of BMW Ms bought increased. This effect is significant at the 5% level. Hence membership in the M Power World not only positively influenced the intended brand loyalty but also the actual buying and recommendation behaviour. As anticipated, insiders displayed a stable high brand loyalty & word-of-mouth communication throughout the course of the quasi-experiment. Minglers – the type of community members who are willing to engage more in the brand community - also displayed a stable brand loyalty. The decrease was significantly higher for tourists and members as they were either not willing to join the M Power World or get more involved in the M Power World. Therefore the involvement on the brand community dimensions could not increase and hence also not on brand loyalty.

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[143] For an explanation why this is the case, see the previous explanation for membership status. As the community status was derived out of membership status the same results were to be expected.

[144] To test for potentially significant differences, one-way analysis of variance with a Scheffe test was conducted. The difference was significant for “difference number of BMW M bought” (one sided test: chi2(3) = 11.0028 and $p<0.05$), and “difference recommendations of BMW M” (on3 sided test:chi2(3) = 98.7275 and $p<0.001$).

| Variables | Significance | Mean (standard deviation) | | | |
|---|---|---|---|---|---|
| | | Insider (n=44) | Mingler (n=32) | Tourist (n=60) | Non member (n=23) |
| Difference number of BMW M bought | < 0.05 | -0.02 (0.66) | -0.03 (0.47) | -0.22 (0.56) | -0.14 (0.35) |
| Difference recommendations of BMW M | < 0.01 | -0.11 (3.50) | -1.09 (3.10) | 1.43 (11.29) | -1.32 (3.83) |

n.s. = not significant

**Table 28: BMW M Bought and Recommendations Made by Community Status**

**Product quality perception:**

**Static** - Concerning static brand loyalty & word-of-mouth communication, it was argued:

> ***H5 a:*** *The higher the static product quality perception of a participant the higher its brand loyalty intentions are.*

A first descriptive analysis in section 4.3.3 could confirm this hypothesis, as participants with higher static brand loyalty & word-of-mouth communication also had a higher static perception of the product quality. The same is true for the multivariate analysis in form of Model 2 from table 21 for membership status and Model 6 from table 24 for community status. According to Model 2 an increase in the static perception of the product quality by one unit from its mean increases the likelihood that a respondent displays a high static brand loyalty and word-of-mouth communication by 47.4%. This marginal effect of static perception of product quality on static brand loyalty and word-of-mouth communication is significant at the 1% level.

The same is true for the multivariate analysis in form of Model 6 from table 24 for the community status. According to Model 6 an increase in the static perception of the product quality by one unit from its mean increases the likelihood that a respondent displays a high static brand loyalty and word-of-mouth communication by 37.1%. This marginal effect of static perception of product quality on static brand loyalty and word-of- mouth communication is significant at the 1% level. Hence the empirical analysis supports hypothesis H5a. This finding is not surprising. As different studies pointed out product quality perception is one of the main contributors to brand loyalty (e.g. Algesheimer et al. 2004; Algesheimer et al. 2005, von Loewenfeld 2006). As product quality is a cognitive measurement it has a direct effect on brand loyalty.

**Dynamic** - Concerning dynamic brand loyalty & word-of-mouth communication, it was argued:

***H5 b:*** *The higher the dynamic product quality perception of a participant the higher the positive effect on the change of brand loyalty intentions.*

A first descriptive analysis in section 4.3.3 could confirm this hypothesis as participants with a positive dynamic perception of product quality change also had a higher positive change of dynamic brand loyalty & word-of-mouth communication. The same is true for the multivariate analysis in form of Model 4 from table 21 for membership status and Model 8 from table 24 for community status. According to Model 4 an increase in the dynamic perception of the product quality by one unit from its mean increases the likelihood that a respondent displays a positive change of its brand loyalty and word of-mouth communication by 39.3% The marginal effect of the dynamic change of the perception of product quality on dynamic brand loyalty and word-of-mouth communication is significant at the 1% level.

The same is true for the multivariate analysis in form of Model 8 from table 24 for the community status. According to Model 8 an increase in the dynamic perception of the product quality by one unit from its mean increases the likelihood that a respondent displays a positive change of its brand loyalty and word-of-mouth communication by 43.7%. The marginal effect of the dynamic change in the perception of product quality on dynamic brand loyalty and word-of-mouth communication is significant at the 1% level. Hence the empirical analysis supports hypothesis H5b and it also supports the hypothesis that a positive change in the dynamic perception of product quality also has a positive effect on the dynamic change of the brand loyalty and word-of-mouth communication. Similar to the explanation of the importance of static product quality perception for brand loyalty & word-of-mouth communication the same holds true for the variation over the course of time. If the product quality perception increases, the change in brand loyalty & word of mouth will also increase and vice versa.

What is more interesting is the comparison between firm-established brand community membership effects and dynamic product quality perception. As can be seen in Model 4 form table 21 and Model 8 from table 24 the more affective effects of brand community membership - respectively belonging to a certain community member group – are stronger than the cognitive affected product quality perception. What this means is that with the existence of the M Power World, the affective effects of membership in a firm-established brand community become more important than the cognitive product quality perception. Although expected, this effect is still astonishing as the M Power World started only recently. Yet these findings correspond with the overall development that social aspects of a product are becoming increasingly important as per the findings of von Loewenfeld (2006). In his study the affective brand community integration effects on brand loyalty were also higher than the cognitive product quality perception effects.[145]

[145] For more information on the study of von Loewenfeld (2006) see for example section 2.2 of this thesis.

**Private versus Firm-Established Brand Communities:**

**Static** - Concerning static brand loyalty & word-of-mouth communication it was argued:

> ***H6a:*** *Members of a private online brand community exhibit a higher brand loyalty to this brand than non members.*

A first descriptive analysis in section 4.3.3 could not confirm this hypothesis, as members and non-members of privately organized BMW M brand communities showed nearly the same level of static brand loyalty & word-of-mouth communication. The same is true for the multivariate analysis in form of Model 2 from table 21 for membership status and Model 6 from table 24 for community status. The effect has the expected positive sign yet is not significant in both models. Hence the empirical analysis does not support the hypothesis H6a that members of a private online brand community exhibit a higher brand loyalty to this brand than non members. A reason for this could be that the brand community relationships, community-brand, community-product, community-community, are not fostered in the same way than through a firm-established brand community. Especially the community-brand and community-product dimension might be more distinctive if a direct and permanent link with the firm itself exits. Furthermore, as there is a large overlap between members of the M Power World and members of private BMW M brand communities (see table 9), the distribution of private BMW M brand community members might be similar to the overall market distribution there as well. Hence no significant difference between members and non members of these private BMW M brand communities exists. Yet this changed over the time.

**Dynamic** – As indicated above, in addition to static brand loyalty & word-of-mouth communication the change in brand loyalty & word-of-mouth communication over time was also measured. Section 3.1 argued:

> ***H6c:*** *Membership in a private online brand community has a positive effect on the change of brand loyalty intentions.*

A first descriptive analysis in section 4.3.3 could not confirm this hypothesis as members of privately organized BMW M brand communities displayed a lower dynamic brand loyalty & word-of-mouth communication than non members. The same is true for the multivariate analysis in form of Model 4 from table 21 for membership status and Model 8 from table 24 for community status. According to Model 4 an increase of membership in a privately organized BMW M brand community decreases the likelihood that a respondent displays a positive change of its brand loyalty and word-of-mouth communication by 51.3%. This effect is nearly the same in Model 8 where a distinction is made between different community member types of the M Power World with a decrease of 42.9%. The marginal effect of membership in a privately organized BMW M brand community is significant at the 5% level for Model 4 and at the 10% level for Model 8. Hence hypothesis H6c cannot be confirmed. This outcome is astonishing as the brand loyalty & word-of-mouth communication between

members and non members of firm-established as well as private brand communities did not differ. Yet while the effect was positive over the duration of membership of the M Power World, it was negative for membership in a private BMW brand community. As explained in the static analysis above one reason for this could be that through the direct customer-firm interaction in a firm-established brand community the community-brand and community-product dimension could be emphasized in a more thorough and permanent way. Additionally a firm might be able to correct rumours or false statements in their "own" community much easier than in private brand communities. These rumours in turn might harm the brand loyalty of the members. As the overall brand loyalty towards BMW M decreased throughout the quasi-experiment the community-community dimension might not have been enough to "stop" that development.[146]

**Comparison** – Comparing the effect of membership of a privately-organized BMW M brand community with that of a firm-established BMW M brand community, section 4.1 argued:

> ***H6b:*** *Membership in a firm-established online brand community has a stronger effect on brand loyalty than membership in a privately organized online brand community.*

This is the case, especially as the relevant customer-brand can be leveraged more intensely throughout a firm-established brand community, where a direct interaction between firms and customers exists. Comparing the effects for privately and firm-established brand communities in the multivariate analysis in form of Model 2 from table 21 and Model 6 from table 24 it turns out that both effects are close to zero and nearly similar. Hence the hypothesis H6b that membership of a firm-established online brand community has a stronger effect on brand loyalty than membership in a privately organized online brand community cannot be confirmed.[147]

Yet this changed over time. Section 4.1 argued:

> ***H6d:*** *Membership in a firm-established online brand community has a stronger positive effect on the change of brand loyalty intentions than membership in a privately organized online brand community.*

Comparing the effects for privately and firm-established brand communities in the multivariate analysis in form of Model 4 from table 21 and Model 8 from table 24 it turns out that while membership in a firm-established brand community has a significant positive effect on the dynamic brand loyalty & word-of-mouth communication, membership of a privately organized BMW M brand community has a significant negative effect. Hence the hypothesis H6d that membership of a firm-established online brand community has a stronger positive

[146] A discussion for possible reasons why the overall brand loyalty with BMW M decreased throughout the quasi-experiment follows in the conclusion of this chapter.

[147] For an explanation why these effects are close to zero in both cases, see the explanation of the previous sections for static brand loyalty effects of membership status and private brand community membership.

effect on the change of brand loyalty intentions than membership of a privately organized online brand community can be confirmed.[148]

**Lead user characteristics:**

In section 4.1.3 the influence of displayed lead user characteristics on the brand loyalty & word-of-mouth communication of the participants was examined. It was stated that it is more likely that M Power World members exhibit higher lead user characteristics than non members.

**Static –** Concerning static brand loyalty & word-of-mouth communication it was argued:

> ***H7 b:*** *Participants with higher lead user characteristics exhibit higher brand loyalty intentions.*

A first descriptive analysis in section 4.3.3 could not confirm this hypothesis as there was no significant difference in the level of lead user characteristics for participants with high static brand loyalty & word-of-mouth communication and low static brand loyalty & word-of-mouth communication. The same is true for the multivariate analysis in the form of Model 2 from table 21 for membership status and Model 6 from table 24 for community status. Hence the empirical analysis does not support hypothesis H7b. One reason why there is no significant influence on the level of lead user characteristics on static brand loyalty & word-of-mouth communication might be that the level of lead user characteristics is on a high level for participants with high as well as with low brand loyalty & word-of mouth communication (see table 13).

**Dynamic –** Section 3.1.3 argued:

> ***H7 c:*** *Participants with higher lead user characteristics exhibit higher positive change of brand loyalty intentions.*

A first descriptive analysis in section 4.3.3 could not confirm this hypothesis, as there was no significant difference in the level of lead user characteristics for participants with a positive change of the dynamic brand loyalty and word-of-mouth communication and other participants. The same is true for the multivariate analysis in form of Model 4 from table 21 for membership status and Model 8 from table 24 for community status. Hence the empirical analysis does not support hypothesis H7c. Following the explanation for the static effects, the level of lead user characteristics was high as well for the different brand loyalty & word of-mouth communication groups (see table 14).

**Influence of membership –** Although there is no significant difference in the brand loyalty and word-of-mouth communication between participants exhibiting higher and lower lead user characteristics, it might still be the case that the distribution of lead user characteristics

[148] As the comparison merely looks at the difference between the effects for firm-established and private brand communities, the same explanation as to why this is the case for the single examination is true here as well.

between members and non members of the M Power World differs. In section 3.1.3 it was argued:

> ***H7 a:*** *Firm-established brand community members exhibit higher lead user characteristics than non members.*

Table 29 shows the mean lead user characteristics for members and non members of the M Power World. The significance of the difference was calculated with a $chi^2$ test.[149] As can be seen, the level is rather high for both groups with 65% and 58% respectively of participants who exhibit high lead user characteristics. Yet no significant difference exists between the two groups. Hence the empirical analysis does not support hypothesis H7a. Yet still the level of lead user characteristics is on a very high level for both groups, which is also one of the reasons why there is no significant difference.

| Variables | Significance | Mean (standard deviation) | |
|---|---|---|---|
| | | Membership = 0 (n=23) | Membership = 1 (n=104) |
| Lead user status (+) | n.s | 0.65 | 0.58 |

n.s. = not significant
(+) 0/1 dummy variable

**Table 29: Lead User Characteristics For Membership Status**

### 4.3.5 Conclusion

The descriptive and multivariate analysis above showed that at the beginning of the M Power World no significant difference existed between members and non members of the firm-established brand community. The same is true for the different community groups. The underlying assumption for this hypothesis was that the demographics and the brand loyalty differ between those members who join the M Power World from the outset and those who are not interested in registering for the M Power World. Yet this was not the case. An internal study by BMW M showed that the distribution of the different BMW M models and other demographics in the M Power World corresponds with the overall market distribution in Germany.[150] Hence it is not surprising that no significant difference existed in the level of brand loyalty at the start of the M Power World.

Yet this changed during the existence of the M Power World. By analysing the change of the brand loyalty & word-of-mouth communication it turned out that the membership in the M Power World has a significant effect. While the brand loyalty & word-of mouth communication decreased for non-members, it stayed the same for members of the M Power World. In a further analysis it turned out that this is also valid for the actual number of BMW

[149] Result of the chi2 test: Pearson chi2(19)=0.44 and Pr. = 0.507.
[150] Information on the BMW M Power World was received from the persons within the BMW Group who are responsible for the M Power World. For more information on the M Power World and the demographics see section 4.1.2.

M automobiles bought in the last six month and the actual number of recommendations of BMW M made and not only for the intended behaviour. The same could be confirmed for different community groups. This positive change in the brand loyalty & word-of-mouth communication of M Power World members is due to the increased involvement with the brand community along all three brand community dimensions: community-product, community-community, and community-brand. The higher involvement in the three brand community dimensions – due to the membership in the M Power World – leads eventually to the higher brand loyalty & word-of-mouth communication of the M Power World members. Membership of a firm-established brand community therefore has a stabilising effect on the brand loyalty & word-of-mouth communication.

Still the question remains, why there exists an overall level of brand loyalty with the brand and products of BMW M. An analysis of the topics discussed in the M Power World, other private BMW M brand communities and discussion with BMW M customers revealed several points which might be relevant for this overall decrease.

The world-wide climate discussion which started in 2007 and the responsibility of the automobile and the automobile industry might have had a negative implication on the perception and hence loyalty to the brand BMW M. The public and political discussion about CO2 is just one example for this (Zeit 2007). Furthermore the fuel consumption of automobiles also started to be a relevant point for BMW M drivers. With rising oil prices this became a more important topic. Last but not least some BMW M customers were also not satisfied with the product and model policy of BMW M and the BMW AG. They missed a more concentrated focus on the core values of BMW M – motor sport and racing. [151]

Due to these facts, the overall brand loyalty & word-of-mouth communication of BMW M customers might have decreased during the course of the empirical analysis. Yet nevertheless membership of the M Power World had a stabilising effect on the brand loyalty & word-of-mouth communication of its members. Therefore also in times of imperfect surrounding conditions and tougher competition, firm-established brand communities serve as a relevant brand loyalty stabilizer and leverage.

As various studies stated, the importance of perceived product quality for creating brand loyalty & word-of-mouth communication, the static and dynamic effects of perceived product quality were analysed. Not surprisingly the cognitive perceived product quality at the start of the examination had a direct effect on the level of brand loyalty & word-of- mouth communication of a participant at the beginning of the quasi-experiment. The same is true for the dynamic analysis. A positive change in the dynamic perception of product quality also has a positive effect on the dynamic change of brand loyalty & word-of-mouth communication.

[151] See appendix 6 for exemplary discussions of M Power World members on these topics.

This means if the product quality perception increases, the change in brand loyalty & word of mouth will also increase and vice versa.

Yet more interesting is the comparison between the effects of membership of a firm-established brand community and perceived product quality. The existence of the M Power World the affective effects of membership of a firm-established brand community are becoming more important than the cognitive product quality perception. These findings correspond with the overall development that social aspects of a product are becoming increasingly important and the findings of von Loewenfeld (2006). In his study the affective brand community integration effects on brand loyalty were also higher than the cognitive product quality perception effects.

In order to compare the effects of membership of firm-established brand communities with those of private brand communities first of all the effects of private brand community membership on brand loyalty & word-of-mouth communication was analysed. Similar to firm-established brand community, there was no significant difference between members and non members of private BMW M brand communities at the start of the examination. Yet this changed over the course of the quasi-experiment. While the effect was positive over the duration of membership of the M Power World it was negative for membership of a private BMW brand community. As explained in the static analysis above, one reason for this could be that through the direct customer-firm interaction in a firm-established brand community the community-brand and community-product dimension could be emphasized in a more thorough and permanent way. Additionally a firm might be able to correct rumours or false statements in their "own" community more easily than in private brand communities. These rumours in turn might harm the brand loyalty of the members. As the overall brand loyalty towards BMW M decreased throughout the quasi-experiment, the community-community dimension might not have been enough to "stop" that development.

As the next step, the mediating effects that lead user characteristics have on brand loyalty & word-of-mouth communication were analysed. It turned out that there is no significant difference in the level of lead user characteristics between participants with higher and lower brand loyalty & word-of-mouth communication. The same is true for the distribution of lead user characteristics between members and non members of the M Power World.

Although there is no significant difference in the level of lead user characteristics between members and non members of the M Power World, the level is high in both cases. Since members of a firm-established brand community are easier and therefore more cost-efficient to identify and contact it is still advisable for firms to integrate these members into their innovation processes. Therefore the next section analyses whether members of firm-established brand communities are willing to participate in joint innovation processes with firms and what effects this has on their involvement and brand loyalty.

## 4.4 Method and Concept of Empirical Research on Customer Integration

The previous section analysed the brand loyalty effects of membership of firm-established brand communities. The next section examines whether brand community members are suitable for integration into the innovation processes of firms. An exemplified outlook discusses if this integration will lead to a higher involvement on the part of participants with the brand, the product and the brand community and whether customer integration might be a suitable tool to increase the brand loyalty of brand community members.

### 4.4.1 Method

In order to investigate these questions the Ideas Lab was developed. The Ideas Lab is a tool which allows the virtual integration of customers into the innovation processes of firms. With the help of such a tool a firm – in this case BMW M – can identify new customer needs and receive innovative ideas to meet these needs. In addition, this integration increases the involvement of the participants with the brand, the product and the brand community since they experience all three dimensions in a deeper and more intense way than ever before. This increases their brand loyalty & word-of-mouth communication.

The user toolkit method described in section 2.4.3.2.1 of this thesis served as the underlying method for the Ideas Lab. User toolkits enable customers to express their innovative ideas and transfer them to the firm. Furthermore the integrated toolkit approach enables “unsticking” parts of the firm’s technical expertise and transferring these to the customers with their tacit needs. Furthermore the Ideas Lab incorporated different aspects of the discussion on customer integration in section 2.4.3 of this thesis. With the help of the transaction cost theory it turned out that the Ideas Lab had to be available online to ensure an effective interaction between customers and a firm could take place. In the next section the conception of the Ideas Lab is explained in more detail.

### 4.4.2 Conception

The following section provides an overview of the realisation and the structure of the virtual Ideas Lab. The structure of the Ideas Lab oriented itself on previous studies of virtual customer integration.

The study of Jokisch (2007) seemed to be especially helpful since he also examined the active integration of customers with the help of a virtual tool at the BMW Group. The Customer Innovation Lab, Jokisch (2007) developed incorporated many of the toolkit characteristics discussed in section 2.4.3.2.1 of this thesis. With the help of this virtual toolkit Jokisch (2007) integrated interested individuals into product development processes of the BMW Group. Due to the success of this integration and the tool, the Ideas Lab was developed in a similar way yet with a focus on the integration of brand community members. This was done in order to

be able to compare the outcomes of the Ideas Lab with the result of the virtual customer integration by Jokisch (2007). Concerning the structure of the Ideas Lab, the following figure provides an overview of the different phases of the Ideas Lab. The next sections then describe these phases in more detail.

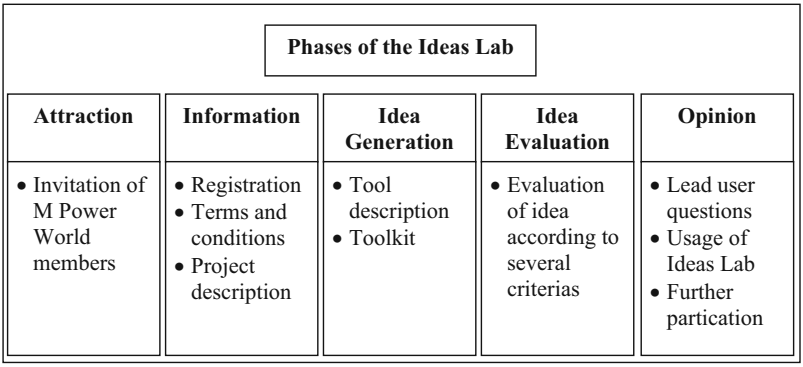


**Figure 29: Overview of the Different Phases of the Ideas Lab**

**Attraction –** As the tool was designed for the internet and the purpose was to attract members of the M Power World, the target group was already defined and known. So the task of this phase was not to identify possible participants for the Ideas Lab, but to motivate the members of the M Power World to participate in the Ideas Lab. The easiest way to get in contact with them was to invite all members of the M Power World via Email. This was possible as the Email addresses of all members as well as the legal authorization to contact them existed. In case some of the Email addresses were incorrect, additional articles and banners referring to the Ideas Lab were posted in the M Power World. It was assumed that due to self-selection, members with higher motivation and lead user characteristics would participate. Furthermore, no monetary rewards were offered for participation, but other incentives such as acknowledgement by the firm or within the brand community were integrated into the concept.

**Information –** In the Email invitation, members of the M Power World were encouraged to participate in the Ideas Lab with an embedded link to an already partly completed registration. By registering, participants agreed to the legal terms and conditions of the Ideas Lab. These terms and conditions contained information on the collected personal data, data security issues, contact information, and most importantly all participants had to agree to disclaim any legal rights for ideas developed within the Ideas Lab. The terms and conditions were very strict and probably discouraged some people, but had to be implemented as otherwise the risk of BMW M getting involved in legal disputes would have been too high. After agreeing to the

legal conditions, the participants received information on the different customer integration projects offered by BMW M.

**Idea generation –** The idea generation in each project of the Ideas Lab started with a briefing on the project. The aim was to focus the mind of the participants on the topic at hand and to provide each participant with an equal knowledge about the topic. Afterwards a short introduction to the usage of the user toolkit followed.

The participants then had to go through three or four, stages to create a new idea depending on the project. This segmentation was chosen as it split the problem of generating a new idea into smaller and easier sections for participants. Furthermore it ensured a more complete idea description from participants..

In this respect the first two stages served as a creative inspiration phase. In the first step participants described the target group in respect of a particular product category they wanted to generate an idea for.[152] This description contained different options. Participants could either choose a picture from a picture gallery and / or terms from a key word gallery. The pictures and key words in these first two phases were triggers to remember situations in which an idea on the topic could be relevant. These modules should help participants to generate an idea easier and faster. In a most common sense these galleries refer to the modules requested by von Hippel and Katz (2002, p. 825). They claim that user toolkits "contain libraries of commonly used modules that the user can incorporate into their custom design, thus allowing the user to focus their design efforts on the truly unique elements of that design". In addition, participants had the option to describe the step in their own words, in case the pictures or key words did not seem appropriate to them. In the second step the participants specified when and under what circumstances potential customers would use their idea. Thereby pictures and key words were provided as well.[153] Following this stimulative and creative phase participants described their idea in detail in the third step.[154] After the idea generation, participants could preview their ideas. There they could read through their whole idea and make immediate corrections if necessary.[155]

**Idea Evaluation** – In this phase, participants evaluated their ideas according to the following criteria: degree of innovation, size of potential customers, own expected usage, feasibility, and profitability.[156] In this way a more objective classification of the one's own idea should be achieved.

**Opinion -** After completing the idea generation, participants were asked to fill out a short questionnaire. The questionnaire contained four parts:

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[152] See Appendix 7 for the first step of the ideas generation in the Ideas Lab.
[153] See Appendix 7 for the second step of the ideas generation in the Ideas Lab.
[154] See Appendix 7 for the third step of the ideas generation in the Ideas Lab.
[155] This enabled users to "test" their idea. As an instant simulation of the generated idea is not yet technologically feasible it is the only possible way to match the trial and error requirement strongly requested by von Hippel for user toolkits (von Hippel and Katz 2002).
[156] See Appendix 7 for the Idea Evaluation Phase of the Ideas Lab

- The first part asked questions regarding lead user characteristics, for the purpose of obtaining information on the lead user characteristics of each participant.
- The second part asked questions on the suitability of the Ideas Lab for stimulating ideas generation, with the intention of obtaining feedback on the tool.
- Part three observed the willingness for further participation in customer integration in marketing- and sales topics and product development topics as well as the opinion on a permanent participation.
- Finally yet importantly, section four asked questions about the effect of the participation in the Ideas Lab on brand loyalty and word-of-mouth communication.[157]

Questions on personal characteristics were not asked, as they could be retrieved directly from BMW M. The closed questions mainly consisted of five-point rating scales with a few yes/no questions. [158]

Summarizing, the Ideas Lab incorporated the main toolkit functionalities specified by von Hippel and Katz (2002, pp. 826-840), although the aspects of trial-and-error-cycles and solution space were only incorporated in a rudimentary way.[159] Still the Ideas Lab is a user toolkit, as it enabled and encouraged customers to generate ideas and innovations. The next section describes the course of the empirical research.

### 4.4.3 Course of Empirical Research

The above-described Ideas Lab was developed and programmed in 2007. The newness of the tool made extensive pre-testing necessary. Once the toolkit programming was complete internal experts tested the Ideas Lab for 'bugs' and technical difficulties. After that was finished three suitable M Power World members were selected to test the Ideas Lab on semantics of the integrated text information and the questionnaire as well as the usability of the toolkit. Feedback was provided via Email from these three M Power World members between December 12th, 2007 and December 14th, 2007. As a result minor changes on the provided picture and key word gallery were conducted.

Simultaneously, members of the M Power World had the chance to choose between four possible marketing- and sales- topics for the customer integration. For this an article in the M Power World briefly explained the Ideas Lab and the four different topics on which the members could vote. The article and the voting were published on December 4th, 2007. Out of those four topics two achieved a very high ranking – M Power Tour and M Collection and were therefore selected. In the following those two topics are explained briefly:

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[157] See Appendix 8 for the Questionnaire for both projects.

[158] Although in discussion, five-point rating scales are considered to be interval-scaled according to Bortz and Doering (2002, pp. 180-181) and are therefore suitable for parametric statistical analysis.

[159] The reason for this was the complexity of the topics and the limitations of the technical possibilities. For an overview what criteria a user toolkit has to fulfil see section 2.4.3.2.1 of this thesis.

- M Power Tour: The task was to generate novel ideas and innovations for the social program of the next M Power Tour event. The M Power Tour is a series of events in Germany organized by BMW and BMW M once a year.
- M Lifestyle Collection: The task was to generate novel ideas and innovations for the next M Lifestyle Collection. The M Lifestyle Collection covers anything from clothing up to accessories.

Based on this selection, members of the MPW received an invitation to the Ideas Lab via Email on December 18th, 2007. In case some of the Email addresses were incorrect an additional article and a banner referring to the Ideas Lab were posted in the M Power World on December 18th, 2007. About four weeks after the Ideas Lab started those members of the M Power World who registered for the Ideas Lab received an Email reminder on January 11th, 2008. The intention of this Email reminder was to motivate the participants to generate further ideas before the termination of the two projects. At the same time another article was posted in the M Power World reminding also those members of the M Power World who have not registered yet. Overall the two projects – M Power Tour and M Collection - were online from December 18th, 2007 (Email invitation) until January 24th, 2008.

## 4.5 Empirical Analysis on Customer Integration

Based on the afore-mentioned research design, this section deals with the empirical analysis of user innovation. To do so section 4.5.1 describes the population and the sample. The descriptive analysis follows in section 4.5.2. It presents the resulting findings on the hypothesis generated in chapter 3. Section 4.5.3 finally provides a conclusion for this chapter.

### 4.5.1 Population and Sample

The description of the participation in the Ideas Lab is divided into (1) general participation, (2) ideas generation participation, and (3) questionnaire participation.

**Participation in Ideas Lab** – 225 members of the M Power World registered for the Ideas Lab. As examined in the brand loyalty section, the distribution of the members of the M Power World in Germany corresponds approximately to the distribution of BMW M drivers in Germany in general – according to analyses conducted by BMW M. This means that members of the M Power World represent a representative sample of all BMW M drivers in Germany. In order to examine if this is also true for participants of the Ideas Lab, the sample of the M Power World members who registered for the Ideas Lab was compared with all M Power World. It turned out that Ideas Lab participants came from all the different types of M Power World members (more active and less active). Furthermore the distribution of other

variables such as age and types of M automobiles owned were similar to the overall distribution in the M Power World.[160]

**Participation in Ideas Generation** – The members of the M Power World who registered for the Ideas Lab generated 32 ideas, with some participants generating more than one idea and some generating ideas containing several single ideas. This led to 21 participants who generated an idea or 9.33% of all registered members of the Ideas Lab. Furthermore participants of the Ideas Lab composed 41 comments on the generated ideas.

**Participation Questionnaire** – After completing the idea generation, the 225 participants in the Ideas Lab were asked to fill out a short questionnaire concerning their lead user characteristics, the suitability of the Ideas Lab, further participation intentions, and the effects of the participation on brand loyalty. From the above mentioned 21 individuals, 18 filled out the questionnaire. This leads to a response rate of 85.71 %.

### 4.5.2 Empirical Analysis and Findings

Due to the fact that BMW M has a small target group, the number of participants for the Ideas Lab was limited and only 18 questionnaires were filled out. As most of the empirical analysis is based on these 18 questionnaires only a descriptive analysis is conducted to examine the hypotheses of chapter 3, due to the size of the sample.[161] Yet before this is done, the main variables of the descriptive analysis are explained.

**Gender:** Asking the participants who completed the questionnaire for their gender resulted in the variable age. A score of 1 stands for male and a score of 0 for female.

**Age:** Asking these participants for their age resulted in the variable age.

**M Power World visits:** This variable measured the number of visits to the M Power World between the start of the M Power World and the start of the Ideas Lab. These figures were retrieved from BMW internal reports.

**M Power World posts:** This variable measured the number of posts in the M Power World between the start of the M Power World and the start of the Ideas Lab. These figures were retrieved from BMW internal reports.

The further variables of the empirical analysis as well as their operationalisation are described during the following empirical analysis.

**Analysis registered members:**

As a first step M Power World members who registered for the Ideas Lab were analysed. From these 225 persons 98.22 % were male. They were on average 38 years old (mean 38.14;

[160] See the following descriptive analysis for more information

[161] The smaller the sample size the bigger the effects of the differing variables have to be in order to be significant.

std. 9.69; obs. 175). This is in line with the average age of 40 years (mean: 40.13; std. 9.01; obs. 157) of M Power World members analysed in table 9 in section 4.3.4. These 225 registered members visited the Ideas Lab on average 3 times. They furthermore wrote on average 27 posts in the M Power World and visited the M Power world 118 times between the launch of the M Power World in May 2007 and the start of the Ideas Lab in December 2007. As a next step, those participants who generated at least one idea in the Ideas Lab will be analysed in more detail.

**Analysis idea generator:**

As can be seen in table 30, idea generators were on average 38 years old and only consisted of male participants. These figures are not significantly different from those of the other registered members, who did not generate ideas. Yet idea generators visited the Ideas Lab significantly more often. This outcome is not surprising, as these members were more likely to come back to the Ideas Lab frequently to see if someone commented on or improved their idea.

| Variables | Significance | Mean (standard deviation) | |
|---|---|---|---|
| | | Idea generation = 0 (n=204) | Idea generation = 1 (n=21) |
| Gender (+) | n.s. | 0.98 | 1.00 |
| Age (-) | n.s. | 38.18 (0.78) | 37.82 (2.13) |
| Ideas Lab visits | < 0.1 | 2.66 (0.10) | 7.86 (1.19) |
| M Power World visits | n.s. | 103.85 (21.41) | 258.76 (109.43) |
| M Power World posts | n.s. | 19.31 (5.76) | 97.86 (48.20) |

n.s. = not significant
(+) 0/1 dummy variable (-) N = 158 and n = 17

**Table 30: Difference Between Registered Members and Idea Generators**

Idea generators write more posts and visit the M Power World more often. Although the difference is quite high, with 98 posts compared to 19 posts and 259 visits compared to 104 visits, the effect is not significant. This is due to a very high standard deviation. This means that the visit and post frequency differs strongly within the group of idea generators - 52.38% wrote no posts while the rest wrote 4 or more posts.

**Evaluation of Ideas Lab -** One of the main purposes of this study was to develop a toolkit for user innovation for members of a firm-established brand community. A virtual toolkit in combination with a firm-established online brand community should enable brand community members to generate novel ideas and innovations and transfer these to firms and also increase their involvement with the brand, the product and the brand community. [162] In order to analyze whether or not this goal was achieved, the idea generators had to answer a number of questions after the ideas generation. In the first questions, idea generators were asked whether

[162] See section 2.4.3.2.1 for a detailed discussion of the user toolkit method.

the Ideas Lab helped them to describe their ideas in a structured way. Two-third (66.67%) of the respondent confirmed that this was so. On average respondents agreed with a mean of 2.11 (std. 0.70; obs. 18). However the Ideas Lab was not only intended to support community members in structuring their ideas, but also aimed to help them describe their ideas completely and in more detail. 72.22% of the participants confirmed this, resulting in a mean of 2.11 (std. 0.60; obs. 18). Furthermore participants were asked whether the Ideas Lab stimulated them to generate new ideas. On average the respondents agreed on this, with a mean of 2.06 (std. 0.96; obs. 18). According to von Hippel and Katz (2002, p. 827) and Dockenfuß (2003, p. 226) toolkits have to be user-friendly. Therefore the user interface has to enable easy handling and has to be adapted to the language of the community members. According to the respondents the Ideas Lab was able to fulfil this criterion (mean 1.89; std. 0.59; obs. 18). It can therefore be concluded that the Ideas Lab was designed in a user-friendly way.

In conclusion, the idea generators were very satisfied with the Ideas Lab. This is also confirmed by the final question, where idea generators were asked about their overall satisfaction with the Ideas Lab. Thereby 100% of the participants said this applies fully or applies leading to a mean of 1.61 (std. 0.48; obs. 18). The following table gives an overview about the evaluation of the Ideas Lab.

| Question | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Help in structuring ideas | 18 | 2.11 | 0.70 | 1 | 4 |
| Help in describing ideas completely | 18 | 2.11 | 0.60 | 1 | 4 |
| Stimulation to generate new ideas | 18 | 2.06 | 0.96 | 1 | 5 |
| Ease of operation | 18 | 1.89 | 0.59 | 1 | 4 |
| Overall evaluation | 18 | 1.61 | 0.48 | 1 | 2 |

Scale: 1 = "Applies fully"; 5 = "Does not apply at all"

**Table 31: Evaluation of Ideas Lab**

In summary, the toolkit in the form of the Ideas Lab was a success from participants' point of view. Participants evaluated the Ideas Lab as a tool which helps them to describe their ideas completely and in a structured way, as well as in stimulating them to generate new ideas. Last but not least, they attested to the fact that the Ideas Lab was easy to operate.

**Idea self-evaluation and evaluation by BMW internal experts** – After having examined the degree to which the Ideas Lab encouraged and enabled participants to generate ideas, the

ideas themselves are analysed. The Ideas Lab included the functionality for idea generators to self-evaluate their ideas on five different dimensions – how innovative is your idea, how many users would your idea have, how often would you use your own idea, how realisable is your idea, and how profitable is your idea? As can be seen in table 32 idea generators rate their ideas as fairly innovative, yet the standard deviation is relatively high (mean: 2.48; s.d.: 1.12; obs.: 27). This means users interpret their ideas differently according to their innovativeness. The variable "number of users" thereby aimed to evaluate the market potential from the idea generators' point of view. The mean of 1.96 shows that, on average, the idea generators believe many other users would like to use their proposed services (s.d.: 0.76; obs.: 27).[163] In their opinion their ideas have a high market potential. Furthermore, idea generators were questioned as to how often they would use their proposed ideas. The mean of 1.19 is even higher than for the overall usage of their idea (s.d.: 0.79; obs.: 27). Yet this can be explained by the fact that users only submit those ideas that fulfil some of their needs and that provide them with a benefit.[164] The market potential of the generated ideas was further questioned. Thereby respondents see their ideas as realisable (mean: 1.41; s.d.: 0.89; obs.: 27) and profitable (mean: 1.89; s.d.: 1.01; obs.: 27). These findings further underline the market potential idea generators see in their ideas.

As was to be expected, it can be concluded that users who generated ideas in the Ideas Lab were convinced about the innovativeness and usefulness of their ideas not only to themselves but also to other users.[165] This finding was anticipated beforehand as it is logical that only those users who are convinced about their ideas will invest the time and effort to formulate and transfer them to a manufacturer.

| Variables | Significance | Mean (standard deviation) | |
|---|---|---|---|
| | | Self evaluation (n=27) | Expert evaluation (n=27) |
| Innovativeness | n.s. | 2.48 (1.12) | 3.19 (0.92) |
| Realisability | n.s. | 1.41 (0.89) | 2.00 (1.11) |
| Profitability | n.s. | 1.89 (1.01) | 2.33 (1.04 |
| Number of users | n.a. | 1.96 (0.76) | n/a |
| Own usage | n.a. | 1.19 (0.79) | n/a |

n.s. = not significant
n.a. = not available

**Table 32: Difference of Evaluation by Idea Generators and BMW Internal Experts**

All ideas generated were evaluated by a BMW internal expert from the relevant department. The evaluation criteria were the same expect for own usage and number of usage. The evaluation criteria therefore consisted of - how innovative is the idea, how realisable is the

[163] 81.48% of the ideas' generators rated "very high" and "high".
[164] See section 2.4.3.2.1 for a more detailed description of the lead user characteristics.
[165] However, this positive user evaluation did not reflect potential costs of using these services if a service were to be offered by a manufacturer for sale. In this case, evaluations would probably be less favourable.

idea, and how profitable is the idea. As can be seen in table 32, the BMW experts rate the generated ideas slightly lower on the dimensions innovativeness, realisability, and profitability than the idea generators themselves. Yet by analysing this difference for significance it turned out that this difference is not significant (see table 32).

**Participation intentions –** The analysis of the Ideas Lab evaluation as well as of the generated ideas revealed that brand community members were satisfied with the Ideas Lab and that the generated ideas were evaluated positively. Based on this, participation intentions are examined further. To do so, participants were asked about their interest in further customer integration on marketing- and sales topics, their interest in product development topics, and finally if they are interested in a permanent customer-firm interaction via the Ideas Lab. Up to now, customer integration and virtual toolkits merely focused on product development topics (e.g. Herstatt & von Hippel 1992; Olson & Bakke 2001) it is interesting to see whether a difference exists between marketingand sales topics and product development topics

In order to test the interest in marketing- and sales topics for customer integration, idea generators were asked whether they are interested in participating in further Ideas Lab projects on marketing- and sales topics. 94.44% of the participants agreed and no one declined this possibility, which leads to a high overall evaluation (mean: 1.50; s.d.: 0.56; obs.: 18). To see whether this differs for product development topics, the idea generators were also asked whether they are interested in participating in future Ideas Lab projects on product development topics. While there is a minimal difference in the evaluation of participation in marketing- and sales topics (mean: 1.5, s.d.: 0.62, obs.: 18) versus product development topics (mean: 1.39, s.d.: 0.50, obs.: 18), the overall level is very high and the difference is only marginal. This leads to the conclusion that brand community members are also highly motivated and interested in interacting with firms on marketing- and sales topics via virtual toolkits.

However, are they also willing to interact with firms on a permanent basis? Up to now the different concepts for customer integration were mainly applied for certain topics only (Herstatt & von Hippel 1992; Olson & Bakke 2001; Lilien et al. 2002; Franke et al. 2006; Dignell & Mattila 2007; von Hippel 2005). In some selected studies the majority of members of virtual toolkits expressed their willingness to join further virtual product development processes (e.g Bartl et al. 2003, Jokisch 2007). Therefore, participants of the Ideas Lab were asked whether they are interested in a permanent participation in the Ideas Lab and thereby interaction with the firm. As can be seen in the following table, idea generators on average are willing to permanently participate in the Ideas Lab (mean: 1.61; s.d.: 0.75; obs.: 18). Not only is this finding in line with previous studies but it also underlines the fact that the participants were highly satisfied with the Ideas Lab.

| Question | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Further participation on marketing topics | 18 | 1.50 | 0.56 | 1 | 3 |
| Further participation on product development | 18 | 1.39 | 0.48 | 1 | 2 |
| Permanent participation | 18 | 1.61 | 0.75 | 1 | 4 |

Scale: 1 = "Applies fully"; 5 = "Does not apply at all"

**Table 33: Permanent Intentions**

**Influences of Participation on Brand Loyalty –** From the manufacturer's point of view a virtual toolkit is a way of interacting with customers, whereby the customers have the opportunity to influence the product development processes of the company. By getting integrated into the innovation processes of firms, participants are also getting more involved with the product, the brand, and hence also the brand community.

But does the integration of customers in the innovation process of a firm also have a positive effect on brand loyalty? As discussed previously the integration of customers into the innovation processes of firms led to higher involvement on the part of the buyer. This in turn resulted in a stronger affective relationship with the product, the brand, and the brand community. Subsequently this can lead to increased brand and customer loyalty (Gommans et al. 2001, p. 49). Questions concerning the effect of the Ideas Lab on participants' customer loyalty attempted to measure this.[166]

| Question | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| BMW M takes me serious as a customer | 18 | 1.56 | 0.62 | 1 | 3 |
| Perception of customer integration as positiv | 18 | 1.22 | 0.35 | 1 | 2 |
| Ideas Lab as a positive tool | 18 | 1.33 | 0.48 | 1 | 3 |
| Brand loyalty influences of the Ideas Lab | 18 | 1.78 | 0.52 | 1 | 3 |
| Word-of-mouth influences of Ideas Lab | 18 | 1.89 | 0.79 | 1 | 4 |

Scale: 1 = "Applies fully"; 5 = "Does not apply at all"

**Table 34: Influences of Ideas Lab on Brand Loyalty & Wom**

[166] The items were provided by BMW's internal Customer Relationship Department.

The first three items measured brand-related effects of the Ideas Lab. Participants were asked whether they think the Ideas Lab shows that BMW M takes me seriously as a customer, customer integration is a positive approach, and the Ideas Lab is a positive tool offered by BMW M. As can be seen in table 34 the level of agreement is high for all three questions. The participants felt that they were taken seriously by being invited to the Ideas Lab (mean: 1.56; s.d.: 0.62; obs.: 18), perceived customer integration as a positive tool (mean: 1.22; s.d.: 0.35; obs.: 18), and stated that the Ideas Lab participation led to a higher trust in the brand BMW M (mean: 1.33; s.d.: 0.48; obs.: 18). These three items therefore strongly support the hypothesis that customer integration of brand community members leads to a positive effect on brand loyalty via a higher brand involvement.

Yet although trust was found to be an important factor in increasing purchaser loyalty (Chaudhuri and Holbrook 2001; Gommans et al. 2001, p. 50) the question still remains whether the integration of brand community members in the innovation process also has a positive effect on future purchase decisions? Two further items attempted to measure whether customer integration in the innovation process leads to higher involvement and ultimately higher brand loyalty and word-of-mouth communication among the persons who were integrated (hypotheses 1 a & b). To measure this, idea generators were asked whether their participation in the Ideas Lab had a positive effect on their probability of purchasing a BMW M car, and whether their participation in the Ideas Lab had a positive effect on their probability of recommending the brand BMW M. As can be seen in table 34 the level of agreement is high for both. The participants agreed that the participation in the Ideas Lab had a positive effect on their brand loyalty (mean: 1.78; s.d.: 0.52; obs.: 18), as well as on their word-of-mouth communication (mean: 1.89; s.d.: 0.79; obs.: 18).

Although these results are only to be seen as indicators, they fit in with hypotheses 1 a & b that integration of brand community members in the innovation process leads to a higher brand loyalty and word-of-mouth communication among the persons who were integrated. During a new product development process, many situations arise in which customers have a more thorough interaction with the product and the brand. Furthermore, through interaction with other integrated brand community members a higher involvement with the brand community and its members is achieved. These three points lead to an increased involvement on the three dimensions constituting a firm-established brand community: customer – brand, customer – product, customer - community. This increased involvement in turn explains the increase in brand loyalty & word-of-mouth communication of integrated brand community members.

### 4.5.3 Conclusion

The second part of the empirical analysis provided an exemplary outlook on the suitability of members of firm-established brand community members for customer integration projects and

the effects that this integration can have on the involvement and brand loyalty of these members.

The empirical findings of this chapter showed that participants of the Ideas Lab were in general very active in the M Power World. They evaluated the usability of the virtual toolkit in form of the Ideas Lab positively in all dimensions – idea completeness, idea details, idea stimulation, and ease of use. A virtual toolkit, such as the Ideas Lab, is therefore a well accepted tool to integrate firm-established brand community members into the innovation processes of firms. Yet not only was the usability perceived as positive, but also the ideas which were generated. The idea generators as well as BMW internal experts rated the ideas positive for degree of innovation and market potential. In a next step the participation intentions of the idea generators were examined. It turned out that the high overall satisfaction with the Ideas Lab led to a high willingness to participate in further customer integration projects. Thereby no significant difference existed between the willingness to participate in further marketing- and sales topics compared to product development topics. Furthermore 88.89% of the participants stated that they were interested in permanent customer integration, giving a hint that members of firm-established brand communities are interested in a permanent interaction with the firm hosting the brand community.

Through the interaction with the firm via a virtual toolkit idea generators agreed on average that their brand loyalty & word-of-mouth communication would increase. Virtual toolkits are therefore a suitable tool for firms to foster brand loyalty and word-of- mouth communication of the members of their firm-established brand community due to an increased involvement from the member side. The involvement generated through customer integration in innovation processes of firms via the Ideas Lab was very high. This involvement in turn led to higher brand loyalty and word-of-mouth communication intentions as well as higher willingness for a permanent interaction.

The next chapter discusses and summarizes the results of the analysis on brand loyalty and customer integration. This discussion leads to future implications for the management of firm-established brand communities and customer integration projects. Finally, open questions on future research which have not been addressed in this study are illustrated.

# 5 Summary and Outlook

This thesis investigated the value creation potential of firm-established brand communities. The topic arose out of the increasing importance of online brand communities over the last years. It is estimated that around 80 million people worldwide are active in brand communities (Algesheimer et al. 2006). Special emphasis was placed on the brand loyalty effects of firm-established brand communities as well as on the possibility of increasing the involvement of brand community members by conducting virtual customer integration projects.

**Summary -** The theoretical discussion started with a description of negative developments in traditional community forms and the decline of a sense of community. This development also triggered the emergence of alternative community forms and the re-embedding of individual action in social coherences (Dollhausen & Wehner 2000, p. 78; Giddens 1990). Decisive for this new sense of community is the existence of shared interests, identification with the community, and thereby the creation of a social identity. Brands can exploit this development, due to their strong potential for emotional attachment.

The value creation potential of firm-established brand communities was first viewed from a customer-centric perspective. People join brand communities as they (a) increase the influence of consumers in brand shaping, (b) represent an important information resource about the brand, and (c) provide wider social benefits to their members through the interaction with other community members and the brand itself.

The implications of brand communities for firms were analysed with the transaction cost theory. New means of communication influenced the technical possibilities surrounding a firm and the emerging new sense of community combined with the active role of customers led to a shift in the socio-cultural environment. These changing surrounding conditions resulted in a reduction of transaction costs. Hence it becomes more attractive for firms to interact with customers. If this interaction is done via a firm-established brand community it enables a firm to tie their customers to their brand and thus increase the brand loyalty of their customers. Firms can further enhance the involvement of brand community members by virtual customer integration projects. Brand communities provide firms with a pool of suitable and highly motivated customers to choose from and allow them to tap the social knowledge of a large number of customers in an efficient and effective way. Thus firm-established (online) brand communities enable firms to open up their innovation strategies and enhance their innovative potential, yet control their decentralized innovation activities with customers (Sawhney & Prandelli 2000). They facilitate the permanent installation of a place where customer-firm interaction can take place in real time and at low costs. Hence firm-established (online) brand communities as hybrid organisational forms are proposed in this thesis as an appropriate interaction institution for firms and customers.

While the effects brand communities have on company goals - mainly brand loyalty - have already been examined in several studies (e.g. von Loewenfeld 2006; Algesheimer et al. 2006), these studies did not explicitly and quantitatively show that by creating their own brand community, firms can increase the brand loyalty of their customers. There is as yet no study examining whether the brand loyalty of firm-established brand community members increases with the duration of membership and brand community existence. The same holds true for customer integration. Several studies examined the user innovation phenomenon and the impact the internet has on conducting customer integration. Yet it has not been examined whether firm-established brand communities represent a source of qualified customers as well as a suitable virtual environment with social mechanisms to reduce the transaction costs for conducting customer integration. This involvement leads to a higher involvement of brand community members and hence to higher brand loyalty and word-of-mouth communication. Based on these theoretical foundations, this thesis examined the following research questions::

1. Does the creation of a firm-established brand community have a positive influence on the brand loyalty and word-of-mouth communication? Is it worthwhile for a firm to create its own brand community?
2. Is a firm-established brand community suitable for a successful integration of customers in the new product development processes?
3. Does customer integration increase the involvement and thus the brand loyalty & word-of-mouth communication of firm-established brand community members?

These questions served as the basis for differing hypotheses. A firm-established brand community by BMW M – the M Power World – was chosen for the empirical examination as it fulfils the characteristics inherent in brand communities. Thus the influence the creation of a firm-established brand community has on brand loyalty & word-of-mouth communication was measured with a quasi-experiment. Participants were divided in two groups: M Power Word members as the reference group and BMW M customers who did not participate, as a control group. A reference measurement was made during the start of the M Power World, a second wave measurement six months later and a third wave measurement 12 months later. This enabled a precise specification of causes for possible brand loyalty variations during the empirical analysis.[167]

The descriptive and multivariate analysis revealed several compelling insights on effects a firm-established brand community has on customers of a firm. With the start of the M Power World, the level of static brand loyalty & word-of-mouth communication was the same for non members and members as well as for the various community groups. The different community groups were classified according to the duration and intensity of their community

[167] Since the participants could not be divided in the two groups randomly the present research design represents a quasi-experiment and not a “real” experiment.

activity. Yet this changed over time. The higher involvement along all three brand community dimensions (community-product, community-community, and community-brand) led to a higher brand loyalty & word-of-mouth communication of M Power World members. Hence this thesis revealed that:

- Membership of a firm-established brand community has a stabilising effect on the brand loyalty & word-of-mouth communication: While the brand loyalty & word-of-mouth communication decreased for non-members, it stayed the same for members of the M Power World.
- Membership of a firm-established brand community has not only an effect on intended brand loyalty and word-of-mouth communication, but also on the actual number of BMW M automobiles bought and the number of recommendations of BMW M made.

To see whether affective or cognitive effects are more important for generating brand loyalty, the effect of membership of a firm-established brand community was compared with the one of perceived product quality. The thesis revealed that:

- With the existence of the M Power World, the effects of membership of a firm-established brand community became more important than the product quality perception.

These findings correspond with the fact that social aspects of a product are getting increasingly important, and also agree with the findings of von Loewenfeld (2006). In his study, the affective brand community integration effects on brand loyalty were also higher than the cognitive product quality perception effects.

Finally, the effects of membership in firm-established brand communities were compared with those of membership in private brand communities. This revealed that:

- With the duration of membership of a private BMW brand community the brand loyalty & wom communication towards BMW M decreased, while it increased for firm-established brand communities

One reason for this could be that through the direct customer-firm interaction in a firm-established brand community the community-brand and community-product dimension could be emphasized in a more thorough and permanent way. As the overall brand loyalty towards BMW M decreased throughout the quasi-experiment, the community-community dimension might not have been enough to “slow down” that development.

The question remains why the overall brand loyalty level with the products and the brand of BMW M decreased. An analysis of the topics discussed in the M Power World and other private BMW M brand communities, as well as a discussion with BMW M customers revealed that fuel consumption and the product and model policy of BMW M and the BMW AG, plus the overall climate discussion which took place during the time of the quasi

experiment, were contributing factors. Due to these, the overall brand loyalty & word-of-mouth communication of BMW M customers might have decreased. However this thesis revealed that:

- Membership of the M Power World had a stabilising effect on the brand loyalty & word-of-mouth communication. Thus also in times of imperfect surrounding conditions and tougher competition, firm-established brand communities serve as a relevant brand loyalty stabilizer.

In a next step this thesis examined whether brand loyalty and word-of-mouth communication of members of firm-established brand communities can be further enhanced. As an exemplary outlook the Ideas Lab – a virtual toolkit – was designed and piloted with two marketing and sales topics. The Ideas Lab enabled an examination as to how members of firm-established brand communities can be integrated in the innovation processes of firms. Although lead user characteristics were evenly high between members and non members of the M Power World, members of a firm-established brand community are easier and more cost-effective to identify. Thus it is advisable for firms to integrate these members into their innovation processes.

The Ideas Lab generated the following results:

- The generated ideas were evaluated positively not only by the idea generators themselves but also by BMW internal experts on the dimensions innovativeness and market potential.
- The high overall satisfaction with the Ideas Lab led to a high willingness to participate in further customer integration projects.
- The participants were interested in a permanent customer integration. No significant difference existed between the willingness to participate in further marketing- & sales topics compared to product development topics.

This shows that virtual toolkits are an ideal tool for firms to further increase the involvement of brand community members with the brand, the product, and the community on a permanent basis. The idea generators agreed that this in turn leads to a higher brand loyalty and word-of-mouth communication..

**Management Implications -** This thesis show the value creation potential of firm-established brand communities for firms. They allow firms to create an environment where relations between customers and the brand, the product, and among customers, are fostered. This social experience generates a long-term competitive advantage. In some cases the social value of products exceeds the functional value of a good. If firms continuously support and favour their firm-established brand community, they are able to achieve long-term brand loyalty. Yet establishing a firm-established brand community is not a one time marketing initiative. It is a

permanent dialog and interaction the firm has to be willing and ready to engage in. The reward for this ongoing dialogue through a firm-established brand community is a highly relevant and cost-efficient brand loyalty leverage by which firms can supplement other costly marketing initiatives in the future. Furthermore registered customers provide information on their socio-demographics, their purchasing habits, their lead user characteristics or their milieu characteristics. With this information a company can supplement its customer relationship marketing activities.

Depending on the members of a firm-established brand community, firms can even build up a customer innovator panel. By integrating the right kind of customers at various stages with the appropriate tools, uncertainties during the development process can be reduced and the probability of market success of innovations increased. During a new product development process, many situations arise in which users might add valuable input for firms. Brand communities enable the permanent installation of a place where customer-firm interaction can take place in real time and at low cost. This leads to higher involvement with customers, increased innovation success, and consequently to higher brand loyalty & word-of-mouth communication.

**Future Research -** Various aspects and questions for future investigations remain. Although there seems little reason why the results of this study would not carry over to other industries or innovation fields, external validity needs to be established by confirming the results of this study in a number of different industries. This generalises the findings of this thesis.

Concerning the identified brand loyalty leverage effects of a firm-established brand community, many research questions exist. This dissertation revealed that membership in firm-established brand communities has a positive effect on brand loyalty and word-of-mouth communication. Yet due to the chosen research design, which focused on the long-term evaluation of a firm-established brand community for product owners, it was not possible to measure the effects a firm-established brand community has on prospective buyers. It would be of high interest for firms to know whether prospective buyers see an exclusive firm-established brand community as a possible future social value and hence as an incentive to buy a product. If this is the case firm-established brand communities can even arouse desire and further strengthen brand loyalty effects. Concerning already existing firm-established brand community members' further research is necessary as to what brand community content can achieve or support brand loyalty effects. Of additional interest is what effect a firm-established brand community has on a firm's organizational setup, as it is no short term marketing initiative but the start of a permanent customer – firm dialogue which cannot be terminated from one day to the other without causing resentments on the customer side.

The same is true for the integration of members of firm-established brand communities in virtual customer integration projects. This thesis showed that virtual customer integration projects enhance the involvement of the members and ultimately their brand loyalty. A

research focus of high practical value would be a detailed analysis of the efficiency of various customer integration approaches. Brand communities simplify the identification of lead users and the interaction possibilities between customers and firms. However, a comparison of the resources required generating online and offline innovation output of user integration would be valuable to firms. Furthermore this dissertation suggested that members of firm-established brand communities cannot only be integrated in product development topics, but also for marketing- and sales topics. Yet a more thorough examination is necessary as to whether the lead user characteristics of participants for marketing- and sales topics have to differ, which areas of marketing- and sales topics are suitable for customer integration, and how customer integration in marketing- and sales topics "performs" compared to other market research methods. Additionally further research is needed to analyze what kind of customer ideas or information is required by different firms. Sometimes highly innovative ideas from lead users may not fit in with some firms' organizations or lead user ideas are only selected when they support previously defined outcomes.

This thesis has shown that firm-established brand communities have enormous value creation potential for firms. Especially in times of decreasing budgets and tightening economic surroundings, firm established-brand communities are a cost-efficient yet effective tool for firms. If firms establish their own firm-established brand community – as advised by this thesis - they can fully leverage brand loyalty effects and increase the commercial success of their innovations.

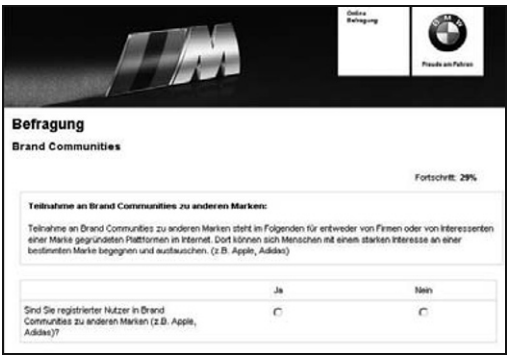
# Appendix

## Appendix 1: Questionnaire of Reference Measurement




Online Befragung
Freude am Fahren
Befragung
Brand Communities
Fortschritt: 23%
In wie vielen privaten Brand Communities zum Thema BMW M sind Sie registrierter Nutzer?


Online Befragung
Freude am Fahren
Befragung
Brand Communities
Fortschritt: 26%
Wir sind sehr daran interessiert mehr über Ihre Teilnahme an privaten Brand Communities zum Thema BMW M zu erfahren. Um die folgende Frage zu beantworten denken Sie bitte an die private Brand Community zum Thema BMW M, in der Sie am meisten Zeit verbringen.
Seit wann sind Sie registrierter Nutzer dieser privaten Brand Community (z.B. 2003)?
Wie viele Stunden pro Woche verbringen Sie im Durchschnitt in dieser privaten Brand Community (z.B. 5)?
Wie viele Beiträge schreiben Sie im Durchschnitt pro Woche in dieser privaten Brand Community (z.B. 4)?


Online Befragung
Freude am Fahren
Befragung
Brand Communities
Fortschritt: 29%
Teilnahme an Brand Communities zu anderen Marken:
Teilnahme an Brand Communities zu anderen Marken steht im Folgenden für entweder von Firmen oder von Interessenten einer Marke gegründeten Plattformen im Internet. Dort können sich Menschen mit einem starken Interesse an einer bestimmten Marke begegnen und austauschen. (z.B. Apple, Adidas)
Ja
Nein
Sind Sie registrierter Nutzer in Brand Communities zu anderen Marken (z.B. Apple, Adidas)?


Online Befragung

Freude am Fahren

**Befragung**

**Brand Communities**

Fortschritt: **31%**

In wie vielen Brand Communities zu anderen Marken sind Sie registrierter Nutzer?

In welchen Brand Communities zu anderen Marken sind Sie registrierter Nutzer (z.B. Apple, Adidas) ?


Online Befragung

Freude am Fahren

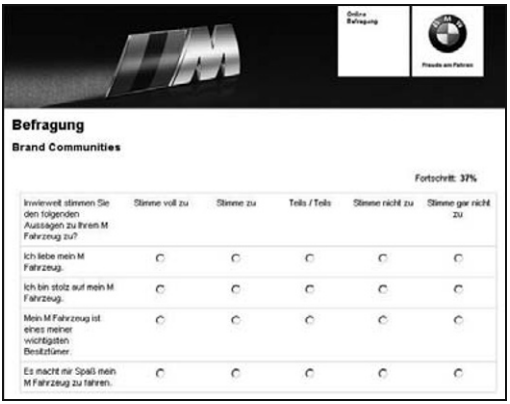
**Befragung**

**Brand Communities**

Fortschritt: **34%**

**Teil B: Involvement Produktklasse & Produkt**

| Inwieweit stimmen Sie den folgenden Aussagen zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| Mein Auto spielt eine wichtige Rolle in meinem Leben. | ○ | ○ | ○ | ○ | ○ |
| Ich habe ein starkes Interesse an Autos. | ○ | ○ | ○ | ○ | ○ |
| Ein Auto ist für mich nur ein Transportmittel. | ○ | ○ | ○ | ○ | ○ |
| Auto fahren ist eine der Sachen in meinem Leben, die ich am meisten genieße. | ○ | ○ | ○ | ○ | ○ |
| Das Auto einer Person sagt viel über deren Persönlichkeit aus. | ○ | ○ | ○ | ○ | ○ |
| Ich mag es nicht, wenn mein Auto als „gewöhnlich" angesehen wird. | ○ | ○ | ○ | ○ | ○ |


Online Befragung

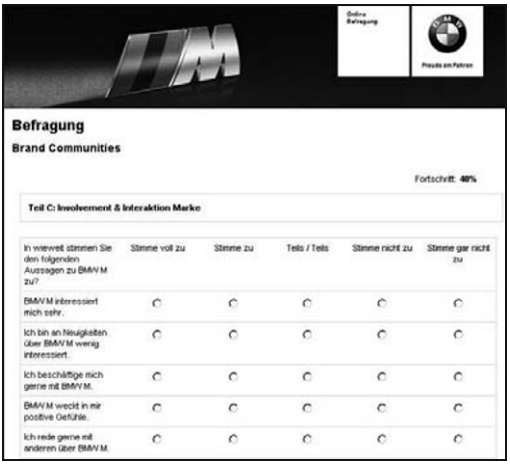
Freude am Fahren

**Befragung**

**Brand Communities**

Fortschritt: **37%**

| Inwieweit stimmen Sie den folgenden Aussagen zu Ihrem M Fahrzeug zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| Ich liebe mein M Fahrzeug. | ○ | ○ | ○ | ○ | ○ |
| Ich bin stolz auf mein M Fahrzeug. | ○ | ○ | ○ | ○ | ○ |
| Mein M Fahrzeug ist eines meiner wichtigsten Besitztümer. | ○ | ○ | ○ | ○ | ○ |
| Es macht mir Spaß mein M Fahrzeug zu fahren. | ○ | ○ | ○ | ○ | ○ |



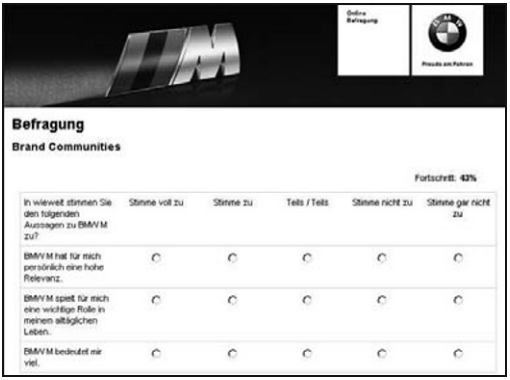
**Befragung**

**Brand Communities**

Fortschritt: **40%**

**Teil C: Involvement & Interaktion Marke**

| In wieweit stimmen Sie den folgenden Aussagen zu BMW M zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| BMW M interessiert mich sehr. | ○ | ○ | ○ | ○ | ○ |
| Ich bin an Neuigkeiten über BMW M wenig interessiert. | ○ | ○ | ○ | ○ | ○ |
| Ich beschäftige mich gerne mit BMW M. | ○ | ○ | ○ | ○ | ○ |
| BMW M weckt in mir positive Gefühle. | ○ | ○ | ○ | ○ | ○ |
| Ich rede gerne mit anderen über BMW M. | ○ | ○ | ○ | ○ | ○ |

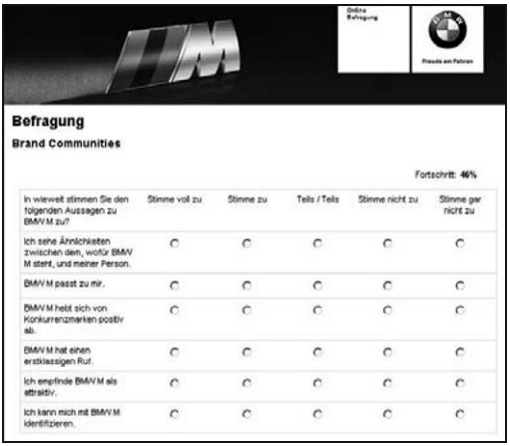


**Befragung**

**Brand Communities**

Fortschritt: **43%**

| In wieweit stimmen Sie den folgenden Aussagen zu BMW M zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| BMW M hat für mich persönlich eine hohe Relevanz. | ○ | ○ | ○ | ○ | ○ |
| BMW M spielt für mich eine wichtige Rolle in meinem alltäglichen Leben. | ○ | ○ | ○ | ○ | ○ |
| BMW M bedeutet mir viel. | ○ | ○ | ○ | ○ | ○ |

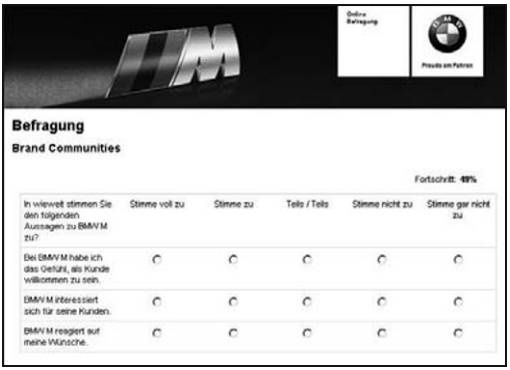


**Befragung**

**Brand Communities**

Fortschritt: **46%**

| In wieweit stimmen Sie den folgenden Aussagen zu BMW M zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| Ich sehe Ähnlichkeiten zwischen dem, wofür BMW M steht, und meiner Person. | ○ | ○ | ○ | ○ | ○ |
| BMW M passt zu mir. | ○ | ○ | ○ | ○ | ○ |
| BMW M hebt sich von Konkurrenzmarken positiv ab. | ○ | ○ | ○ | ○ | ○ |
| BMW M hat einen erstklassigen Ruf. | ○ | ○ | ○ | ○ | ○ |
| Ich empfinde BMW M als attraktiv. | ○ | ○ | ○ | ○ | ○ |
| Ich kann mich mit BMW M identifizieren. | ○ | ○ | ○ | ○ | ○ |

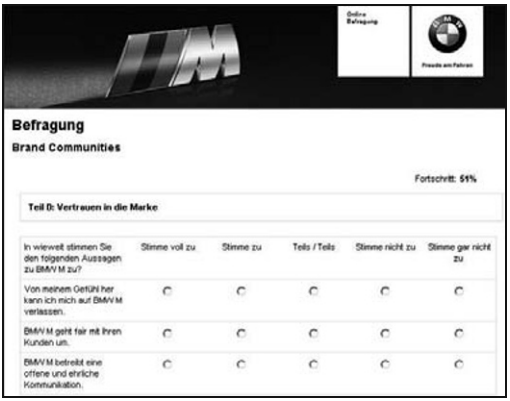


Befragung

Brand Communities

Fortschritt: 49%

| In wieweit stimmen Sie den folgenden Aussagen zu BMW M zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| Bei BMW M habe ich das Gefühl, als Kunde willkommen zu sein. | ○ | ○ | ○ | ○ | ○ |
| BMW M interessiert sich für seine Kunden. | ○ | ○ | ○ | ○ | ○ |
| BMW M reagiert auf meine Wünsche. | ○ | ○ | ○ | ○ | ○ |



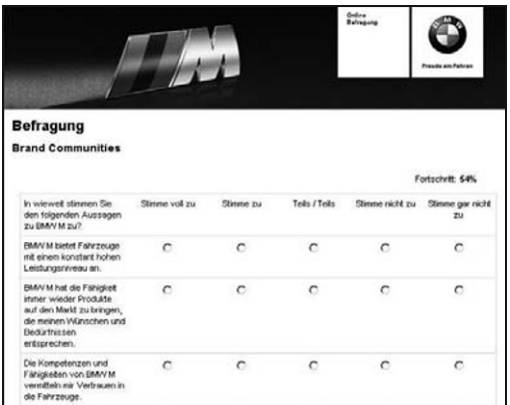
Befragung

Brand Communities

Fortschritt: 51%

**Teil D: Vertrauen in die Marke**

| In wieweit stimmen Sie den folgenden Aussagen zu BMW M zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| Von meinem Gefühl her kann ich mich auf BMW M verlassen. | ○ | ○ | ○ | ○ | ○ |
| BMW M geht fair mit ihren Kunden um. | ○ | ○ | ○ | ○ | ○ |
| BMW M betreibt eine offene und ehrliche Kommunikation. | ○ | ○ | ○ | ○ | ○ |



Befragung

Brand Communities

Fortschritt: 54%

| In wieweit stimmen Sie den folgenden Aussagen zu BMW M zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| BMW M bietet Fahrzeuge mit einem konstant hohen Leistungsniveau an. | ○ | ○ | ○ | ○ | ○ |
| BMW M hat die Fähigkeit immer wieder Produkte auf den Markt zu bringen, die meinen Wünschen und Bedürfnissen entsprechen. | ○ | ○ | ○ | ○ | ○ |
| Die Kompetenzen und Fähigkeiten von BMW M vermitteln mir Vertrauen in die Fahrzeuge. | ○ | ○ | ○ | ○ | ○ |
| BMW M hat für mich im Vergleich zu Wettbewerbern eine ausgesprochen hohe Kompetenz. | ○ | ○ | ○ | ○ | ○ |

Befragung

Brand Communities

Fortschritt: 57%

Teil E: Fahrzeug

| | Ja | Nein |
|---|---|---|
| Sind Sie Besitzer eines BMW M Fahrzeuges? | ○ | ○ |

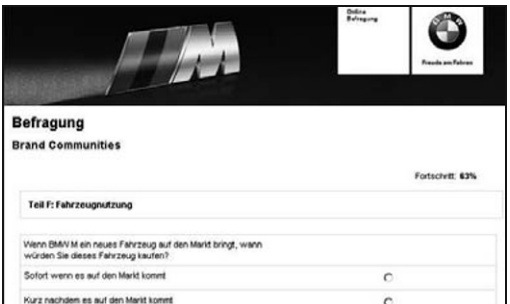
Befragung

Brand Communities

Fortschritt: 60%

| | |
|---|---|
| Was für BMW M Fahrzeuge besitzen Sie? | |
| Wie viele BMW M Fahrzeuge haben Sie insgesamt bereits besessen (z.B. 2)? | |
| In welchem Jahr haben Sie ihr erstes BMW M Fahrzeug gekauft (z.B. 2003)? | |
| Wie viele Kilometer fahren Sie im Durchschnitt pro Jahr mit ihrem BMW M (z.B. 15.000 km)? | |

| | Ja | Nein |
|---|---|---|
| Haben Sie Interesse am BMW Fahrer-Training? | ○ | ○ |
| Haben Sie schon mal an einem BMW Fahrer-Training teilgenommen? | ○ | ○ |
| Haben Sie schon mal an einen Autorennen teilgenommen? | ○ | ○ |



Befragung

Brand Communities

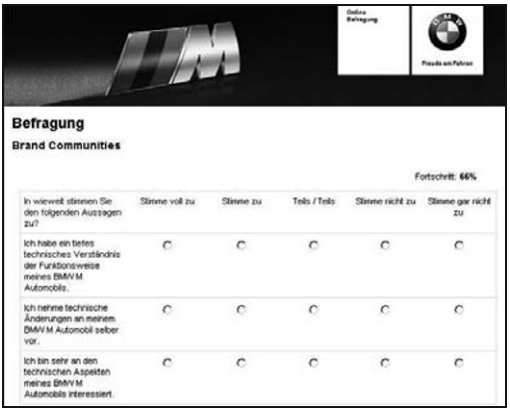
Fortschritt: 63%

Teil F: Fahrzeugnutzung

| Wenn BMW M ein neues Fahrzeug auf den Markt bringt, wann würden Sie dieses Fahrzeug kaufen? | |
|---|---|
| Sofort wenn es auf den Markt kommt | ○ |
| Kurz nachdem es auf den Markt kommt | ○ |
| Nachdem es eine Weile auf dem Markt ist | ○ |
| Nachdem es sehr lange auf dem Markt ist | ○ |
| Gar nicht | ○ |

Planen sie in naher Zukunft (in den nächsten 12 Monaten) ein neues Fahrzeug zu kaufen?

| Ja | Nein |
|---|---|
| ○ | ○ |

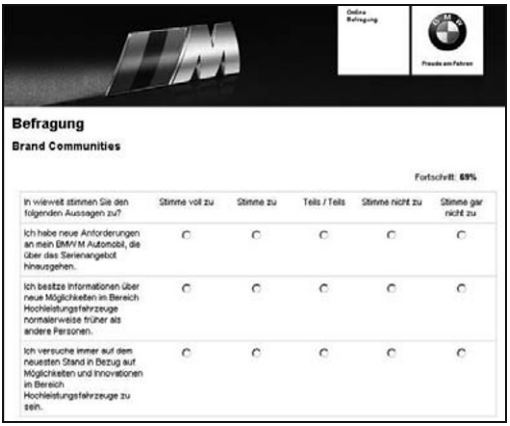


Befragung

Brand Communities

Fortschritt: 66%

| In wieweit stimmen Sie den folgenden Aussagen zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| Ich habe ein tiefes technisches Verständnis der Funktionsweise meines BMW M Automobils. | ○ | ○ | ○ | ○ | ○ |
| Ich nehme technische Änderungen an meinem BMW M Automobil selber vor. | ○ | ○ | ○ | ○ | ○ |
| Ich bin sehr an den technischen Aspekten meines BMW M Automobils interessiert. | ○ | ○ | ○ | ○ | ○ |

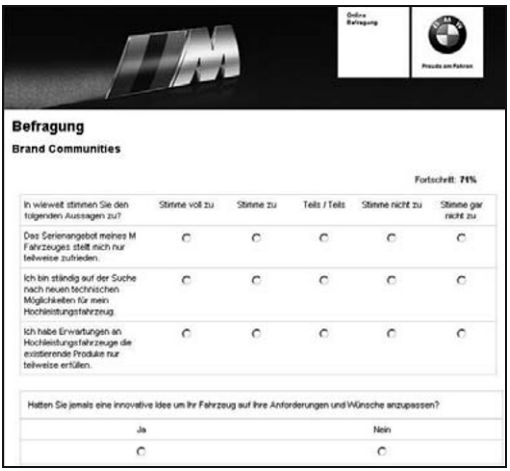


Befragung

Brand Communities

Fortschritt: 69%

| In wieweit stimmen Sie den folgenden Aussagen zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| Ich habe neue Anforderungen an mein BMW M Automobil, die über das Serienangebot hinausgehen. | ○ | ○ | ○ | ○ | ○ |
| Ich besitze Informationen über neue Möglichkeiten im Bereich Hochleistungsfahrzeuge normalerweise früher als andere Personen. | ○ | ○ | ○ | ○ | ○ |
| Ich versuche immer auf dem neuesten Stand in Bezug auf Möglichkeiten und Innovationen im Bereich Hochleistungsfahrzeuge zu sein. | ○ | ○ | ○ | ○ | ○ |



Befragung

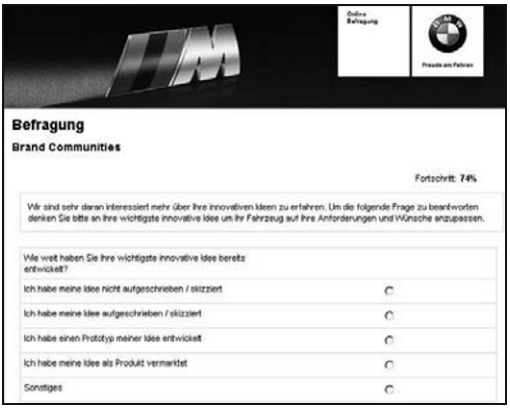
Brand Communities

Fortschritt: 71%

| In wieweit stimmen Sie den folgenden Aussagen zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| Das Serienangebot meines M Fahrzeuges stellt mich nur teilweise zufrieden. | ○ | ○ | ○ | ○ | ○ |
| Ich bin ständig auf der Suche nach neuen technischen Möglichkeiten für mein Hochleistungsfahrzeug. | ○ | ○ | ○ | ○ | ○ |
| Ich habe Erwartungen an Hochleistungsfahrzeuge die existierende Produkte nur teilweise erfüllen. | ○ | ○ | ○ | ○ | ○ |

Hatten Sie jemals eine innovative Idee um Ihr Fahrzeug auf Ihre Anforderungen und Wünsche anzupassen?

| Ja | Nein |
|---|---|
| ○ | ○ |



Befragung

Brand Communities

Fortschritt: 74%

Wir sind sehr daran interessiert mehr über Ihre innovativen Ideen zu erfahren. Um die folgende Frage zu beantworten denken Sie bitte an Ihre wichtigste innovative Idee um Ihr Fahrzeug auf Ihre Anforderungen und Wünsche anzupassen.

| Wie weit haben Sie Ihre wichtigste innovative Idee bereits entwickelt? | |
|---|---|
| Ich habe meine Idee nicht aufgeschrieben / skizziert | ○ |
| Ich habe meine Idee aufgeschrieben / skizziert | ○ |
| Ich habe einen Prototyp meiner Idee entwickelt | ○ |
| Ich habe meine Idee als Produkt vermarktet | ○ |
| Sonstiges | ○ |

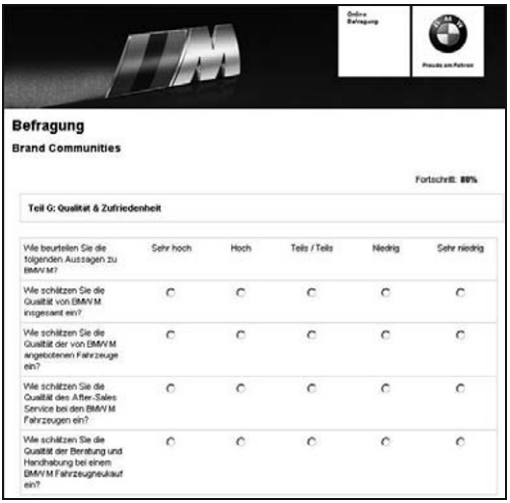
Befragung

Brand Communities

Fortschritt: 77%

| In wieweit stimmen Sie den folgenden Aussagen zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| Ich spreche häufig mit Freunden und Bekannten über Hochleistungsfahrzeuge. | ○ | ○ | ○ | ○ | ○ |
| Wenn ich mit Freunden und Bekannten über Hochleistungsfahrzeuge spreche, teile ich viele Informationen mit. | ○ | ○ | ○ | ○ | ○ |
| Verglichen mit meinem Freundeskreis ist es sehr wahrscheinlich, dass man mich etwas über Hochleistungsfahrzeuge fragt. | ○ | ○ | ○ | ○ | ○ |
| Wenn es um Hochleistungsfahrzeuge geht, werde ich von Freunden und Bekannten als Experte betrachtet. | ○ | ○ | ○ | ○ | ○ |
| Generell werde ich von Freunden und Bekannten als gute Informationsquelle betrachtet. | ○ | ○ | ○ | ○ | ○ |

| Wie vielen Personen haben Sie in den letzten sechs Monaten etwas über Hochleistungsfahrzeuge erzählt (z.B. 6)? | |
|---|---|



Online Befragung

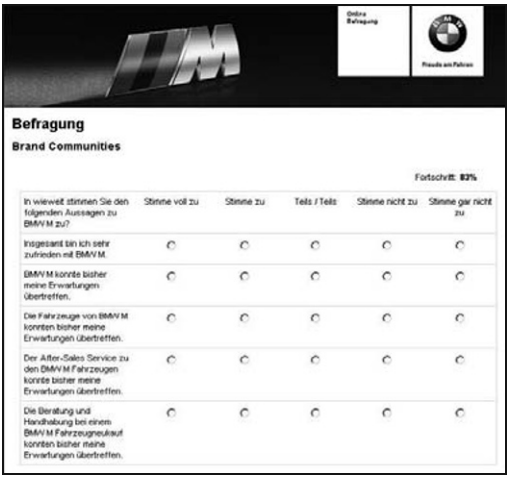
**Befragung**

**Brand Communities**

Fortschritt: **88%**

**Teil G: Qualität & Zufriedenheit**

| Wie beurteilen Sie die folgenden Aussagen zu BMW M? | Sehr hoch | Hoch | Teils / Teils | Niedrig | Sehr niedrig |
|---|---|---|---|---|---|
| Wie schätzen Sie die Qualität von BMW M insgesamt ein? | ○ | ○ | ○ | ○ | ○ |
| Wie schätzen Sie die Qualität der von BMW M angebotenen Fahrzeuge ein? | ○ | ○ | ○ | ○ | ○ |
| Wie schätzen Sie die Qualität des After-Sales Service bei den BMW M Fahrzeugen ein? | ○ | ○ | ○ | ○ | ○ |
| Wie schätzen Sie die Qualität der Beratung und Handhabung bei einem BMW M Fahrzeugneukauf ein? | ○ | ○ | ○ | ○ | ○ |



Online Befragung

**Befragung**

**Brand Communities**

Fortschritt: **83%**

| In wieweit stimmen Sie den folgenden Aussagen zu BMW M zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| Insgesamt bin ich sehr zufrieden mit BMW M. | ○ | ○ | ○ | ○ | ○ |
| BMW M konnte bisher meine Erwartungen übertreffen. | ○ | ○ | ○ | ○ | ○ |
| Die Fahrzeuge von BMW M konnten bisher meine Erwartungen übertreffen. | ○ | ○ | ○ | ○ | ○ |
| Der After-Sales Service zu den BMW M Fahrzeugen konnte bisher meine Erwartungen übertreffen. | ○ | ○ | ○ | ○ | ○ |
| Die Beratung und Handhabung bei einem BMW M Fahrzeugneukauf konnten bisher meine Erwartungen übertreffen. | ○ | ○ | ○ | ○ | ○ |

Befragung

Brand Communities

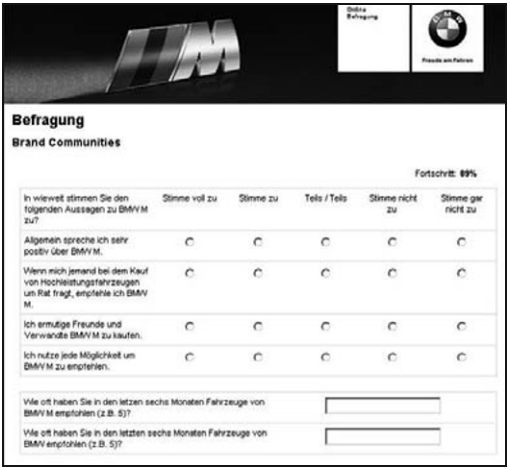
Fortschritt: 86%

Teil II: Loyalität und Weiterempfehlungsverhalten

| In wieweit stimmen Sie den folgenden Aussagen zu BMW M zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| Ich sehe die Wahrscheinlichkeit als sehr hoch an, dass ich BMW M in der Zukunft treu bleiben werde. | ○ | ○ | ○ | ○ | ○ |
| Ich sehe mich selber als loyal gegenüber BMW M an. | ○ | ○ | ○ | ○ | ○ |
| BMW M ist meine bevorzugte Marke im Bereich Hochleistungsfahrzeuge und wird es auch bleiben. | ○ | ○ | ○ | ○ | ○ |
| Mein nächstes Fahrzeug wird wieder ein BMW M sein. | ○ | ○ | ○ | ○ | ○ |

Wie oft haben Sie in den letzten sechs Monaten Fahrzeuge von BMW M gekauft (z.B. 1)?

Wie oft haben Sie in den letzten sechs Monaten Fahrzeuge von BMW gekauft (z.B. 1)?



Befragung

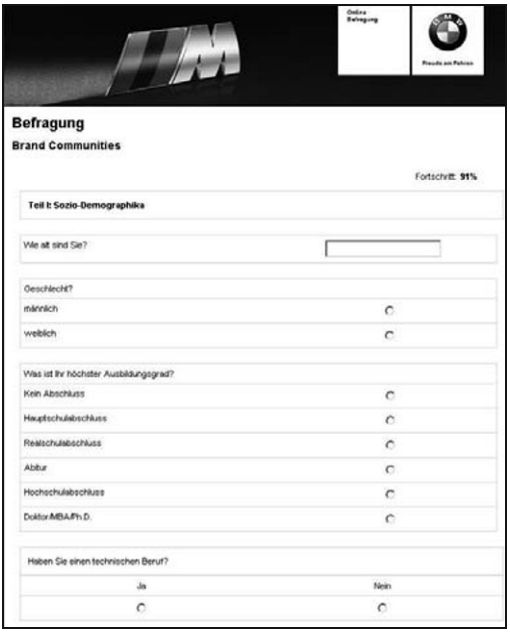
Brand Communities

Fortschritt: 89%

| In wieweit stimmen Sie den folgenden Aussagen zu BMW M zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| Allgemein spreche ich sehr positiv über BMW M. | ○ | ○ | ○ | ○ | ○ |
| Wenn mich jemand bei dem Kauf von Hochleistungsfahrzeugen um Rat fragt, empfehle ich BMW M. | ○ | ○ | ○ | ○ | ○ |
| Ich ermutige Freunde und Verwandte BMW M zu kaufen. | ○ | ○ | ○ | ○ | ○ |
| Ich nutze jede Möglichkeit um BMW M zu empfehlen. | ○ | ○ | ○ | ○ | ○ |

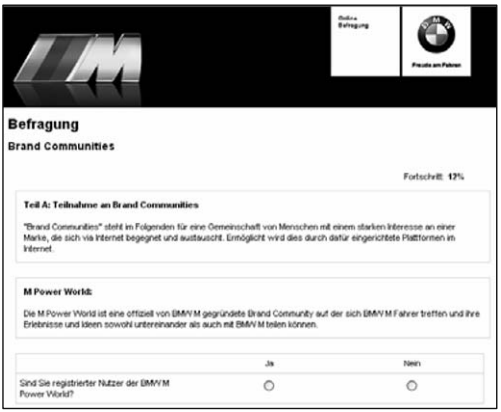
Wie oft haben Sie in den letzten sechs Monaten Fahrzeuge von BMW M empfohlen (z.B. 5)?

Wie oft haben Sie in den letzten sechs Monaten Fahrzeuge von BMW empfohlen (z.B. 5)?


Online Befragung
Freude am Fahren
Befragung
Brand Communities
Fortschritt: 91%
Teil I: Sozio-Demographika
Wie alt sind Sie?
Geschlecht?
männlich
weiblich
Was ist Ihr höchster Ausbildungsgrad?
Kein Abschluss
Hauptschulabschluss
Realschulabschluss
Abitur
Hochschulabschluss
Doktor/MBA/Ph.D.
Haben Sie einen technischen Beruf?
Ja
Nein


Online Befragung
Freude am Fahren
Befragung
Brand Communities
Fortschritt: 100%
Vielen Dank für Ihre Teilnahme an der online Befragung von BMW M.

## Appendix 2: Questionnaire of Second and Third Wave



Befragung

Brand Communities

Fortschritt: 13%

**Teil A: Teilnahme an Brand Communities**

"Brand Communities" steht im Folgenden für eine Gemeinschaft von Menschen mit einem starken Interesse an einer Marke, die sich via Internet begegnet und austauscht. Ermöglicht wird dies durch dafür eingerichtete Plattformen im Internet.

**M Power World:**

Die M Power World ist eine offiziell von BMW M gegründete Brand Community auf der sich BMW M Fahrer treffen und ihre Erlebnisse und Ideen sowohl untereinander als auch mit BMW M teilen können.

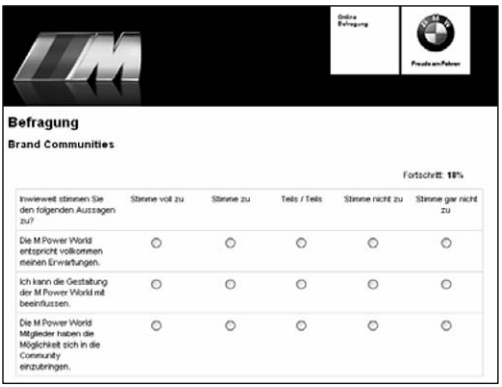
| | Ja | Nein |
|---|---|---|
| Sind Sie registrierter Nutzer der BMW M Power World? | ○ | ○ |

Befragung

Brand Communities

Fortschritt: 15%

| | |
|---|---|
| Seit wann sind Sie registrierter Nutzer der M Power World (z.B. 06/07)? | |
| Wie viele Stunden pro Woche verbringen Sie im Durchschnitt in der M Power World (z.B. 5)? | |
| Wie viele Beiträge schreiben Sie im Durchschnitt pro Woche in der M Power World (z.B. 4)? | |

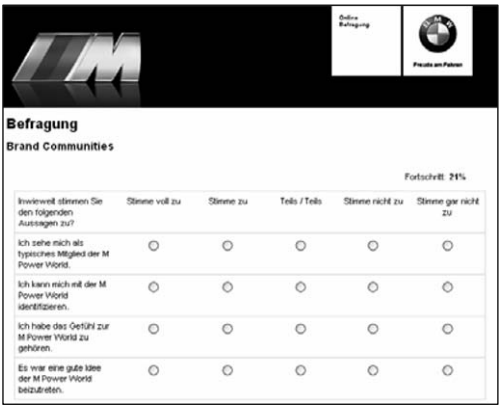


Befragung

Brand Communities

Fortschritt: 18%

| Inwieweit stimmen Sie den folgenden Aussagen zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| Die M Power World entspricht vollkommen meinen Erwartungen. | ○ | ○ | ○ | ○ | ○ |
| Ich kann die Gestaltung der M Power World mit beeinflussen. | ○ | ○ | ○ | ○ | ○ |
| Die M Power World Mitglieder haben die Möglichkeit sich in die Community einzubringen. | ○ | ○ | ○ | ○ | ○ |



Online Befragung

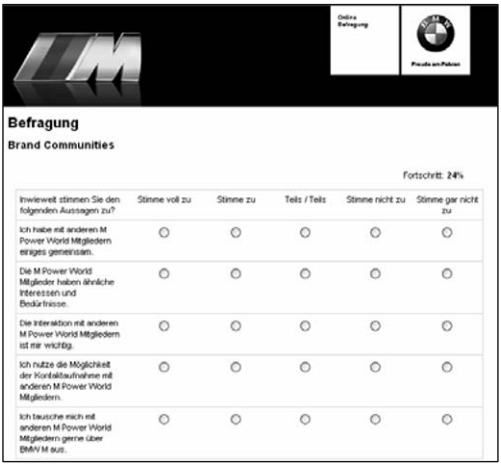
Freude am Fahren

**Befragung**

**Brand Communities**

Fortschritt: 21%

| Inwieweit stimmen Sie den folgenden Aussagen zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| Ich sehe mich als typisches Mitglied der M Power World. | ○ | ○ | ○ | ○ | ○ |
| Ich kann mich mit der M Power World identifizieren. | ○ | ○ | ○ | ○ | ○ |
| Ich habe das Gefühl zur M Power World zu gehören. | ○ | ○ | ○ | ○ | ○ |
| Es war eine gute Idee der M Power World beizutreten. | ○ | ○ | ○ | ○ | ○ |



Online Befragung

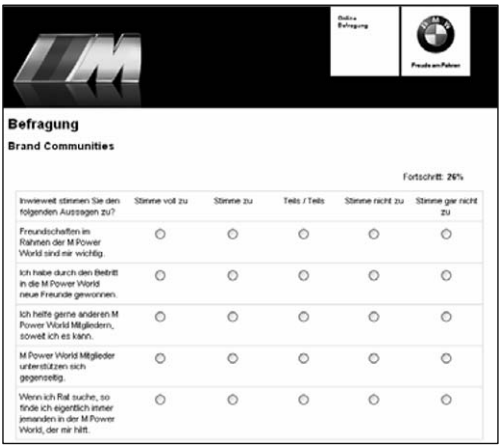
Freude am Fahren

**Befragung**

**Brand Communities**

Fortschritt: 24%

| Inwieweit stimmen Sie den folgenden Aussagen zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| Ich habe mit anderen M Power World Mitgliedern einiges gemeinsam. | ○ | ○ | ○ | ○ | ○ |
| Die M Power World Mitglieder haben ähnliche Interessen und Bedürfnisse. | ○ | ○ | ○ | ○ | ○ |
| Die Interaktion mit anderen M Power World Mitgliedern ist mir wichtig. | ○ | ○ | ○ | ○ | ○ |
| Ich nutze die Möglichkeit der Kontaktaufnahme mit anderen M Power World Mitgliedern. | ○ | ○ | ○ | ○ | ○ |
| Ich tausche mich mit anderen M Power World Mitgliedern gerne über BMW M aus. | ○ | ○ | ○ | ○ | ○ |



**Befragung**

**Brand Communities**

Fortschritt: 26%

| Inwieweit stimmen Sie den folgenden Aussagen zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| Freundschaften im Rahmen der M Power World sind mir wichtig. | ○ | ○ | ○ | ○ | ○ |
| Ich habe durch den Beitritt in die M Power World neue Freunde gewonnen. | ○ | ○ | ○ | ○ | ○ |
| Ich helfe gerne anderen M Power World Mitgliedern, soweit ich es kann. | ○ | ○ | ○ | ○ | ○ |
| M Power World Mitglieder unterstützen sich gegenseitig. | ○ | ○ | ○ | ○ | ○ |
| Wenn ich Rat suche, so finde ich eigentlich immer jemanden in der M Power World, der mir hilft. | ○ | ○ | ○ | ○ | ○ |

**Befragung**

**Brand Communities**

Fortschritt: 29%

**Private Brand Communities zum Thema BMW M:**

Private Brand Communities zum Thema BMW M steht im Folgenden für von BMW M Kunden gegründete Plattformen im Internet. Dort können sich Menschen mit einem starken Interesse an BMW M begegnen und austauschen.

| | Ja | Nein |
|---|---|---|
| Sind Sie registrierter Nutzer einer privaten Brand Community zum Thema BMW M? | ○ | ○ |

**Befragung**

**Brand Communities**

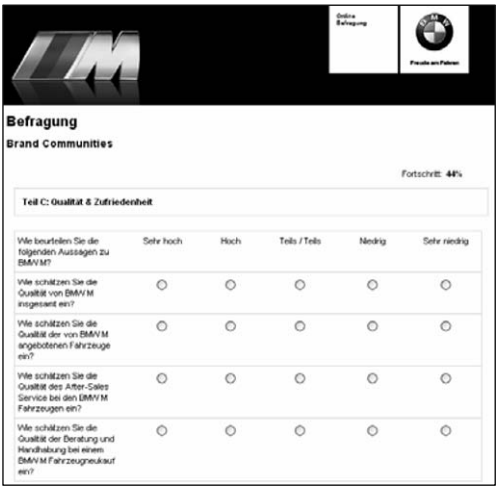
Fortschritt: 32%

In wie vielen privaten Brand Communities zum Thema BMW M sind Sie registrierter Nutzer?


Online Befragung
Freude am Fahren
Befragung
Brand Communities
Fortschritt: 35%
Wir sind sehr daran interessiert mehr über Ihre Teilnahme an privaten Brand Communities zum Thema BMW M zu erfahren. Um die folgende Frage zu beantworten denken Sie bitte an die private Brand Community zum Thema BMW M, in der Sie am meisten Zeit verbringen.
Seit wann sind Sie registrierter Nutzer dieser privaten Brand Community (z.B. 2003)?
Wie viele Stunden pro Woche verbringen Sie im Durchschnitt in dieser privaten Brand Community (z.B. 5)?
Wie viele Beiträge schreiben Sie im Durchschnitt pro Woche in dieser privaten Brand Community (z.B. 4)?


Online Befragung
Freude am Fahren
Befragung
Brand Communities
Fortschritt: 38%
Teil B: Fahrzeug
Ja
Nein
Sind Sie Besitzer eines BMW M Fahrzeuges?


Online Befragung
Freude am Fahren
Befragung
Brand Communities
Fortschritt: 41%
Was für BMW M Fahrzeuge besitzen Sie?
Wie viele BMW M Fahrzeuge haben Sie insgesamt bereits besessen (z.B. 2)?
Wie viele Kilometer fahren Sie im Durchschnitt pro Jahr mit ihrem BMW M (z.B. 15.000)?



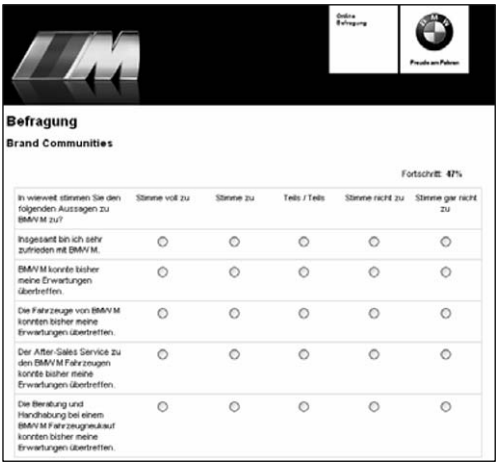
**Befragung**

**Brand Communities**

Fortschritt: 44%

**Teil C: Qualität & Zufriedenheit**

| Wie beurteilen Sie die folgenden Aussagen zu BMW M? | Sehr hoch | Hoch | Teils / Teils | Niedrig | Sehr niedrig |
|---|---|---|---|---|---|
| Wie schätzen Sie die Qualität von BMW M insgesamt ein? | ○ | ○ | ○ | ○ | ○ |
| Wie schätzen Sie die Qualität der von BMW M angebotenen Fahrzeuge ein? | ○ | ○ | ○ | ○ | ○ |
| Wie schätzen Sie die Qualität des After-Sales Service bei den BMW M Fahrzeugen ein? | ○ | ○ | ○ | ○ | ○ |
| Wie schätzen Sie die Qualität der Beratung und Handhabung bei einem BMW M Fahrzeugneukauf ein? | ○ | ○ | ○ | ○ | ○ |



**Befragung**

**Brand Communities**

Fortschritt: 47%

| In wieweit stimmen Sie den folgenden Aussagen zu BMW M zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| Insgesamt bin ich sehr zufrieden mit BMW M. | ○ | ○ | ○ | ○ | ○ |
| BMW M konnte bisher meine Erwartungen übertreffen. | ○ | ○ | ○ | ○ | ○ |
| Die Fahrzeuge von BMW M konnten bisher meine Erwartungen übertreffen. | ○ | ○ | ○ | ○ | ○ |
| Der After-Sales Service zu den BMW M Fahrzeugen konnte bisher meine Erwartungen übertreffen. | ○ | ○ | ○ | ○ | ○ |
| Die Beratung und Handhabung bei einem BMW M Fahrzeugneukauf konnten bisher meine Erwartungen übertreffen. | ○ | ○ | ○ | ○ | ○ |

**Befragung**

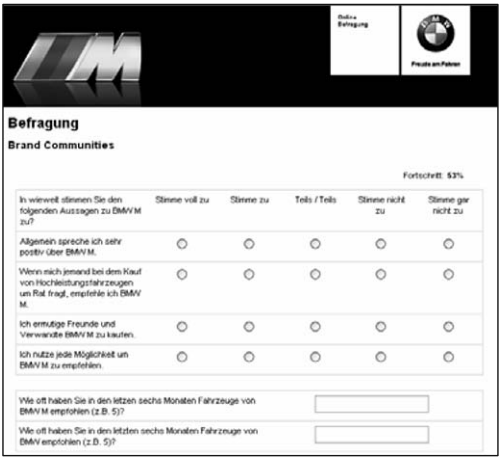
**Brand Communities**

Fortschritt: 50%

**Teil 0: Loyalität und Weiterempfehlungsverhalten**

| In wieweit stimmen Sie den folgenden Aussagen zu BMW M zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| Ich sehe die Wahrscheinlichkeit als sehr hoch an, dass ich BMW M in der Zukunft treu bleiben werde. | ○ | ○ | ○ | ○ | ○ |
| Ich sehe mich selber als loyal gegenüber BMW M an. | ○ | ○ | ○ | ○ | ○ |
| BMW M ist meine bevorzugte Marke im Bereich Hochleistungsfahrzeuge und wird es auch bleiben. | ○ | ○ | ○ | ○ | ○ |
| Mein nächstes Fahrzeug wird wieder ein BMW M sein. | ○ | ○ | ○ | ○ | ○ |

| | |
|---|---|
| Wie oft haben Sie in den letzen sechs Monaten Fahrzeuge von BMW M gekauft (z.B. 1)? | |
| Wie oft haben Sie in den letzten sechs Monaten Fahrzeuge von BMW gekauft (z.B. 1)? | |



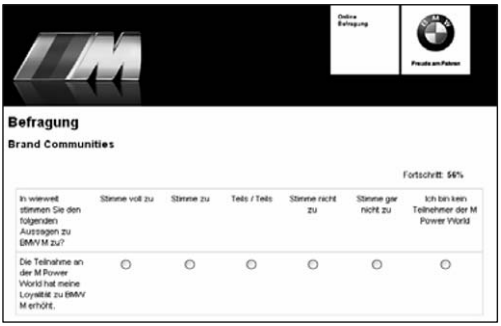
**Befragung**

**Brand Communities**

Fortschritt: 53%

| In wieweit stimmen Sie den folgenden Aussagen zu BMW M zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| Allgemein spreche ich sehr positiv über BMW M. | ○ | ○ | ○ | ○ | ○ |
| Wenn mich jemand bei dem Kauf von Hochleistungsfahrzeugen um Rat fragt, empfehle ich BMW M. | ○ | ○ | ○ | ○ | ○ |
| Ich ermutige Freunde und Verwandte BMW M zu kaufen. | ○ | ○ | ○ | ○ | ○ |
| Ich nutze jede Möglichkeit um BMW M zu empfehlen. | ○ | ○ | ○ | ○ | ○ |

| | |
|---|---|
| Wie oft haben Sie in den letzen sechs Monaten Fahrzeuge von BMW M empfohlen (z.B. 5)? | |
| Wie oft haben Sie in den letzten sechs Monaten Fahrzeuge von BMW empfohlen (z.B. 5)? | |

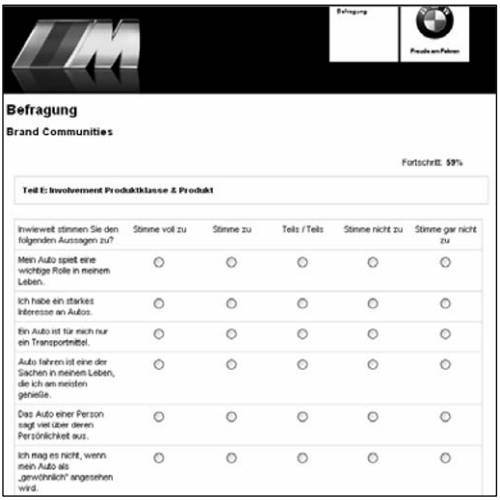


**Befragung**

**Brand Communities**

Fortschritt: 56%

| In wieweit stimmen Sie den folgenden Aussagen zu BMW M zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu | Ich bin kein Teilnehmer der M Power World |
|---|---|---|---|---|---|---|
| Die Teilnahme an der M Power World hat meine Loyalität zu BMW M erhöht. | ○ | ○ | ○ | ○ | ○ | ○ |



Befragung

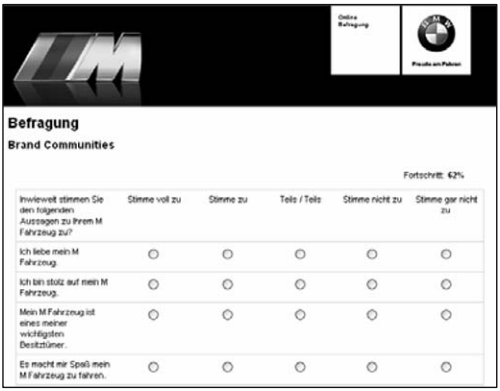
**Befragung**

**Brand Communities**

Fortschritt: 59%

**Teil E: Involvement Produktklasse & Produkt**

| Inwieweit stimmen Sie den folgenden Aussagen zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| Mein Auto spielt eine wichtige Rolle in meinem Leben. | ○ | ○ | ○ | ○ | ○ |
| Ich habe ein starkes Interesse an Autos. | ○ | ○ | ○ | ○ | ○ |
| Ein Auto ist für mich nur ein Transportmittel. | ○ | ○ | ○ | ○ | ○ |
| Auto fahren ist eine der Sachen in meinem Leben, die ich am meisten genieße. | ○ | ○ | ○ | ○ | ○ |
| Das Auto einer Person sagt viel über deren Persönlichkeit aus. | ○ | ○ | ○ | ○ | ○ |
| Ich mag es nicht, wenn mein Auto als „gewöhnlich" angesehen wird. | ○ | ○ | ○ | ○ | ○ |



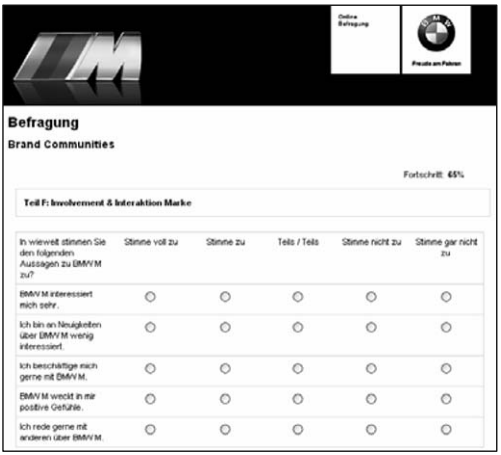
Online Befragung

**Befragung**

**Brand Communities**

Fortschritt: 62%

| Inwieweit stimmen Sie den folgenden Aussagen zu Ihrem M Fahrzeug zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| Ich liebe mein M Fahrzeug. | ○ | ○ | ○ | ○ | ○ |
| Ich bin stolz auf mein M Fahrzeug. | ○ | ○ | ○ | ○ | ○ |
| Mein M Fahrzeug ist eines meiner wichtigsten Besitztümer. | ○ | ○ | ○ | ○ | ○ |
| Es macht mir Spaß mein M Fahrzeug zu fahren. | ○ | ○ | ○ | ○ | ○ |



Online Befragung

Freude am Fahren

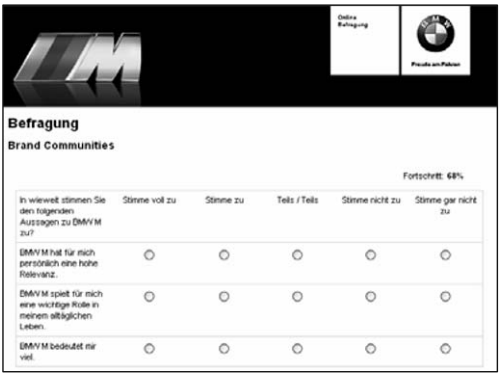
**Befragung**

**Brand Communities**

Fortschritt: 65%

**Teil F: Involvement & Interaktion Marke**

| In wieweit stimmen Sie den folgenden Aussagen zu BMW M zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| BMW M interessiert mich sehr. | ○ | ○ | ○ | ○ | ○ |
| Ich bin an Neuigkeiten über BMW M wenig interessiert. | ○ | ○ | ○ | ○ | ○ |
| Ich beschäftige mich gerne mit BMW M. | ○ | ○ | ○ | ○ | ○ |
| BMW M weckt in mir positive Gefühle. | ○ | ○ | ○ | ○ | ○ |
| Ich rede gerne mit anderen über BMW M. | ○ | ○ | ○ | ○ | ○ |



Online Befragung

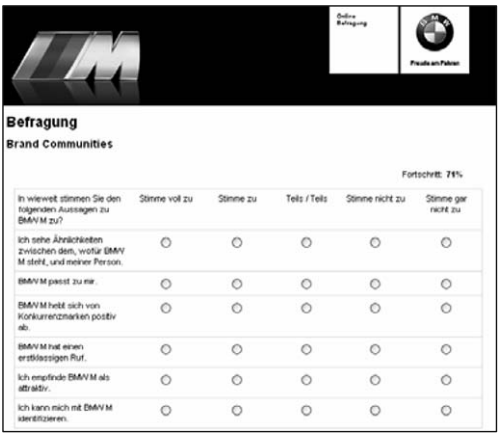
Freude am Fahren

**Befragung**

**Brand Communities**

Fortschritt: 68%

| In wieweit stimmen Sie den folgenden Aussagen zu BMW M zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| BMW M hat für mich persönlich eine hohe Relevanz. | ○ | ○ | ○ | ○ | ○ |
| BMW M spielt für mich eine wichtige Rolle in meinem alltäglichen Leben. | ○ | ○ | ○ | ○ | ○ |
| BMW M bedeutet mir viel. | ○ | ○ | ○ | ○ | ○ |



Online Befragung

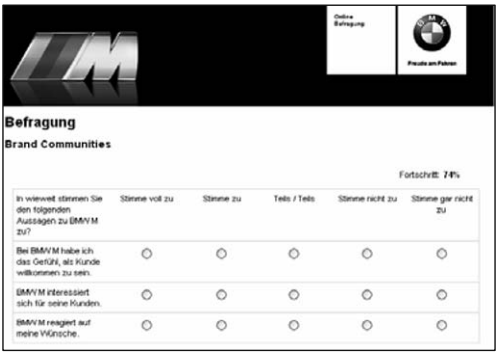
Freude am Fahren

**Befragung**

**Brand Communities**

Fortschritt: 71%

| In wieweit stimmen Sie den folgenden Aussagen zu BMW M zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| Ich sehe Ähnlichkeiten zwischen dem, wofür BMW M steht, und meiner Person. | ○ | ○ | ○ | ○ | ○ |
| BMW M passt zu mir. | ○ | ○ | ○ | ○ | ○ |
| BMW M hebt sich von Konkurrenzmarken positiv ab. | ○ | ○ | ○ | ○ | ○ |
| BMW M hat einen erstklassigen Ruf. | ○ | ○ | ○ | ○ | ○ |
| Ich empfinde BMW M als attraktiv. | ○ | ○ | ○ | ○ | ○ |
| Ich kann mich mit BMW M identifizieren. | ○ | ○ | ○ | ○ | ○ |

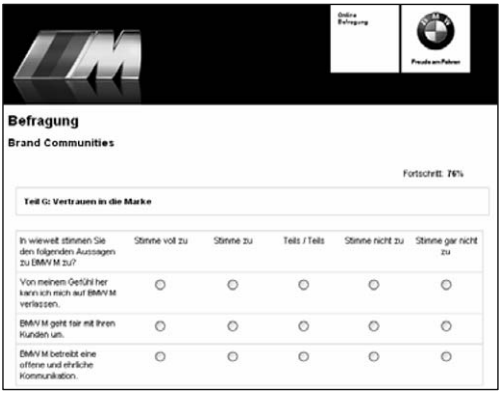


Befragung

Brand Communities

Fortschritt: 74%

| In wieweit stimmen Sie den folgenden Aussagen zu BMW M zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| Bei BMW M habe ich das Gefühl, als Kunde willkommen zu sein. | ○ | ○ | ○ | ○ | ○ |
| BMW M interessiert sich für seine Kunden. | ○ | ○ | ○ | ○ | ○ |
| BMW M reagiert auf meine Wünsche. | ○ | ○ | ○ | ○ | ○ |



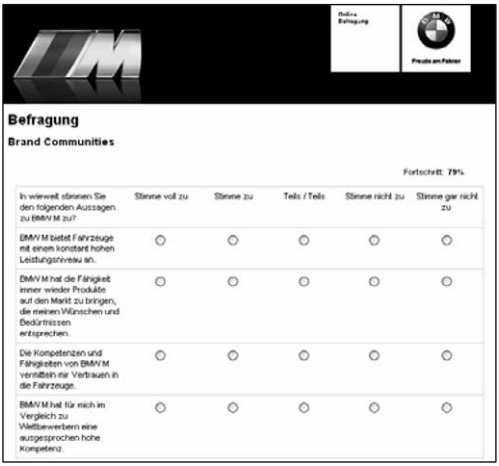
Befragung

Brand Communities

Fortschritt: 76%

**Teil G: Vertrauen in die Marke**

| In wieweit stimmen Sie den folgenden Aussagen zu BMW M zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| Von meinem Gefühl her kann ich mich auf BMW M verlassen. | ○ | ○ | ○ | ○ | ○ |
| BMW M geht fair mit ihren Kunden um. | ○ | ○ | ○ | ○ | ○ |
| BMW M betreibt eine offene und ehrliche Kommunikation. | ○ | ○ | ○ | ○ | ○ |

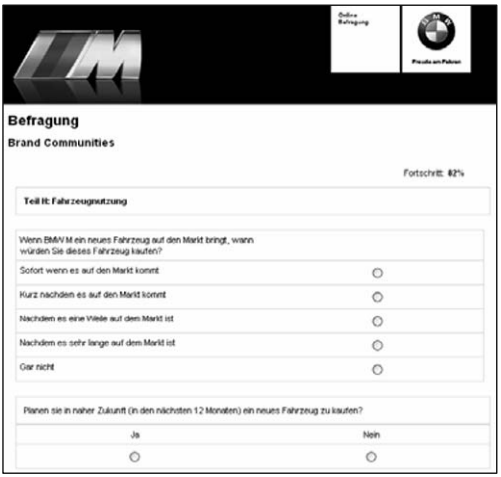


Befragung

Brand Communities

Fortschritt: 79%

| In wieweit stimmen Sie den folgenden Aussagen zu BMW M zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| BMW M bietet Fahrzeuge mit einem konstant hohen Leistungsniveau an. | ○ | ○ | ○ | ○ | ○ |
| BMW M hat die Fähigkeit immer wieder Produkte auf den Markt zu bringen, die meinen Wünschen und Bedürfnissen entsprechen. | ○ | ○ | ○ | ○ | ○ |
| Die Kompetenzen und Fähigkeiten von BMW M vermitteln mir Vertrauen in die Fahrzeuge. | ○ | ○ | ○ | ○ | ○ |
| BMW M hat für mich im Vergleich zu Wettbewerbern eine ausgesprochen hohe Kompetenz. | ○ | ○ | ○ | ○ | ○ |



Befragung

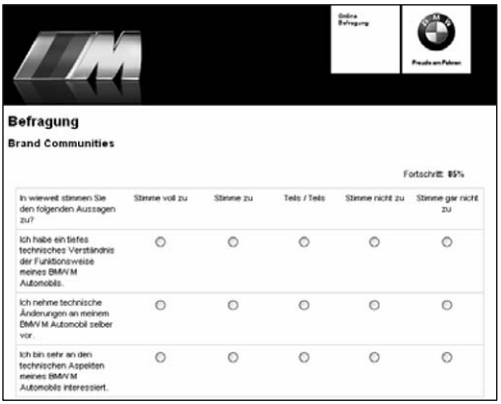
Brand Communities

Fortschritt: 82%

Teil II: Fahrzeugnutzung

| Wenn BMW M ein neues Fahrzeug auf den Markt bringt, wann würden Sie dieses Fahrzeug kaufen? | |
|---|---|
| Sofort wenn es auf den Markt kommt | ○ |
| Kurz nachdem es auf den Markt kommt | ○ |
| Nachdem es eine Weile auf dem Markt ist | ○ |
| Nachdem es sehr lange auf dem Markt ist | ○ |
| Gar nicht | ○ |

| Planen sie in naher Zukunft (in den nächsten 12 Monaten) ein neues Fahrzeug zu kaufen? | |
|---|---|
| Ja | Nein |
| ○ | ○ |

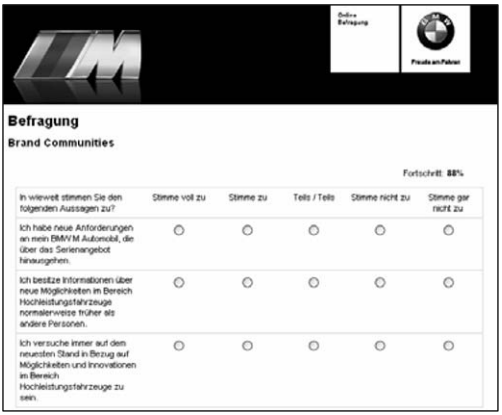


Befragung

Brand Communities

Fortschritt: 85%

| In wieweit stimmen Sie den folgenden Aussagen zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| Ich habe ein tiefes technisches Verständnis der Funktionsweise meines BMW M Automobils. | ○ | ○ | ○ | ○ | ○ |
| Ich nehme technische Änderungen an meinem BMW M Automobil selber vor. | ○ | ○ | ○ | ○ | ○ |
| Ich bin sehr an den technischen Aspekten meines BMW M Automobils interessiert. | ○ | ○ | ○ | ○ | ○ |

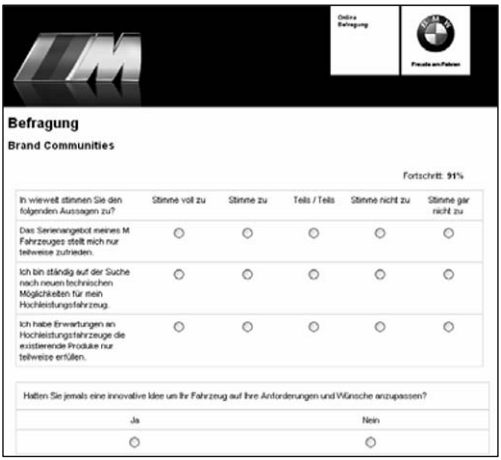


Befragung

Brand Communities

Fortschritt: 88%

| In wieweit stimmen Sie den folgenden Aussagen zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| Ich habe neue Anforderungen an mein BMW M Automobil, die über das Serienangebot hinausgehen. | ○ | ○ | ○ | ○ | ○ |
| Ich besitze Informationen über neue Möglichkeiten im Bereich Hochleistungsfahrzeuge normalerweise früher als andere Personen. | ○ | ○ | ○ | ○ | ○ |
| Ich versuche immer auf dem neuesten Stand in Bezug auf Möglichkeiten und Innovationen im Bereich Hochleistungsfahrzeuge zu sein. | ○ | ○ | ○ | ○ | ○ |



Befragung

Brand Communities

Fortschritt: 91%

| In wieweit stimmen Sie den folgenden Aussagen zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| Das Serienangebot meines M Fahrzeuges stellt mich nur teilweise zufrieden. | ○ | ○ | ○ | ○ | ○ |
| Ich bin ständig auf der Suche nach neuen technischen Möglichkeiten für mein Hochleistungsfahrzeug. | ○ | ○ | ○ | ○ | ○ |
| Ich habe Erwartungen an Hochleistungsfahrzeuge die existierende Produkte nur teilweise erfüllen. | ○ | ○ | ○ | ○ | ○ |

Hatten Sie jemals eine innovative Idee um Ihr Fahrzeug auf Ihre Anforderungen und Wünsche anzupassen?

| Ja | Nein |
|---|---|
| ○ | ○ |

Befragung

Brand Communities

Fortschritt: 94%

Wir sind sehr daran interessiert mehr über Ihre innovativen Ideen zu erfahren. Um die folgende Frage zu beantworten denken Sie bitte an Ihre wichtigste innovative Idee um Ihr Fahrzeug auf Ihre Anforderungen und Wünsche anzupassen.

| Wie weit haben Sie Ihre wichtigste innovative Idee bereits entwickelt? | |
|---|---|
| Ich habe meine Idee nicht aufgeschrieben / skizziert | ○ |
| Ich habe meine Idee aufgeschrieben / skizziert | ○ |
| Ich habe einen Prototyp meiner Idee entwickelt | ○ |
| Ich habe meine Idee als Produkt vermarktet | ○ |
| Sonstiges | ○ |

**Befragung**

**Brand Communities**

Fortschritt: 97%

| In wieweit stimmen Sie den folgenden Aussagen zu? | Stimme voll zu | Stimme zu | Teils / Teils | Stimme nicht zu | Stimme gar nicht zu |
|---|---|---|---|---|---|
| Ich spreche häufig mit Freunden und Bekannten über Hochleistungsfahrzeuge. | ○ | ○ | ○ | ○ | ○ |
| Wenn ich mit Freunden und Bekannten über Hochleistungsfahrzeuge spreche, teile ich viele Informationen mit. | ○ | ○ | ○ | ○ | ○ |
| Verglichen mit meinem Freundeskreis ist es sehr wahrscheinlich, dass man mich etwas über Hochleistungsfahrzeuge fragt. | ○ | ○ | ○ | ○ | ○ |
| Wenn es um Hochleistungsfahrzeuge geht, werde ich von Freunden und Bekannten als Experte betrachtet. | ○ | ○ | ○ | ○ | ○ |
| Generell werde ich von Freunden und Bekannten als gute Informationsquelle betrachtet. | ○ | ○ | ○ | ○ | ○ |

Wie vielen Personen haben Sie in den letzten sechs Monaten etwas über Hochleistungsfahrzeuge erzählt (z.B. 5)?

**Befragung**

**Brand Communities**

Fortschritt: 100%

**Vielen Dank für Ihre erneute Teilnahme an der online Befragung von BMW M.**

Wir würden uns freuen, wenn Sie uns noch Ihre Email Adresse hinterlassen. Da dies eine Langzeitstudie ist, sollte idealerweise eine Zuordnung der Daten zueinander erfolgen wozu Ihre Emailadresse benötigt wird. Ihre Email Adresse wird streng vertraulich behandelt und nur verwendet um Sie im Rahmen der Befragung noch einmal zu kontaktieren sowie um die Verlosung der BMW M Fahrertrainings durchzuführen und Sie gegebenenfalls noch einmal zu diesem Thema zu kontaktieren.

Ihre Email Adresse

Falls Sie generelle Anmerkungen zu dem Fragebogen haben, können Sie uns diese hier mitteilen.

## Appendix 3: Test for Multicollinearity of Data

### Membership models:

| Variable | VIF | SQRT VIF | Tolerance | R-Squared |
|---|---|---|---|---|
| Membership status | 1.28 | 1.13 | 0.78 | 0.22 |
| Lead user status | 1.37 | 1.17 | 0.73 | 0.27 |
| Static product quality perception | 1.19 | 1.09 | 0.84 | 0.16 |
| Dynamic product quality perception | 1.35 | 1.16 | 0.74 | 0.26 |
| Private BMW M brand community | 1.40 | 1.18 | 0.71 | 0.29 |
| Community on other brands | 1.20 | 1.10 | 0.83 | 0.17 |
| Experience | 1.32 | 1.15 | 0.76 | 0.24 |
| Education | 1.02 | 1.01 | 0.98 | 0.02 |
| Techical profession | 1.11 | 1.05 | 0.90 | 0.10 |
| Age | 1.46 | 1.21 | 0.69 | 0.31 |
| Mean VIF: | 1.27 | Condition number: | | 64.22 |
| Determinant of correlation matrix: | | | | 0.32 |

| | Eigenvalue | Index |
|---|---|---|
| 1 | 6.35 | 1.00 |
| 2 | 1.14 | 2.36 |
| 3 | 0.90 | 2.65 |
| 4 | 0.62 | 3.21 |
| 5 | 0.60 | 3.25 |
| 6 | 0.44 | 3.81 |
| 7 | 0.40 | 4.00 |
| 8 | 0.24 | 5.13 |
| 9 | 0.22 | 5.39 |
| 10 | 0.09 | 8.52 |
| 11 | 0.00 | 64.22 |

### Community models:

| Variable | VIF | SQRT VIF | Tolerance | R-Squared |
|---|---|---|---|---|
| Community status | 1.22 | 1.10 | 0.82 | 0.18 |
| Lead user status | 1.24 | 1.11 | 0.81 | 0.19 |
| Static product quality perception | 1.12 | 1.06 | 0.89 | 0.11 |
| Dynamic product quality perception | 1.27 | 1.13 | 0.79 | 0.21 |
| Private BMW M brand community | 1.37 | 1.17 | 0.73 | 0.27 |
| Community on other brands | 1.19 | 1.09 | 0.84 | 0.16 |
| Experience | 1.23 | 1.11 | 0.81 | 0.19 |
| Education | 1.02 | 1.01 | 0.98 | 0.02 |
| Techical profession | 1.11 | 1.05 | 0.90 | 0.10 |
| Age | 1.30 | 1.14 | 0.77 | 0.23 |
| Mean VIF: | 1.21 | Condition number: | | 63.26 |
| Determinant of correlation matrix: | | | | 0.39 |

| | Eigenvalue | Index |
|---|---|---|
| 1 | 6.32 | 1.00 |
| 2 | 1.12 | 2.38 |
| 3 | 0.93 | 2.60 |
| 4 | 0.63 | 3.17 |
| 5 | 0.58 | 3.30 |
| 6 | 0.46 | 3.71 |
| 7 | 0.41 | 3.93 |
| 8 | 0.27 | 4.86 |
| 9 | 0.21 | 5.45 |
| 10 | 0.07 | 9.46 |
| 11 | 0.00 | 63.26 |

## Appendix 4: Membership Models without Insignificant Variables

| | Model 2 | Model 4 |
|---|---|---|
| | Static brand loyalty / wom | Dynamic brand loyalty / wom |
| Membership status M Power World | | 0.656** |
| | | (0.301) |
| Lead User Status | | |
| Static product quality perception | 0.342*** | |
| | (0.085) | |
| Dynamic product quality perception | | 0.458*** |
| | | (0.134) |
| Membership private BMW M brand communities | | -0.402** |
| | | (0.228) |
| Membership communities on other brands | | |
| Experience | | |
| Education | 0.233** | |
| | (0.093) | |
| Technical profession | | |
| Age | | |
| Observations | 125 | 125 |
| log-likelihood | -76.803 | -116.740 |
| Wald chi2 | 19.61 | 18.65 |
| Prob > chi2 | 0.000 | 0.000 |
| Pseudo R2 | 0.113 | 0.074 |

Robust standard errors in parentheses
The marginal effect of each independent variable is reported holding the remaining variables at their mean
* significant at 10%; ** significant at 5%; *** significant at 1%

## Appendix 5: Community Status Models without Insignificant Variables

| | Model 6 | Model 8 |
|---|---|---|
| | Static brand loyalty / wom | Dynamic brand loyalty / wom |
| Community status M Power World | | 0.214** |
| | | (0.099) |
| Lead User Status | | |
| Static product quality perception | 0.301*** | |
| | (0.077) | |
| Dynamic product quality perception | | 0.518*** |
| | | (0.120) |
| Membership private BMW M brand communities | | -0.379* |
| | | (0.207) |
| Membership communities on other brands | | |
| Experience | | |
| Education | 0.222** | |
| | (0.083) | |
| Technical profession | | |
| Age | | |
| Observations | 157 | 157 |
| log-likelihood | -98.301 | -146.418 |
| Wald chi2 | 21.04 | 24.55 |
| Prob > chi2 | 0.000 | 0.000 |
| Pseudo R2 | 0.097 | 0.077 |

Robust standard errors in parentheses
The marginal effect of each independent variable is reported holding the remaining variables at their mean
* significant at 10%; ** significant at 5%; *** significant at 1%

# Appendix 6: Discussions in the M Power World

**Climate discussion:**

Unsere Politiker, die sich gerne mit A8, S-Klasse und 7ern zu Ihren Veranstaltungen fahren lassen und von uns erwarten und fordern Hybrid Autos zu fahren und weniger in den Urlau fliegen, Atomkraftwerke abschalten, obwohl noch keine Alternative in Sicht ist, handeln alles andere als vorbildlich und weitestgehend konzeptlos und das quer durch alle Pateien.

Ich gehe davon aus, dass auch zukünftig unsere ///M's auf den Straßen und Rennstrecken zu sehen sein werden, allerdings wird der Sprit und die Steuer entsprechend kosten.

Die Automobilhersteller werden sich verstärkt um Alternativen kümmern müssen, das sieht ma ja auch an der Kooperation von Daimler und BMW welche jetzt auch verstärkt in Europa vorangetrieben wird für die Entwicklung von alternativen Motorenkonzepten.

**Fuel consumption:**

zum Thema Fortschritt: die (hoffentlich) steigende Effizienz der Motoren wird aber durch die stetig steigende Fettleibigkeit der Autos (siehe dazu den Faden "Ein offenes Wort...")wieder aufgefressen. Die medien- aber auch kundengetriebene Sucht nach immer mehr Features, immer höherer Airbagdichte (wieviel waren´s noch, 14?) und immer mehr Bequemlichkeit bringt einfach zusätzliches Gewicht, dass bewegt werden muß.

Ich habe auch den guten einen Liter, den meine 46er mehr brauchen....mit Blick auf das (leider) gestiegene Gewicht noch hingenommen. Aber wenn nun, 11 Jahre und zwei Modellzyklen später der reelle Enkel mehr als das doppelte für die gleiche Übung durch die Brennräume jagt als sein Großvater ist das für mich ein herber Rückschritt. Der Verbrauch ist nicht allen M-Fahrern schnuppe, ich selbst fahre seit über 16 Jahre "M"-Mobile und schaue sehr wohl auch darauf.

**Product policy:**

Mit dem heutigen Tag hat meine langjährige "Beziehung" zu BMW respektive BMW ///M ihren vorläufigen Tiefpunkt erreicht. Die konkreten Umstände sind hierbei unwichtig. Es stellen sich nur, einmal mehr, die sattsam bekannten Fragen, die ich hier nochmals in konkreter Form aufwerfen möchte:

Warum muss ich mich als sportlich ambitionierter BMW-Kunde mit 35 Jahren, also doch schon einige Zeit dem Alter von D&W und Lauter-Tiefer-Breiter Tuning entwachsen, mit dem Auswechseln von Sitzen, Gurten, dem Einbau eines Überroll-Käfigs und den darauf folgenden, weitreichenden Problemen mit TÜV resp. MFK auseinandersetzen ?

Warum kann man mittlerweile für jeden popeligen RS4, RS6 oder AMG einen Schalensitz mit Gurtdurchführung und/oder eine Keramik-Bremsanlage bestellen aber für keinen Aktuellen geschweige denn zurückliegenden BMW ///M ?

Warum gibt es für 1er und 3er AG Modelle im Rahmen der Performance Parts (endlich) eine 6-Kolben Anlage und Schalensitze zu kaufen wogegen M3/M5/M6 immer noch mit absolut antiquierten und rennstreckenuntauglichen Faustsattel-Anlagen ausgestattet werden ?

Ich kann mich Martins Ausführung nur anschließen
Es muss sich was tun, und zwar schleunigst sonst wandern die Kunden inklusive mir zu anderen Herstellern ab die begriffen haben was Ihre Kunden tatsächlich wollen und nicht Ihre Eigeninterpretation eines "sportlichen Fahrzeugs" als Wunsch der Kunden präsentieren.

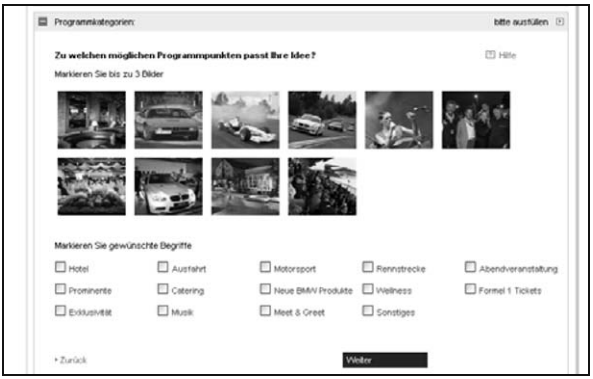
Seit dem E46 M3 CSL (2003) gab es für mich in der BMW M Produktpalette kein Fahrzeug mehr das mich aus der Reserve geholt hätte. Ich bin sie alle Probe gefahren um nach der Probefahrt enttäuscht festzustellen das es nicht das Auto ist was meinen Vorstellungen entspricht.

## Appendix 7: Ideas Lab

### M Power Tour:

- **Schritt 1:**


- **Schritt 2:**



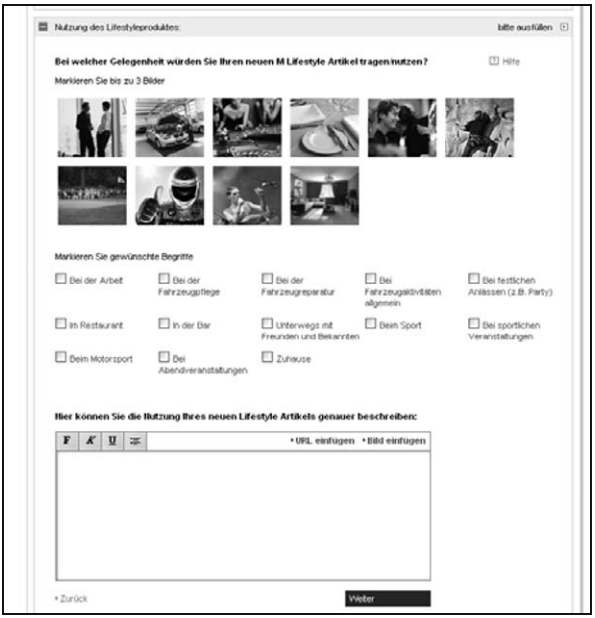
- **Schritt 3:**


- **Idea Evaluation**


**M Lifestyle Collection:**

- **Schritt 1:**

- **Schritt 2:**

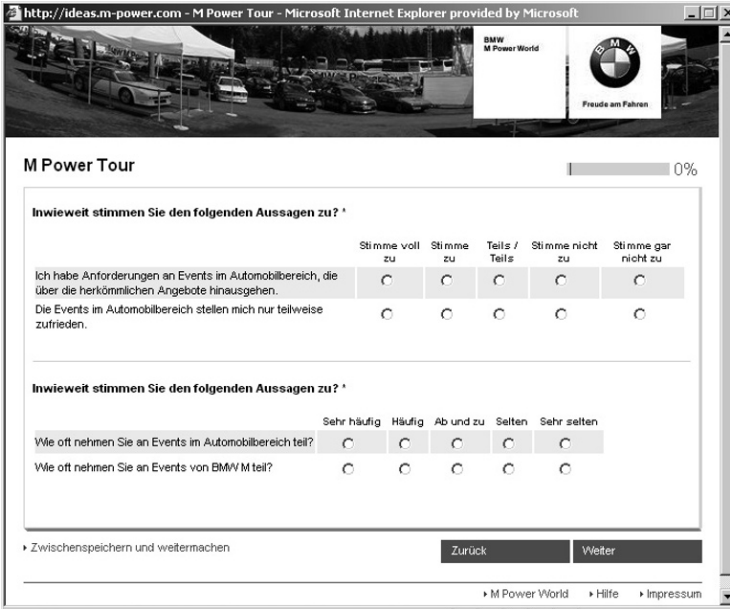


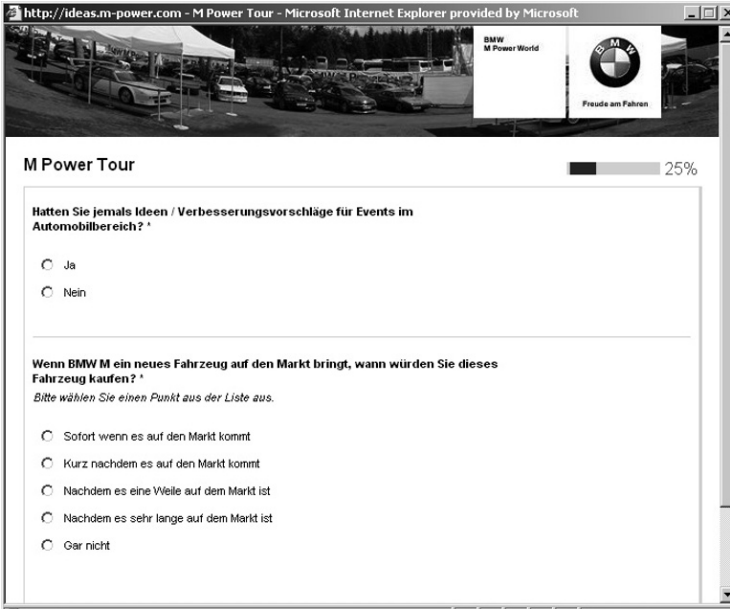

- **Schritt 3:**

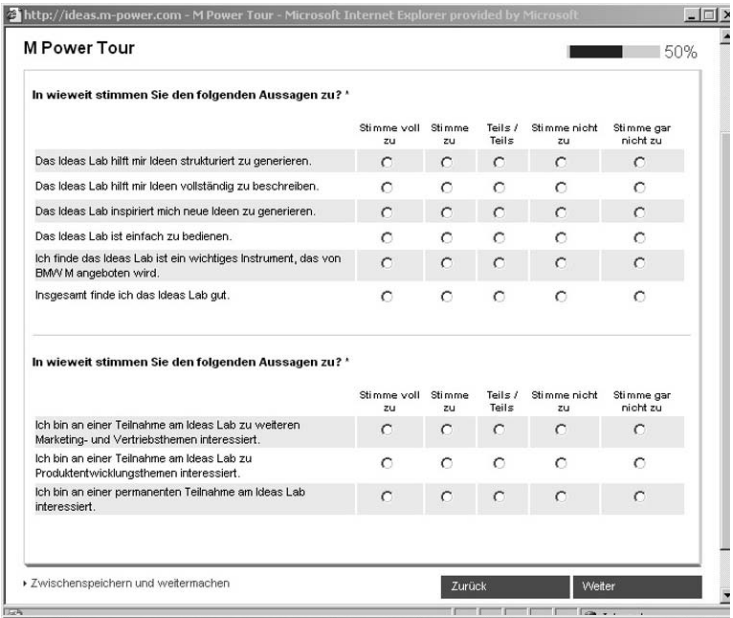

- **Idea Evaluation:**

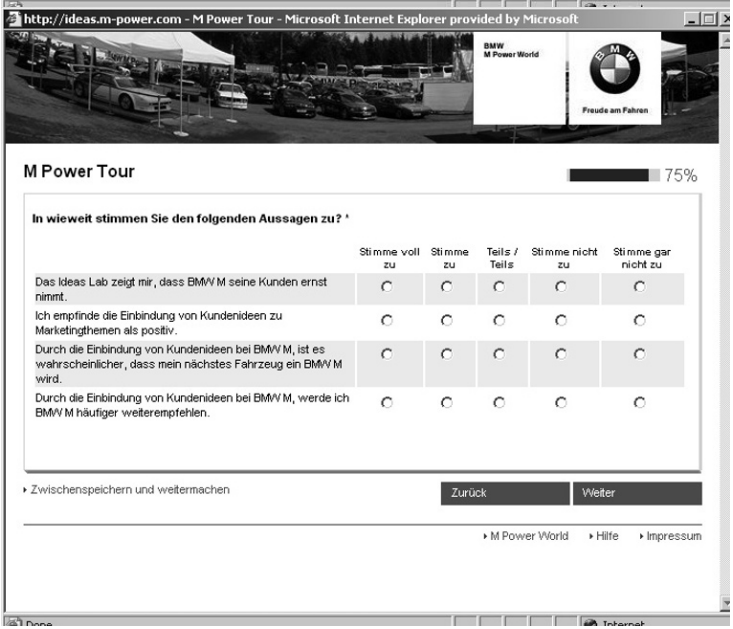
# Appendix 8: Questionnaire in the Ideas Lab

**M Power Tour:**




http://ideas.m-power.com - M Power Tour - Microsoft Internet Explorer provided by Microsoft
M Power Tour
50%
In wieweit stimmen Sie den folgenden Aussagen zu? *
Stimme voll zu
Stimme zu
Teils / Teils
Stimme nicht zu
Stimme gar nicht zu
Das Ideas Lab hilft mir Ideen strukturiert zu generieren.
Das Ideas Lab hilft mir Ideen vollständig zu beschreiben.
Das Ideas Lab inspiriert mich neue Ideen zu generieren.
Das Ideas Lab ist einfach zu bedienen.
Ich finde das Ideas Lab ist ein wichtiges Instrument, das von BMW M angeboten wird.
Insgesamt finde ich das Ideas Lab gut.
In wieweit stimmen Sie den folgenden Aussagen zu? *
Stimme voll zu
Stimme zu
Teils / Teils
Stimme nicht zu
Stimme gar nicht zu
Ich bin an einer Teilnahme am Ideas Lab zu weiteren Marketing- und Vertriebsthemen interessiert.
Ich bin an einer Teilnahme am Ideas Lab zu Produktentwicklungsthemen interessiert.
Ich bin an einer permanenten Teilnahme am Ideas Lab interessiert.
Zwischenspeichern und weitermachen
Zurück
Weiter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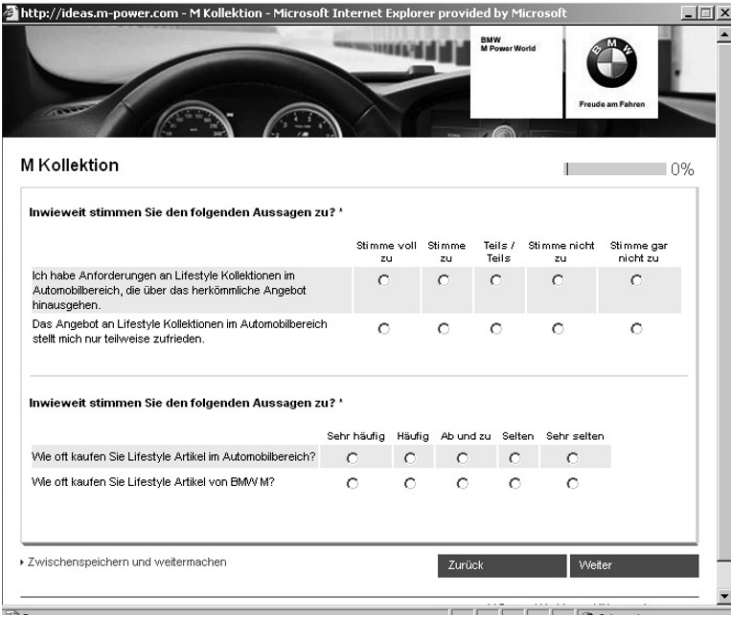
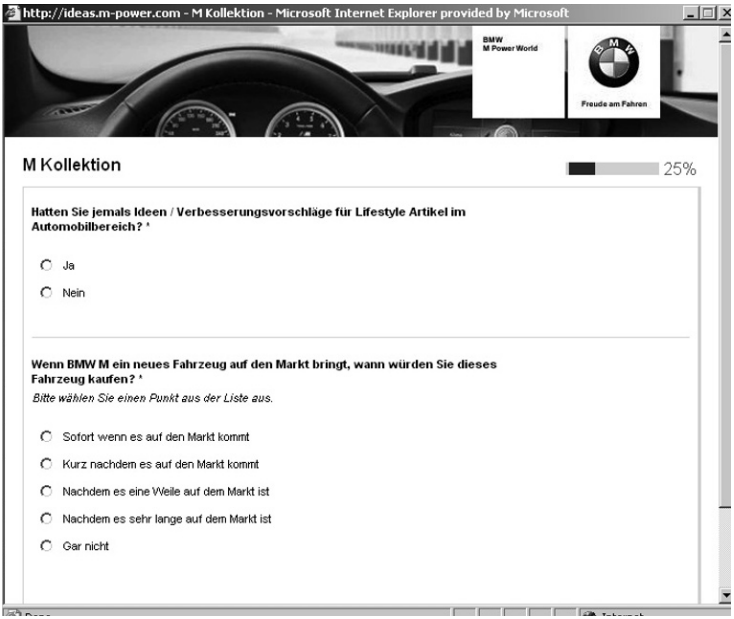
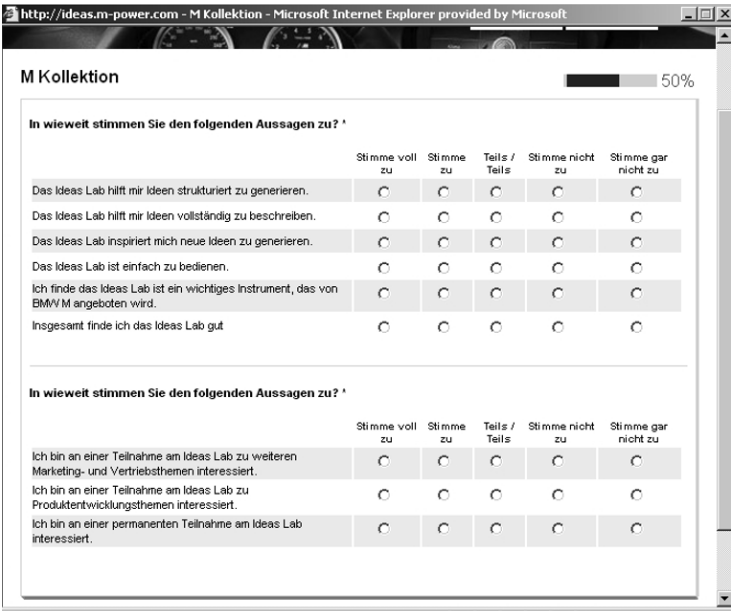
In wieweit stimmen Sie den folgenden Aussagen zu? *
Stimme voll zu
Stimme zu
Teils / Teils
Stimme nicht zu
Stimme gar nicht zu
Das Ideas Lab zeigt mir, dass BMW M seine Kunden ernst nimmt.
Ich empfinde die Einbindung von Kundenideen zu Marketingthemen als positiv.
Durch die Einbindung von Kundenideen bei BMW M, ist es wahrscheinlicher, dass mein nächstes Fahrzeug ein BMW M wird.
Durch die Einbindung von Kundenideen bei BMW M, werde ich BMW M häufiger weiterempfehlen.
Zwischenspeichern und weitermachen
Zurück
Weiter
M Power World
Hilfe
Impressum

**M Lifestyle Collection:**

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In wieweit stimmen Sie den folgenden Aussagen zu? *
Stimme voll zu
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Stimme nicht zu
Stimme gar nicht zu
Das Ideas Lab hilft mir Ideen strukturiert zu generieren.
Das Ideas Lab hilft mir Ideen vollständig zu beschreiben.
Das Ideas Lab inspiriert mich neue Ideen zu generieren.
Das Ideas Lab ist einfach zu bedienen.
Ich finde das Ideas Lab ist ein wichtiges Instrument, das von BMW M angeboten wird.
Insgesamt finde ich das Ideas Lab gut
In wieweit stimmen Sie den folgenden Aussagen zu? *
Stimme voll zu
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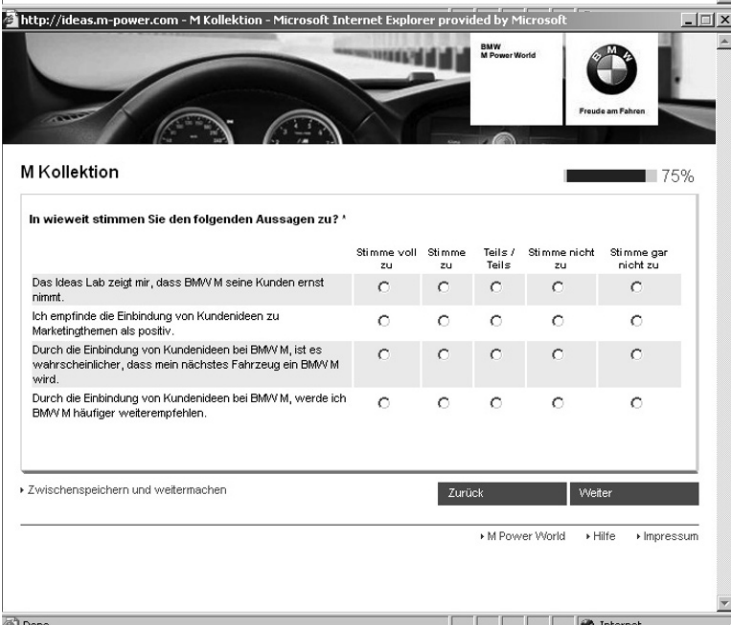
Stimme nicht zu
Stimme gar nicht zu
Ich bin an einer Teilnahme am Ideas Lab zu weiteren Marketing- und Vertriebsthemen interessiert.
Ich bin an einer Teilnahme am Ideas Lab zu Produktentwicklungsthemen interessiert.
Ich bin an einer permanenten Teilnahme am Ideas Lab interessiert.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