

UNIVERSITY OF TWENTE.

MASTER OF SCIENCE THESIS

Why do users bond with online services?

A literature review on the conceptualization of
online user bonding in the context of online
services

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Abstract

Since the TAM model in 1989 numerous researchers have focused on creating sustainable online services through the attraction of new users (Davis et al, 1989; Venkatesh et al, 2003). However, the costs of attracting new users can be as much as five times higher than maintaining current users (Bhattacharjee, 2001; Reibstein, 2002). Currently, research focuses on combining user attraction practices with bonding current users, which is viewed as the key to the survival of online services (Bhattacharjee, 2001; Kim and Son, 2009). However to date, the literature lacks a systematic investigation and overview of user bonding with online services (Ren et al, 2007; Kim and Son, 2009). Therefore, the goal of this research is to systematically define and conceptualize online user bonding in the context of online services and to understand why users bond with online services. By conducting a structured, systematic literature review on ‘online user bonding’ this Master Thesis aims to fill the gap in literature. Online user bonding is conceptualized as ‘*a user’s psychological and/or behavioural processes that stimulate active engagement of the user in a relationship with an online service*’ and encompasses four different processes. These processes each focus on different aspects of the bonding process of an user. User Commitment focuses solely on a user’s psychological bonding process, while User Intention and User Retention focus on the user’s behavioural bonding process. User Loyalty is a combination of both. To provide more clarity on online user bonding and these four user bonding processes this Master Thesis developed the ‘online user bonding continuum’, in which the processes are all represented. The results of the second research question provide seventeen mutually exclusive reasons why users bond with online services. In line with earlier work of Kim and Son (2009) these reasons are referred to as ‘mechanisms’. The online bonding mechanisms are (1) personal disposition bonds, (2) IT experience bonds, (3) demographic characteristic bonds, (4) dedication-based bonds, (5) investment bonds, (6) constrained-based bonds, (7) common identity bonds, (8) organizational structure bonds, (9) offline bonds, (10) service quality bonds, (11) product attribute bonds, (12) common bonds, (13) market dependent bonds, (14) website functionality bonds, (15) website aesthetic bonds, (16) system quality bonds and (17) information quality bonds. In contrast to the TAM model, these bonding mechanisms do not focus on attracting new users, but explain user bonding after the initial phase of user attraction. These online bonding mechanisms integrate several well-known user to organisation relationship theories and frameworks, such as commitment theory, investment theory, common identity theory, common bond theory, dedication-based theory, constrained-based theory and the DeLone and McLean model of IS success.

Keywords: Online user bonding, online services, user intention, user commitment, user retention, user loyalty

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1. Introduction

In this day and age, computers, tablets, smartphones and the Internet increasingly enable online services to influence almost all of daily life. As an online service provider, to survive between the vast (and still increasing) amount of competitors, one has to prevent users from switching service (Reichheld and Schefter, 2000; Zhang et al, 2012). Traditionally, most online service providers focus on attracting new users (Toufaily et al, 2013). Research has shown that user attraction is supported through the ease-of-use and perceived usefulness of the online service, or in other words the Technology Acceptance Model (TAM) (Davis, 1989; Gefen et al, 2003). This model focuses the users' initial acceptance and use of the online service. However, a vast amount of research has shown the positive effects of maintaining these users after their initial acceptance on online service's performance (Reichheld and Schefter, 2000; Bhattacharjee, 2001; Kim and Son, 2009; Toufaily et al, 2013). Strong user bonds have a significant positive effect on the financial performance of an online service provider, as bonded users tend to revisit the online service provider more often and repurchase higher quantities (e.g. Reichheld and Sasser, 1990; Meyer and Allen, 1991; Schlesinger and Heskett, 1991; Reichheld, 1993; Kalwani and Narayandas, 1995; Holm et al, 1999; Morgan and Hunt, 1999; Garbarino and Johnson, 1999; Reichheld and Schefter, 2000; Reibstein, 2002). Additionally, the costs of acquiring new users for online services are as much as five times higher than for maintaining existing users (Blattberg and Deighton, 1996; Bhattacharjee, 2001; Pfeifer, 2005; Tsao, 2013). Moreover, when users perceive their bond with an online service as positive, it is likely that those users will engage in positive word of mouth. Positive word of mouth is known to stimulate other prospective users to utilize an online service (Dick and Besu, 1994; Bolton and Lemon, 1999; Hawkins et al, 2004; Kim and Son, 2009). In fact, both attracting new and attaching existing users are essential for the survival of any online service (Reichheld and Schefter, 2000; Bhattacharjee, 2001; Kim and Son, 2009). Consequently, it seems worthwhile for online services to focus not only on attracting users, but also (if not mainly) on bonding existing users.

The basis for user bonding is found in the Common bond theory (Ren et al, 2007). Common bond theory is derived from social psychology and explains user attachment to (online) communities via user-to-user bonds (Ren et al, 2007). Users bond with an online group or community because they like the individuals in that community and form bonds with them. This enhances the bond with the online community that facilitates these user-to-user bonds (Sassenberg, 2002; Ren et al, 2007). Common bond theory is extensively studied in the niche of online communities and user-to-user relationships (Ren et al, 2007; Ren et al, 2012).

However, despite the importance of bonding users to online services, to date the Information Systems field lacks systematic investigation on online user bonding as means to maintain user-to-online service relationships (Ren et al, 2007; Kim and Son, 2009). To the best of our knowledge no structured literature review on user bonding in the overall context of online services (including online communities, banking services, webshops etc.) exists (Ren et al, 2007; Kim and Son, 2009; Ren et al, 2012). The lack of systematic investigation on common bond theory in the context of user-to-online services has to date resulted in inconsistencies on the conceptualizations of online user bonding and the absence of a clear definition of online user bonding (Allen and Meyer, 1991; Arantola, 2002; Gustafsson et al, 2005; Liang et al, 2008; Beatty et al, 2012; Trepte et al, 2012). To systematically identify the contradicting and overlapping meanings of the concepts referred to as online user bonding this Master Thesis

applies the structured Grounded Theory Literature Review Method of Wolfswinkel et al (2013). This methodology is specifically designed for systematic review of unstructured literature. The methodology applies grounded theory coding procedures to ensure a systematic and thorough review of the literature (Wolfswinkel et al, 2013). Therefore this literature methodology is suited for this Master Thesis.

This research aims to fill the gap in the Information Systems literature on online user bonding and aims to provide a grounded conceptualization of online user bonding. Therefore the first research question is as follows;

1. *How can online user bonding be conceptualized?*

Insights in the user's motives for bonding with online services will enrich the current literature on user's online post-adoption behaviour and online bonding (Kim and Son, 2009). This leads to the second research question:

2. *Why do users develop bonds to online services?*

In an attempt to clarify the concept of online user bonding in a user-to-online service context, the present study develops a model that presents online user bonding as a continuum which encompasses four different online user bonding processes. Drawing on the literature review, user bonding is defined as '*a users' psychological and/or behavioural process that stimulates active engagement of the user in any relationship with an online service*'. The four different online user bonding processes are conceptualized as "User Intention" (1) a user's intention to re-use an online service, "User Commitment" (2) a user's psychological desire to continue his/her relationship with an online service, "User Retention" (3) a user's continuous behavioural process of re-using the online service and "User Loyalty" (4) a user's psychological desire to continue his/her relationship with an online service combined with a continuous behavioural process of re-using the online service, while resisting factors that might pull the user away from the online service. The findings of this study indicate that "User Intention", "User Commitment", "User Retention", and "User Loyalty" are all instances of 'online user bonding'. Despite the differences in focus (on behavioural or psychological user processes) they are within the literature simultaneously referred to as 'online user bonding' (e.g. Allen and Meyer, 1991; Arantola, 2002; Gustafsson et al, 2005; Liang et al, 2008; Beatty et al, 2012; Trepte et al, 2012). The proposed continuum clarifies the differences between behavioural and psychological user bonding processes.

Additionally, this Master Thesis identifies seventeen user bonding mechanisms that explain why users develop bonds to online services. These mechanisms were conceptualized from 158 identified factors that strengthen online user bonding, using the grounded theory coding procedures. Based on the seventeen bonding mechanisms this Master Thesis integrates several user-to-organisation relationships theories and frameworks, such as the common bond theory, commitment theory, investment theory, the IS success model and the common identity theory (Meyer and Allen, 1991; DeLone and McLean, 1992; Rusbult and Buunk, 1993; Bhattacharjee, 2001; DeLone and McLean, 2003; Ren et al, 2007).

In the discussion section this Master Thesis further elaborates on the user bonding continuum framework, highlighting the transition behaviour of bonded users. This transition behaviour focuses on bonded users that transition from one user bonding process to another (for instance, from User Intention to User Retention). The discussion section also presents an overview of the factors adhering to each of the four types of user bonding processes. These insights aim to support practitioners in choosing the right set of factors for the desired user bonding process for their business strategy. Thereafter a threshold of factors required to implement any type of online user bonding process is provided. This threshold supports practitioners in developing a new online user bonding strategy.

Concluding, results of this study address the following interrelated issues:

- First, the user bonding continuum clarifies the current inconsistencies on the conceptualization of online user bonding, by showing that User Intention, User Retention, User Commitment and User Loyalty bonding processes are not mutually exclusive, but are part of the overarching concept of online user bonding actually related.
- Second, although a number of user-to-organisation relationship theories and frameworks provide explanations of user bonding to online services, to the best of our knowledge to date, no study has integrated these theories and frameworks. This study intended to carefully examine why users bond to an online service. This led to the identification of seventeen user bonding mechanisms. Based on these mechanisms this Master Thesis shows the integration of these user-to-organisation relationship theories and frameworks.
- Third, to the best of our knowledge, no studies have taken into account the user bonding processes in order to attempt to explain the post-adoption behaviour of bonded users. This study examines the potential effects of the identified factors on the transition behaviour of users bound to an online service through one of the four user bonding processes. By providing transparency on the factors that adhere to the different user bonding processes, researchers and practitioners are able to influence specific factors that influence users within the various user bonding processes. This extension of the user bonding continuum framework is presented in the discussion section.
- Finally, this study shows the value of the Grounded Theory Literature Review Method (Wolfswinkel et al, 2013) as a systematic methodology to analyse conflicting and inconsistent conceptualizations of the same concept.

The structure of this Master Thesis is as follows. The first section reviews relevant literature on common bond theory and other user-to-organisation bonding theories and frameworks. The second section describes the research methodology. Subsequently, the third section presents the results of the literature review. Thereafter, section four contains the discussion and elaborates further on the user bonding continuum framework. Finally, the last section includes the conclusion, practical implications and opportunities for further research.

2. Common bond theory and other user-to-organisation relationship theories

Initially, new users are attracted to an online service through user attraction policies (Davis 1989). The TAM model suggests ‘ease of use’ and ‘perceived usefulness’ of the online service as factors that stimulate user attraction and adoption of the online service (Davis, 1989; Bhattacharjee, 2001). After the initial phase of adoption to an online service the user enters the post-adoption ‘decision phase’ (Bhattacharjee, 2001). Within this phase the user decides to ‘discontinue to use’ of the online service or ‘continue to use’ the online service. The first choice, also referred to as user discontinuance, user churn or user attrition, is the loss of users (Bolton, 1998; Bhattacharjee, 2001). The IS Continuance model of Bhattacharjee (2001) refers to the second choice as ‘user continuance’. Figure 1 provides a schematic overview of the phases and user decisions. There are substantive differences between user adoption and user continuance behaviours (Bhattacharjee, 2001; Kim and Son, 2009). User adoption behaviour is solely based on cognitive beliefs which are obtained through media, referrals by other users or expectations (Bhattacharjee, 2001). User continuance behaviour is grounded in a user’s satisfaction based on their first-hand experience with the online service. User adoption behaviour is based on expectation, which is often uncertain, while user continuance behaviour is grounded in experience, and is therefore more realistic (Bhattacharjee, 2001). User continuance behaviour is also dependent on the conformation of the initial expectations in the pre-adoption phase. In order to influence user continuance, online services should focus maximizing the user’s confirmation of their expectations which establishes satisfaction and stimulates the intention to continue to use the online service (Bhattacharjee, 2001). One’s intention to continue using the online service serves the foundation of creating a bond between the user and the online service (Mowday et al, 1982; Bhattacharjee, 2001). Bonds established between users and organisations are referred to as ‘user-to-organisation bonds’.

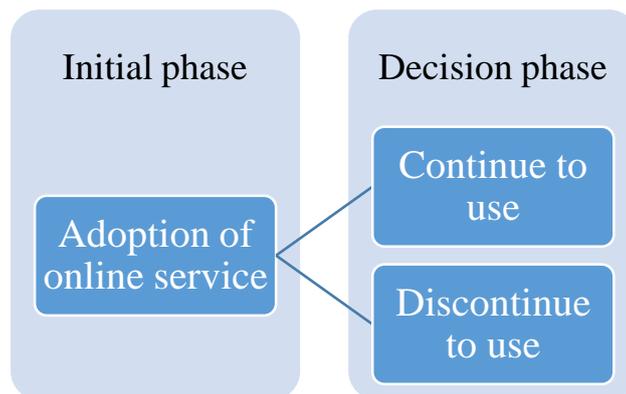


Figure 1: Adoption and post-adoption ‘decision phase’, a user passes through before bonding (based on Bhattacharjee, 2001)

User-to-organisation bonding depends on a user's attitude and behaviour towards the organisation (Mowday et al, 1982; Rusbult and Buunk, 1993). Attitude is rooted in the psychological processes of the user and focuses on the consideration of the extent to which the values and goals of the organisation are congruent with those of the user (Mowday et al, 1982, p.26). Behaviour relates to behavioural processes by which individuals exhibit repeat behaviour towards the organisation, without consideration whether or not their values and goals are congruent to those of the organisation (Mowday et al, 1982; Allen and Meyer, 1991). To create a bond between user and organisation/online service, online service providers should focus on influencing user attitude, behaviour or both. Common bond theory establishes user bonds by influencing both.

Common bond theory

Common bond theory originates from research on group dynamics within social psychology (Prentice et al, 1994; Sassenberg, 2002; Ren et al, 2007). The theory explains the attachment of an individual to a larger group of individuals. User attachment to the other members within the group is primary and group attachment follows from it (Prentice et al, 1994; Ren et al, 2007; Ren et al, 2012). In other words, user bond to other members and form user-to-user bonds, which facilitate the creation of user-to-organisation bonds to the overall group (Prentice et al, 1994; Ren et al, 2012) The distinction between user-to-online service relationships and users-to-user relationships refers to the actors within these relationships. User-to-user relationship focus on creating a bond between two or more natural persons (the users), while user-to-online service relationships focus on creating a bond between one or more natural persons (the users) and one or more non-natural instances (the online services). The focus in the latter type of relationships is on the user, as the user (as natural person) is the one that is able to decide to bond with the non-natural instance.

Ren et al (2007) carried out an extensive literature review on common bond theory in the context of online groups and communities. They found that within an online environment user bonding to the online community is also achieved through user-to-user bonds, the same as in an offline environment (Ren et al, 2007). Bonds between users and the online community are strengthened through the factors; Social interaction, Personal information and Interpersonal similarity. Social interaction refers to the frequency of interaction, which increases familiarity and liking among members. This provides opportunities for building social connections and trust (Ren et al, 2007). Social connection and trust in turn enhance user bonds. Through the exchange of personal information about the self, trust and social interaction are further enhanced. The exchange of personal information is both a cause and consequence of strong interpersonal bonds (Ren et al, 2007). This exchange also allows for identification of interpersonal similarity. It is known that individuals are more likely to work or interact with others who are similar to them in preferences, attitudes and values. Revealing these types of similarities between users, stimulates the creation of user-to-user bonds and therefore positively influences user-to-organisation bonds (Ren et al, 2007).

The design of an online community influences the establishment of user bonding through common bond theory (Ren et al, 2007). Design issues such as community size, the number of subgroups and policies regarding off-topic discussions and core membership should be managed in order to match the three factors that increase online bonding (Ren et al, 2007). Establishing a correct fit between community design and these factors leads to user bonding and user continuance behaviour with the online community. However, if the design of this type

of online service does not fit with the factors it is difficult to establish user-to-organisation bonding (Ren et al, 2007). This shows the importance of aligning the online service with the

Ren et al (2007) stress the need for more theoretical development for online bonding scaled to the larger context of online services. We suspect that in the larger context user bonding is more likely to occur directly user-to-organisation, instead via user-to-user bonds as within online communities.

User-to-organisation relationship theories and their bonding mechanisms

As described before, user-to-organisation bonding is dependent on a user's attitude and behaviour. Following the tradition of influencing user attitude (Mowday, 1982), researchers stress the importance of a user's desire as determinant of relationship continuance (Allen and Meyer, 1991; Bendapudi and Berry, 1997; Ren et al, 2007; Kim and Son, 2009). Social exchange theory states that user desire is triggered via perceived larger rewards and/or value of the user-to-organisation relationship than the investments the user has made for that relationship (Bhattacharjee, 2001; Wulf and Odekerken-Schröder, 2001; Kim and Son, 2009). Value adding factors increase perceived user value and stimulate user's desire to bond with the online service (Kim and Son, 2009). Research has shown that value adding factors for user attitude are dependent on a user's personal characteristics, the organisational structure of the online service provider and the information system of the online service (Meyer and Allen, 1991; Bendapudi and Berry, 1997; DeLone and McLean, 2003; Ren et al, 2007; Kim and Son, 2009).

Personal characteristics, such as the demographic characteristics (e.g. age, gender and education) and personal dispositions (e.g. innovativity, avoidance of conflict and self-disclosure) are difficult for an online service provider to influence (Meyer and Allen, 1991). To stimulate user bonding, online service providers should focus on creating compatibility between the personal characteristics and the services offered by the online service, rather than trying to influence the user's personal characteristics (Meyer and Allen, 1991). By providing services tailored to the user's desire, online service providers create perceived usefulness for their users. This in turn stimulates the user's dedication and affection towards the online service (Meyer and Allen, 1991; Kim and Son, 2009). Customer segmentation to aid the online service provider in discovering the desires of each customer group is important (Kim and Son, 2009). For instance, experienced users react differently to online services than inexperienced users. Inexperienced users perceive value through easy-to-use websites, with limited options, while experienced users rather have the full range of options available to them even if that means that the website is not as easy-to-use (Reichheld, 2002; Kim and Son, 2009)

Stimulating a user's dedication towards the online service, by providing the right set of services, results in positive word of mouth (Reichheld, 2002). As mentioned, user attraction is affected by positive and negative references of other users (Bhattacharjee, 2001). Therefore positive word of mouth is likely to result in new users (Reichheld, 2002). Additionally, referrals spread faster through the Internet than via traditional media. This makes positive word-of-mouth an effective means to increase the number of users and thus the revenues and profits of the online service providers (Reichheld et al, 2000; Kim and Son, 2009).

The organisational structure and procedures of an online service provider also affects user bonding (Meyer and Allen, 1991). Decentralized decision making empowers users and stimulates user choice. This enhances the perception of control, which is a factor that stimulates online user bonding (O'Driscoll, 1987; Brooke et al, 1988; Meyer and Allen, 1991). The

organisational structure and procedures can also be designed to correspond to the values and goals of the targeted users (Ren et al, 2007). Common identity theory stimulates user-to-organisation bonding by establishing a common set of values and goals the targeted users relate to (Sassenberg, 2002; Ren et al, 2007; Ren et al, 2012). Within this theory ‘social categorization’ and ‘in-group interdependence’ are known factors that enhance the user-to-organisation bond. Social categorization focuses on creating a common identity by defining a group of users as members of the same social category. This creates a sense of belonging to that group and the online service (Ren et al, 2007). For instance, within health support groups, users are often categorized based on common experiences with a certain illness. These common identities enhance the user’s feeling of connectedness to the other users and the online service (Amichai-Hamburger, 2005; Ren et al, 2007). In-group interdependence follows from cooperative interdependence of several users based on a joint tasks or common purpose. Wikipedia for example, is such an online community that thrives on establishing in-group interdependence. Each cooperating user of Wikipedia feels connected and willing to bond through the common purpose of the online encyclopaedia (Ren et al, 2007). Additionally, social pressure within the groups, following from social categorization and in-group interdependence also enhances user bonding. By establishing a continuous feeling of commitment to stay, through the need to or obligation to the other users, users maintain the relationship with an online service even when these individuals feel dissatisfied (Meyer and Allen, 1991). Although this type of user bonding enhances a negative perception of the relationship, social pressure strengthens the bond users feel towards an online service more than it decreases it (Meyer and Allen, 1991; Rusbult and Buunk, 1993; Bendapudi and Berry, 1997).

Information system’s quality is another determinant of user value adding factors online services (DeLone and McLean, 2003). Information system quality consists of the quality of information provided by the online service, the quality of the system and the quality of the service provided by the online service provider. High quality information systems provide user value based on one or more of these quality dimensions. Via these types of user value the bond between users and online services strengthens (DeLone and McLean, 2003; Kim and Son, 2009).

In contrast to theories on user attraction, theories on user behaviour in the context of user-to-organisation relationships focus on promoting repeat user behaviour (Mowday et al, 1982; Rusbult and Buunk, 1993; Bendapudi and Berry, 1997; Kim and Son, 2009). Repeat usage is central to the competitive survival of many online services, such as online retailers, banks, travel agencies, and the like (Bhattacharjee, 2001; Gustaffson et al, 2005). Research has shown that repeated use of an online service leads to an increase in the likelihood to re-use the online service (Reibstein, 2002; Kim and Son, 2009). Additionally, repeated use increases familiarity, which in turn increases the average amount of items purchased per order (for online commerce services) (Reibstein, 2002). This suggest the direct financial advantage of user repeat behaviour. Furthermore, increased repeated use lowers user attrition, and thus bonds users directly to the online service (e.g. Reichheld and Sasser, 1990; Meyer and Allen, 1991; Schlesinger and Heskett, 1991; Reichheld, 1993; Kalwani and Narayandas, 1995; Holm et al, 1999; Morgan and Hunt, 1999; Garbarino and Johson, 1999; Reibstein, 2002).

User behaviour is directly affected by mechanisms that constrain user behaviour, such as switching costs or economic benefits (Meyer and Allen, 1991; Rusbult and Buunk, 1993; Bendapudi and Berry, 1997; Kim and Son, 2009). By imposing costs (switching costs), loss of investment (e.g. time, money, learning etc.) or loss of relational benefits, such as loyalty

discounts these mechanisms constrain users from switching to other online services (Meyer and Allen, 1991; Rusbult and Buunk, 1993; Bendapudi and Berry, 1997; Kim and Son, 2009). Moreover, high user switching costs positively influence a user's inattentiveness to alternatives and increase a user's willingness to pay (Kim and Son, 2009). This increases the financial performance of an online service and lowers user search behaviour for alternatives. Investment theory suggests that if users believe they have poor quality of alternatives, they feel more bonded with an online service, because they lack suitable alternatives (Rusbult and Buunk, 1993; Kim and Son, 2009).

Low user switching costs have a negative impact on user bonding. Low user switching costs increases the perceived quality of alternatives. High perceived quality of alternatives stimulates user switching behaviour. When the user's level of skill and experience with the internet increases, search costs are lowered. Due to the lower search costs users are more willingly to explore alternatives and switch if they find a better alternative (Rusbult and Buunk, 1993; Kim and Son, 2009). This type of switching behaviour can be opposed by increasing user investments in the relationship.

Other determinants of user switching behaviour through constraining the user are the investments a user made during the relationship with the online service provider. These investments (both monetary and non-monetary) lock the user in the relationship (Kim and Son, 2009). They prevent user switching behaviour, as users lose their investment(s) when switching to other online service providers (Meyer and Allen, 1991; Rusbult and Buunk, 1993). Examples of these investments include sunk costs, learning time or loyalty program advantages (Rusbult and Buunk, 1993). If the value a user gains by switching to another service provider is lower than the value of the investments lost by terminating the current bond to the online service provider, users will stay in the relationship, even if they are not fully satisfied (Rusbult and Buunk, 1993)

A schematic summary of common bond theory, the user-to-organisation bonding theories and frameworks and their bonding mechanisms is provided in table 1.

Author	Year	Theory	Bonding mechanisms	Explanation (bonding through attitude or behaviour)
Meyer and Allen	1991	Commitment Theory	Affective commitment	Users bond with an organisation because they want to (Attitude).
			Continuance commitment	Users bond with an organisation because they feel they need to (Attitude).
			Normative commitment	Users bond with an organisation because they feel obliged to (Attitude).
Rusbult and Buunk	1993	Investment Theory	Investments	Users bond with an organisation because of all the investments (time, money, knowledge etc.) they have put in the relationship with that organisation (Behaviour).
			Poor quality of alternatives	Users bond with an organisation because there is no suitable alternative to the relationship (Behaviour).
Bendapudi and Berry	1997	Dedication vs. Constrained based theory	Dedication based	Users bond with an organisation because they want to (Attitude).
			Constrained based	Users bond with an organisation because they have to (Behaviour).
DeLone and McLean	2003	IS Success model	Information quality	Users bond with an online service because it offers personalized, complete, relevant, easy to understand and/or secure information.
			System quality	Users bond with an online service because it fulfils their desired characteristics, such as usability availability, reliability, adaptability and download time.
			Service quality	Users bond with an online service because of the high service quality, with regard to assurance, empathy and responsiveness of the online service provider.
Ren et al.	2007	Common bond theory	Common bond	Users bond with an online community because they like the other individuals within the online community (Attitude).
		Common identity theory	Common identity	Users bond with an online community because they like the groups within that online community or the online community as a whole (Attitude).
Kim and Son	2009	Online Dedication vs. Constrained based theory	Dedication based	Users bond with an online service because they genuinely want to (Attitude).
			Constrained based	Users bond with an online service because they are locked in via economic, social or psychological investments (Behaviour).

Table 1: Overview of user-to-organisation bonding theories

3. Methodology

This Master Thesis applies the Grounded Theory Literature Review Method (GTLRM) (Wolfswinkel et al, 2013) for reviewing the literature on online user bonding. The GTLRM integrates qualitative research principles from grounded theory (see Strauss and Corbin, 1990, 1998) and provides a staged guideline for conducting literature reviews. This methodology allows for systematic investigation of online user bonding. Through the structured nature of the GTLRM this Master Thesis contributes to the structured body of knowledge on user behaviour in post-adoption research (Kim and Son, 2009).

The GTLRM is designed as a five-stage iterative process. The stages are; (1) ‘Define’, (2) ‘Search’, (3) ‘Select’, (4) ‘Analyse’ and (5) ‘Present’ (Wolfswinkel et al, 2013). Table 2 provides a schematic overview of the stages.

<i>Stage</i>	<i>Task</i>
<i>1. Define</i>	
<i>1.1</i>	Define the criteria for inclusion/exclusion
<i>1.2</i>	Identify the fields of research
<i>1.3</i>	Determine the appropriate sources
<i>1.4</i>	Decide on the specific search terms
<i>2. Search</i>	
<i>2.1</i>	Search
<i>3. Select</i>	
<i>3.1</i>	Refine the sample
<i>4. Analyse</i>	
<i>4.1</i>	Open coding
<i>4.2</i>	Axial coding
<i>4.3</i>	Selective coding
<i>5. Present</i>	
<i>5.1</i>	Refinement and structure the content
<i>5.2</i>	Structure the article

Table 2: Five-stage Grounded Theory Literature Review Method by Wolfswinkel et al. (2013)

Stage 1: Define

The first stage is designed to systematically set the scope of the study. A clear definition of the boundaries of the scope (what is in, and what is out of scope) allows for optimization in the selection of literature. This enhances the quality of literature of the investigation (Wolfswinkel et al, 2013, p. 48).

The scope of the literature review is set to include user bonding in the context of online services and exclude user bonding in other contexts. For further optimization of the quality of literature this Master Thesis only includes peer-reviewed journal articles (Hart, 1998). The fields of research are set to include social sciences (e.g. psychology, marketing, business) and Information Systems. The sources for the literature review are academic databases ISI Web of Science and Scopus.

The search terms are selected with a specific focus on online user bonding. Each search term is paired with user, consumer, customer or client. User, client, consumer, and customer are all synonyms to an individual that has a relationship with an online service. Additionally, wildcard tokens are used when possible. Wildcard tokens are marked with an asterisk and allow for searching for synonyms without specifically specifying these synonyms. An overview of the set of search terms is provided in table 3.

Bonding	Online user bond* mechanism	Online consumer bond* strateg*	Online customer stickiness
Online bond*	Bond* with e-services	Online client bond* strateg*	Online customer relationship
Online customer bond*	Bond* with online services	Online user bond* strateg*	Online service bond* strateg*
Online consumer bond*	Online bond* mechanism	Customer bond* strateg*	Customer bond* instruments
Online client bond*	Customer bond* mechanism	Consumer bond* strateg*	Bond* mechanism
Online user bond*	User bond* mechanism	Online customer lock in	Antecedents of lock in
Online customer bond* mechanism	Online bond* strateg*	Online consumer lock in	e-bond* strateg*
Online consumer bond* mechanism	e-service bond strateg*	Online client lock in	Online customer relationship
Online client bond* mechanism	Online customer bond* strateg*	Online user lock in	Online brand commitment

Table 3: Overview of the set of search terms for the literature sample

Stage 2: Search

The second stage of the GTLRM involves the search for literature. It focuses on searching through the selected databases until the search is saturated and no new articles come up (Wolfswinkel et al, 2013). The search conducted in ISI Web of Knowledge and Scopus has an iterative nature, due to the fact that during the search new search terms appeared. For instance, while browsing the article titles that appeared as a result of searching for ‘online bond*’, the two search terms ‘antecedents of online bond*’ and ‘online brand commitment’ appeared. These were included in the set of search terms and the process of stage 2 was repeated. Each individual search was documented. We noted the date of the search, search terms used, fields of research, types of outlets, total number of studies that emerged and the total number of relevant texts, based on reading the article title. If the article was deemed as ‘relevant’, the name of the authors, the title of the article, the year of publishing, the journal in which it was published and the impact factor of that journal were documented. This documentation enabled us to keep track of the choices made during the search stage.

Stage 3: Select

The third stage is about refining the sample of literature and selecting final articles for the review. The selection process is started by filtering out doubles and followed by refining the sample based on title and abstract of the papers, refining sample based on the full text and conducting forward and backward citations (Wolfswinkel et al, 2013). If new articles come up during the selecting process, the above selection process was repeated in an iterative fashion. If new search terms or scope adjustments are to be executed, we had to go back to stages 1 or 2. This meant revising the results and conducting another iteration on the selection process (stage 3). The selection stage is finished when theoretical saturation is achieved, meaning no new relevant articles and search terms appear and the data is exhausted (Strauss and Corbin, 1990; Strauss and Corbin, 1998). For the sake of transparency, the selection process is described below.

After filtering out double articles, the initial sample size consisted of 115 peer reviewed journal articles. While reading the titles and abstracts of the articles nine more relevant search terms emerged ('online customer relationship*', 'B2C online relationship*', 'online service bond* strateg*', 'customer bond* instruments', 'bond* mechanism*', 'antecedents of lock in' and 'e-bond* strateg*'). This meant conducting another search in the selected databases. During this search, an additional search term appeared, namely 'online customer retention'. The search results on 'online customer retention' led to two more identified search terms, namely 'lock in' and 'stickiness'. The final search on the search term 'stickiness' yielded no new relevant articles or search terms, and therefore reached theoretical saturation.

This led to a sample size of 131 different articles. To further enhance the quality of the literature sample articles originated from journals with an impact factor of 0.9 or less were eliminated from scope. Based on this criteria 75 articles were eliminated. This led to a final sample size consisting of $(131 - 75 =) 56$ relevant articles. These articles are provided in Appendix A.

Stage 4: Analyse

In stage four Grounded Theory influences become most apparent (Wolfswinkel et al, 2013). Wolfswinkel et al (2013) use the grounded theory principles of Strauss and Corbin (1990) to guide the researcher through the process of analysing the stack of literature. They suggest starting by randomly picking an article and start reading. However, to be able to gain insights in the development of online user bonding literature over time the articles were read in chronological manner (old to new) instead of randomly.

Grounded theory coding procedures consist of three types 'open coding', 'axial coding' and 'selective coding' (Strauss and Corbin, 1990; Straus and Corbin, 1998; Wolfswinkel et al, 2013). Open coding constitutes the first abstraction step of the raw literature. Open coding is the process of identifying excerpts, codes, concepts and categories (Strauss and Corbin, 1990, Straus and Corbin, 1998).

The first step included to highlighted all sections of text that seem relevant to the scope and research question. These highlighted sections are referred to as 'exerpts' (Strauss and Corbin, 1990; Wolfswinkel et al, 2013). Based on the excerpts, codes were identified. Codes are higher-order conceptualization of excerpts and capture the overarching notion of the excerpts. These codes in turn, exposed a number of concepts. Concepts are the abstraction of codes and can emerge from different types of codes. After the identification of concepts, a number of

categories based on these concepts emerged. Categories are groups of concepts, and the higher-order conceptualization of concepts. Categories can encompass sub-categories, which are based on concepts (Wolfswinkel et al, 2013). Each code, concept and category was individually noted in a notebook. This allows for tracking the decisions made during the analyse stage.

After identifying a stack of excerpts, codes, concepts and categories, axial coding procedures were carried out. Axial coding processes are designed to identify interrelations between concepts, categories and subcategories (Strauss and Corbin, 1990; Strauss and Corbin, 1998). Interrelations emerged from axial coding can put emphasis on new excerpts, which lead new codes, concepts and so on. It is important to notice that grounded theory coding procedures do not happen in a linear fashion, but rather in a simultaneous and iterative fashion (Strauss and Corbin, 1990; Strauss and Corbin, 1998; Wolfswinkel et al, 2013).

After numerous iterations a set of highest order categories emerged. These categories were mutually exclusive and are referred to as main categories. Main categories (in grounded theory terms) directly affect the research topic or one or more research questions (Wolfswinkel et al, 2013). Through selective coding procedures (the process of identifying and developing relations between the main categories) the differences and similarities of main categories were identified (Strauss and Corbin, 1990; Strauss and Corbin, 1998). The main categories form the foundation for the conceptualization of online user bonding.

For the sake of clarity the grounded theory coding procedures were extended with color-coding procedures. The colours each adhered to a number of important concepts, and were used to provide a more transparent overview of the concepts. Color-coded excerpts, codes, concepts, categories and subcategories were used to support the axial and selective coding procedures

The analysis of the literature with the lens of the second research question was conducted in a similar manner. However, this process had the advantage of prior knowledge of the conceptualization of online user bonding. This prior knowledge provided to be an advantage during the analyse phase and allowed for a more systematic search for excerpts, codes and categories.

Stage 5: Present

The focus of the final stage of the GTLRM is on logically structuring and representing the content of the literature review (Wolfswinkel et al, 2013). The structure of the Master Thesis was provided in the introduction. By providing graphical representations for the finding the clarity of the sample results is enhanced (Alvi and Leidner, 2001). These graphical overviews are provided in the following findings section.

4. How can user bonding for online services be conceptualized?

Development of user bonding literature

During the last two decades an increasing number of studies was published regarding online user bonding. Figure 2 provides an overview of the ratio between the amount of studies published and the year of publishing. Despite the increase in amount, the results of the literature review show that the concept ‘online user bonding’ has scarcely been developed. Recent literature continues to use offline user-to-organisation relationship theories in an online user bonding context, without consensus on the reason why (e.g. Bateman et al, 2011; Beatty et al, 2012). These results indicate that to date, within a carefully constructed literature sample on online user bonding, the literature still lacks a clear definition and conceptualization

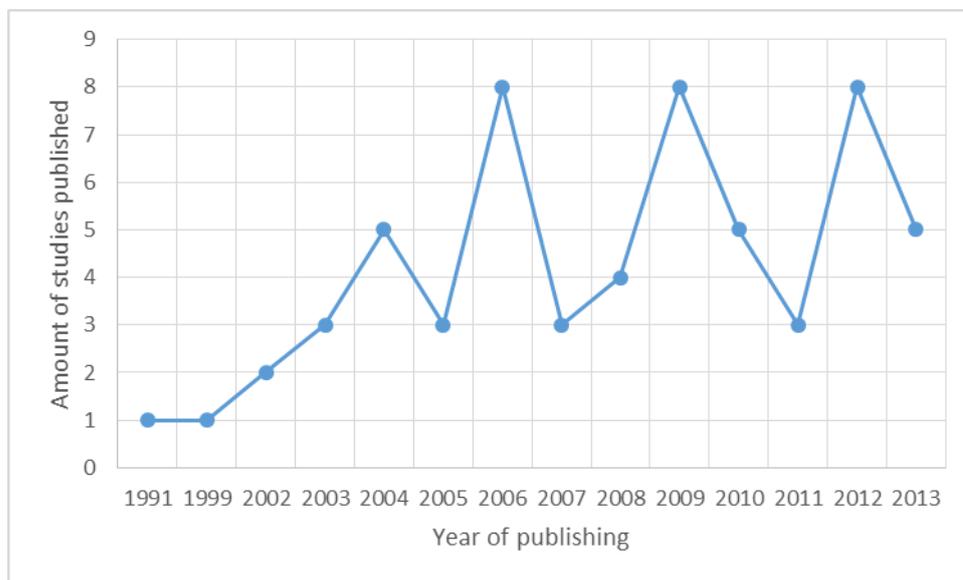


Figure 2: Amount of articles published per year of publishing

Within the scope of the research (which consisted of the research fields social sciences and information systems) online user bonding is most often addressed in journals within the research fields ‘business’ and ‘information systems’. The journals ‘service industries journal’, ‘journal of retailing’, ‘journal of management information systems’, ‘journal of electronic commerce research’, ‘journal of business research’ and ‘computers in human behavior’ to date have published the most studies regarding online user bonding. Despite that researchers referred to the bonding of users in an online environment as the key to survival for online services (e.g. Bhattacharjee, 2001; Reibstein, 2002; Toufaily et al, 2013), scarce research has been conducted on this particular topic within journals with an impact factor of 1.0 or higher situated in the social sciences and information systems research fields. The total number of studies included within the literature sample is 56. These studies have been published in a two decade timeframe, allocated in 29 different journals. This leads to an average publishing on the topic of online user bonding of one an article per decade per journal. Figure 3 provides an overview on the amount of studies published per journal within the sample. This chart provides insights in the journals most interested in the topic of online user bonding.

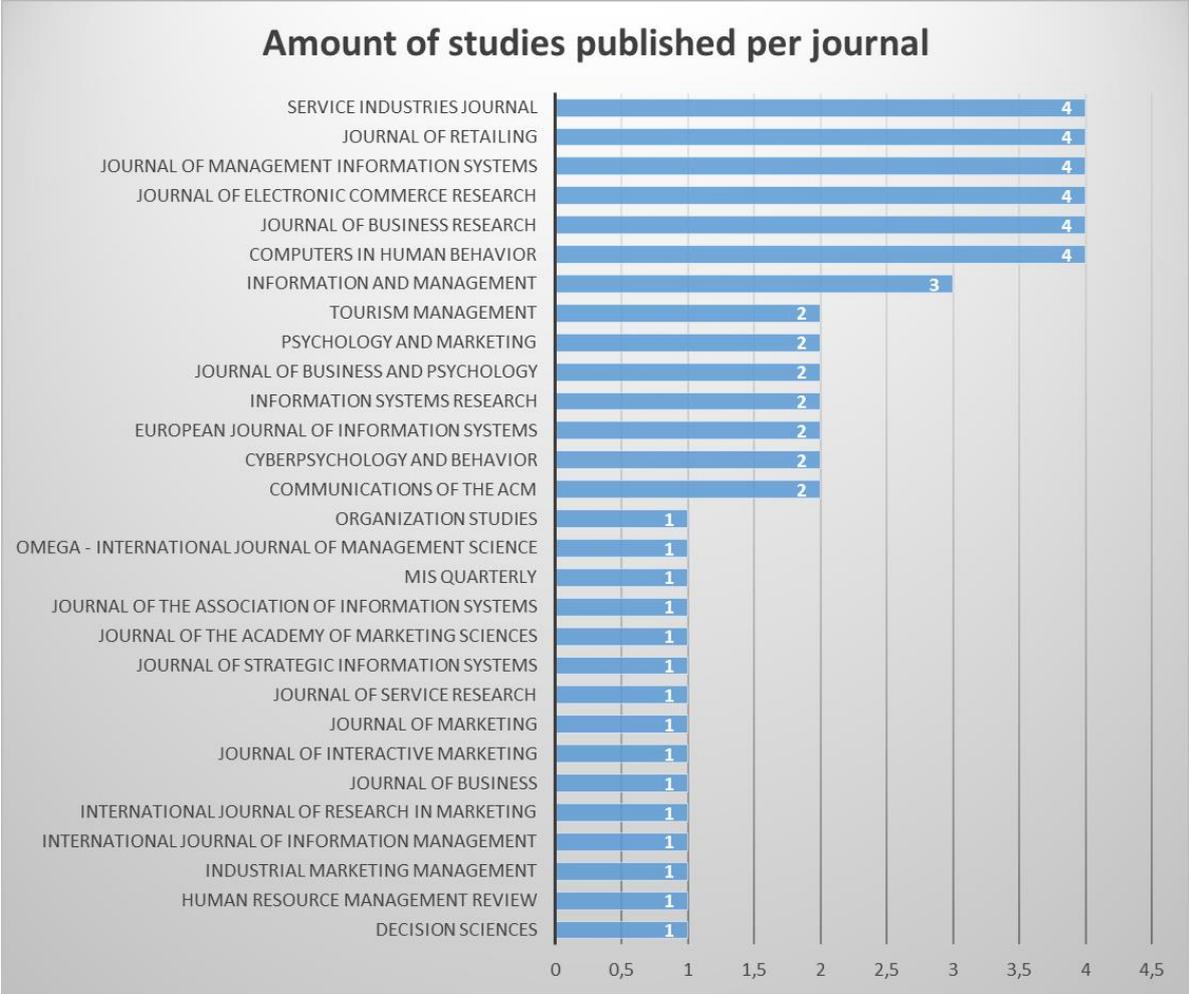


Figure 3: Online user bonding within the academic literature. An overview of the amount of articles published regarding online user bonding arranged per journal

Conceptualization of online user bonding

The search terms used to select the literature for this literature review were specifically selected with a focus on the concept of ‘online user bonding’. Despite this focus and the structured search and selection process of the literature sample, not one of the 56 studies in the final sample exclusively focused on the bonding concept.

Nevertheless, all 56 articles categorize their main research topic as being a form of bonding or their main research topic adheres to the user-to-organisation relationship theories mentioned in the theoretical framework. This distribution in the results indicate the lack of consensus on the concept of online user bonding. Table 3 provides an overview of the studies that categorize their main research topic as being a form of bonding and studies of which the main research topic adheres to the establishment and strengthening of relationships between users and online services.

Studies that categorize their main research topic as being a form of bonding	15 studies	Meyer and Allen, 1991; Oliver, 1999; Reibstein, 2002; Gefen and Straub, 2004; Kohli et al, 2004; Hsieh et al, 2005; Jolley et al, 2006; Khalifa and Liu, 2007; Liang et al, 2008; Cater and Zabkar, 2009; Koo and Ju, 2010; Bateman et al, 2011; Castaneda, 2011; Beatty et al, 2012; Trepte et al, 2012
Studies of which the main research topic adheres to the establishment and strengthening of relationships between users and online services.	31 studies	Pavlou, 2002; Gefen et al, 2003; Lin et al, 2003; Shankar et al, 2003; Harris and Goode, 2004; Kotha et al, 2004; Vatanasombut et al, 2004; Amichai-Hamburger, 2005; Chellappa and Kumar, 2005; Cho, 2006; Kim and Eng, 2006; Lewis, 2006; Li et al, 2006; Mithas et al, 2007; Otim and Grover, 2006; Ho and Lee, 2006; Ren et al, 2007; Tsai and Huang, 2007; Chang, 2008; Cyr, 2007; Vatanasombut et al, 2008; Al-Natour and Benbasat, 2009; Chiou and Pan, 2009; Dabholkar et al, 2009; Kim and Niehm, 2009; Fuentes-Blasco et al, 2010; Hernández et al, 2010; Lin et al, 2010; Sun, 2010; Zhang et al, 2011; Chang and Zhu, 2012; Lee and Kozar, 2012; Li et al, 2010; Ray et al, 2012; Cheng, 2013; Cheng and Huang, 2013; Jolley et al, 2013; Nusair et al, 2013; Toufaily et al, 2013

Table 4: Overview of the studies in the sample that (1) categorize their main research topic as being a form of bonding or (2) of which the main research topic adheres to the user-to-organisation relationship theories. This overview indicates the lack of consensus on the concept of online user bonding.

User-to-organisation bonding relationships are dependent on the attitude and behaviour of a user (Mowday et al, 1982; Allen and Meyer, 1991; Rusbult and Buunk, 1993). Despite the absence of a specific user bonding definition, four main categories emerged from the literature. These main categories all focused on the attitude and/or behavioural processes of users. These categories emerged as *User Intention*, *User Commitment*, *User Retention* and *User Loyalty*. The results show that each of the categories is in fact a form of online user bonding. The categories all cover bonding processes established by a user to form a relationship between that user and an online service (Meyer and Allen, 1991; Oliver, 1999; Reibstein, 2002; Gefen and Straub, 2004; Kohli et al, 2004; Hsieh et al, 2005; Jolley et al, 2006; Khalifa and Liu, 2007; Liang et al, 2008; Cater and Zabkar, 2009; Koo and Ju, 2010; Bateman et al, 2011; Castaneda, 2011; Beatty et al, 2012; Trepte et al, 2012).

User Intention is *'a behavioural intention of a user to re-use an online service'*, User Commitment is *'a psychological process of a user, in which a user desires to continue his/her relationship with an online service'*, User Retention is *'the continuous behavioural process of a user while re-using an online service'* and User Loyalty is *'the combination of a psychological process in which a user desires to continue his/her relationship with an online service, and behavioural action of a user to re-use the online service again, while resisting factors that might pull the user away from the online service'*. The conceptualization process of these four user bonding processes is addressed in detail in the next sub-chapters.

The definition of online user bonding is condensed using selective coding procedures on the identified definitions of the online user bonding processes (User Intention, User Commitment, User Retention and User Loyalty). The application of this type of grounded theory procedures ensures a systematic and transparent approach of letting the 'literature speak for itself' (Wolfswinkel et al, 2013). The grounded theory procedures ensure that the definition of online user bonding emerges from the literature sample. The conceptualization process of the definition of online user bonding is as follows;

Concepts of the conceptualization of user bonding were identified through axial coding within the definitions of the user bonding processes. The conceptualization of online user bonding consists of two main concepts. These concepts are 'a process' and 'engaging in a relationship with an online service'.

The concept 'a process' was condensed using open coding on the identified codes 'behavioural intention' (originating from User Intention); 'psychological process' (originating from User Commitment and User Loyalty) and 'behavioural action' (originating from User Retention and User Loyalty). These codes each describe a process in which the user engages, whether this is behavioural or psychological or a combination of both. Therefore these codes are conceptualized as being 'a process'.

The other concept 'engaging in a relationship with an online service' is based on the codes 'intention to re-use the online service again' (originating from User Intention), 'continue his/her relationship with an online service' (originating from User Commitment and User Loyalty), 'continuous behavioural action while re-using an online service' (originating from User Retention and User Loyalty). The overarching notion of these codes is the active engagement of the user in a relationship with an online service. This is achieved through continuous behavioural action or psychological desire. Therefore these codes are conceptualized as 'engaging in a relationship with an online service'.

Next axial coding procedures are used to identify the relationship between the identified concepts. The concepts 'a process' and 'engaging in a relationship with an online service' are conceptualized as 'processes that stimulate the engagement in a relationship with an online service'. Using selective coding procedures to combine this conceptualization with more nuance on the scope and aim of the literature leads to the following definition of online user bonding. Online user bonding is *'a user's psychological and/or behavioural process that stimulates active engagement of the user in any relationship with an online service'*

Therefore, the answer to the first research question '*How can user bonding for online services be conceptualized?*' is as follows;

Online user bonding is conceptualized as different processes (behavioural and/or psychological) that stimulate the user into engaging in any relationship with an online service. Online user bonding is defined as: 'a users' psychological and/or behavioural process that stimulates active engagement of the user in any relationship with an online service'

To provide more clarity on the findings of the first research question and the interrelations between online user bonding and the four online user bonding processes, this Master Thesis presents the 'online user bonding continuum' framework. The online user bonding continuum represents the relationships between a users' behavioural and/or psychological bonding processes and the four identified online user bonding processes. This framework is presented in figure 4.

Research has shown that user-to-online service bonding is caused by a user's psychological (attitude) and/or behavioural processes (Mowday et al, 1982; Allen and Meyer, 1991; Rusbult and Buunk, 1993). These processes establish psychological bonds and/or behavioural bonds between the user and the online service. These bonds form the two ends of the online user bonding continuum. Online user bonding is the overarching notion of these bonds and thus encompasses both psychological and behavioural bonding. Online user bonding is represented in figure 4 as the rectangular area surrounding the bonding processes.

The definitions of the four user bonding processes show a distinction in the processes these processes originate from. User Commitment finds its origin in a user's attitude, and thus psychological process. User Intention and Retention are situated in a user's behavioural processes, without consideration of the values and/or goals of this user. Finally, for the establishment of User Loyalty, both a users' psychological process and behavioural process are required (e.g. Meyer and Allen, 1991; Oliver, 1999; Pavlou, 2002; Reibstein, 2002; Lin et al, 2003; Kohli et al, 2004; Kotha et al, 2004; Vatanasombut et al, 2004; Amichai-Hamburger, 2005; Chellappa and Kumar, 2005; Hsieh et al, 2005; Cho, 2006; Vatanasombut et al, 2008; Catar and Zabkar, 2009; Sun, 2010; Bateman et al, 2011; Beatty et al, 2012, Ray et al, 2012; Lee and Kozar, 2012; Cheng, 2013; Nusair et al, 2013; Toufaily et al, 2013).

These conceptualizations position User Commitment at the end of the psychological bonding processes, User Intention and User Retention at the end of the behavioural bonding processes and User Loyalty in between the psychological and behavioural bonding processes. Future research could focus on identifying additional user bonding processes distributed on this user bonding continuum.

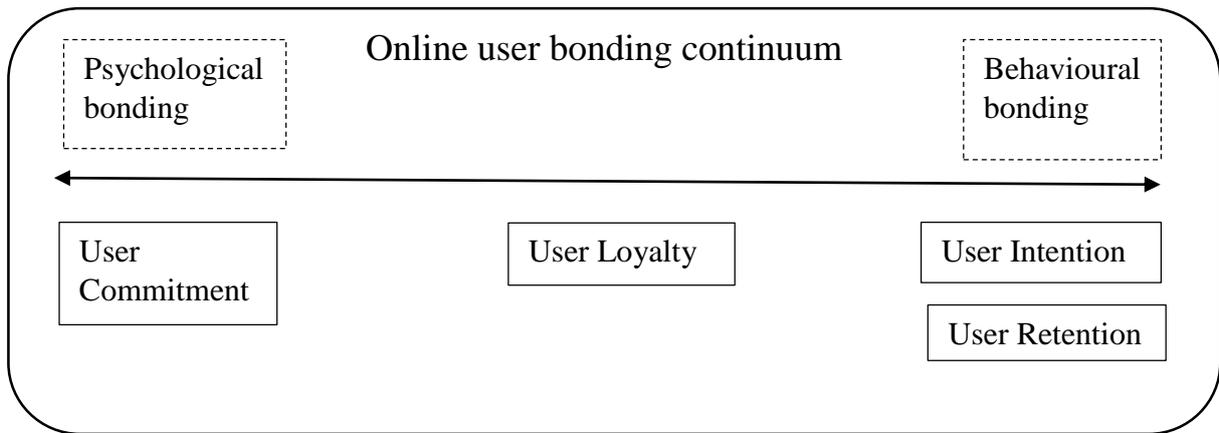


Figure 4: Online User Bonding continuum and the continuum between psychological bonding processes and behavioural bonding processes

Conceptualization of the different user bonding processes

This section addresses the conceptualization processes of the four user bonding processes. The aim of this section is to provide transparency and insights in the use of the grounded theory coding procedures within this literature review as described in the Grounded Theory Literature Review Method (Wolfswinkel et al, 2013).

Within the literature sample twenty-one studies focus on ‘User *Intention* for online services’, ten studies focus on ‘User *Commitment* for online services’, seventeen studies focus on ‘User *Retention* for online services’ and sixteen studies focus on ‘User *Loyalty* for online services’. Table 5 provides an overview of the studies in the literature sample categorized by their main concept of research.

User bonding process	Amount of Studies	Studies
User Intention	21	Gefen et al, (2003); Gefen and Straub (2004); Kotha et al (2004); Lewis (2006); Li et al (2006); Mithas et al (2007); Khalifa and Liu (2007); Tsai and Huang (2007); Liang et al (2008) Vatanasombut et al (2008); Al-Natour and Benbasat (2009); Dabholkar et al (2009); Hernández et al (2010); Koo and Ju (2010); Lin et al (2010); Zhang et al (2011); Lu et al (2012); Shih (2012); Cheng (2013); Cheng and Huang (2013)
User Commitment	11	Meyer and Allen (1991); Lin et al (2003); Vatanasombut et al (2004); Amichai-Hamburger (2005); Hsieh et al (2005); Cho (2006); Vatanasombut et al (2008); Catar and Zabkar (2009); Sun (2010); Bateman et al (2011); Beatty et al (2012)
User Retention	17	Oliver (1999); Pavlou (2002); Reibstein (2002); Kohli et al (2004); Vatanasombut et al (2004); Hsieh et al (2005); chellappa and Kumar (2005); Jolley et al (2006); Otim and Grover (2006); chang (2008); Liang et al (2008); Lin et al (2010); Sun (2010); Chang and Zhu (2012); Trepte et al (2012); Zhang et al (2012); Jolley et al (2013)
User Loyalty	16	Oliver (1999); Shankar et al (2003); Harris and Goode (2004); Eng and Kim (2006); Ho and Lee (2006); Ren et al (2007); Cyr (2007); Liang et al, (2008); Chiou and Pan (2009); Kim and Niehm (2009); Fuentes-Blasco et al (2010); Castaneda (2011); Ray et al (2012); Lee and Kozar (2012); Nusair et al (2013); Toufaily et al (2013)

Table 5: Categorization of studies based on their main concept of research.

Bonding process of User Intention

The conceptualization process of User Intention starts with excerpting all sections of text, within the twenty-one identified studies that regard User Intention, that seemed relevant for the conceptualization of the definition of User Intention. After this identification of excerpts, the excerpts were coded and combined using open coding into codes. These codes were again combined using both axial and open coding procedures. This lead to one code regarding conceptualization of User Intention per study. The studies and the adhering codes regarding User Intention are represented in table 6 on the next page.

The main conceptualizations of User Intention are condensed as ‘behavioural intention’ and ‘to re-use’. The main concept re-use originated from the codes ‘re-purchase’ (Gefen et al, 2003; Gefen and Straub, 2004; Kotha et al, 2004; Khalifa and Liu, 2007; Liang et al, 2008; Dabholkar et al, 2009; Hernández et al, 2010; Zhang et la, 2011; Lu et al, 2012; Shih, 2012; Lee and Kozar, 2012; Cheng, 2013) and ‘re-use’ (Li et al, 2006; Vatanasombut et al, 2008; Al-Natour and Benbasat, 2009; Koo and Ju, 2010). Since re-use is an abstraction of re-purchase, and re-purchase was used in e-commerce articles, re-use is the corresponding term for online services in general. Therefore, the codes ‘re-purchase’ and ‘re-use’ are conceptualized as the main concept ‘re-use’.

The main concept ‘behavioural intention’ originated from the codes ‘positive expectation’ (Gefen et al, 2003; Gefen and Straub, 2004; Zhang et al, 2011), ‘willingness’ (Khalifa and Liu, 2007; Tsai and Huang, 2007; Al-Natour and Benbasat, 2009), ‘behavioural intention’ (Liang et al., 2008; Dabholkar et al, 2009; Hernández et al, 2010; Koo and Ju, 2010; Cheng and Huang, 2013; Cheng, 2013) and ‘attitude to intent’ (Vatanasombut et al, 2008; Lu et al, 2012; Shih, 2012; Lee and Kozar, 2012). These four codes each describe behavioural process without the consideration of a user’s values, (Mowday et al, 1982) in which a user is planning/intending to re-use an online service. Therefore these four codes are conceptualized as the concept ‘behavioural intention’. Combining this concept with the earlier mentioned concept ‘re-use’ leads to the condensation of the definition of User Intention. User Intention is defined as *a behavioural intention of a user to re-use an online service.*

Studies	Year	Codes from the literature regarding the definition of User Intention
Gefen et al.	2003	Positive expectation that a customer will purchase from/use the online service of a firm again in the future
Gefen and Straub	2004	Positive expectation that a customer will purchase from/use the online service of a firm again in the future
Kotha et al.	2004	Purchase intention is viewed as the possibility that a customer will repurchase from the same web site in the future
Lewis	2006	Shipping fees influence customers' intention to order from an internet vendor.
Li et al.	2006	Past experiences can influence future behaviour and thus intention to continue the use of a web site. Continuous use is defined as 'using a web site in an individual user's or consumer's normal activity or embedding the website within the individual's routine daily life" (p.428)
Mithas et al.	2007	Mithas et al. (2007) use customer referral likelihood to measure the likeliness a customer intends to refer an online service to other customers and the intention of a customer to re-use this service in the future
Khalifa and Liu	2007	Repurchase intention is a customer's willingness to purchase again from that particular web site.
Tsai and Huang	2007	Repurchase intention is a customer's willingness to purchase again from that particular web site.
Liang et al.	2008	Intention is defined as 'customers' behavioural intention to purchase the online service' (p. 775)
Vatanasombut et al.	2008	Vatanasombut et al. (2008) describe customer intentions as 'the attitude to remain with a bank' (p.422)
Al-Natour and Benbasat	2009	Intention refers to a consumers willingness to adopt or utilize an IT artefact (such as a website)
Dabholkar et al.	2009	Dabholkar et al. (2009) distinguish two types of intentions (1) buying intentions and (2) participation intentions – "intentions to engage in voluntary participation behaviors such as providing feedback" (p. 151)
Hernández et al.	2010	They distinguish two types of purchasing intention (1) the adoption of e-commerce, for potential e-customers and (2) repurchase or subsequent behaviour for experience e-customers (p.964)
Koo and Ju	2010	Koo and Ju (2010) examine the influence of atmospherics and emotions on behaviour. Intention is the behavioural attitude to reuse a given web site in the future
Lin et al.	2010	Intention is the attitude to repeat a purchase at a certain e-commerce retailer in the future.
Zhang et al.	2011	Repurchase intention is described as a customers' expectation that they will purchase again from the same web site in the future
Lu et al.	2012	Repurchase intention is described as the customers attitude to purchase from the same retailer in the future (p. 226). They incorporate coping as mediator to repurchase intention after a service failure.
Shih	2012	Shih (2012) views purchase intention as a consumers' attitude to purchase a given service/product from a B2C web Site
Lee and Kozar	2012	Intention is viewed as an outcome variable of a website. Intention seen as a positive attitude towards the website and the willingness to purchase from it again.
Cheng and Huang	2013	Intention indicates the probability of a person behaving in a certain way
Cheng	2013	Intention is defined as 'the current intention to repeat a purchase with the same service providers' (p. 37)

Table 6: Overview of the identified codes regarding User Intention by using open coding procedures

Bonding process of User Commitment

The conceptualization process of User Commitment, also started with the identification of codes based on the excerpts regarding the definition of User Commitment. Table 7 provides an overview of these codes. The conceptualization of User Commitment is based on the main concepts ‘psychological process’ and ‘continuing a relationship’.

The codes that form the foundation for the main concept ‘psychological process’ are ‘psychological state’ (Meyer and Allen, 1991; Beatty et al, 2012), ‘enduring desire’ (Lin et al, 2003; Amichai-Hamburger, 2005; Sun, 2010), ‘willingness’ (Cho, 2006) and ‘psychological bond’ (Bateman et al, 2011). ‘Desire’ and ‘willingness’ are examples of psychological processes (Mowday et al, 1982). Therefore these codes are conceptualized as ‘psychological processes’. Since ‘psychological state’ and ‘psychological bond’ are both forms of a psychological process, these two codes are also conceptualized as ‘psychological process’.

The concept ‘continuing a relationship’ originates from the codes ‘continuance commitment’(Meyer and Allen, 1991), ‘maintain a valued relationship’ (Lin et al, 2003; Vatanasombut et al, 2008; Sun, 2010), ‘long-term relationship’ (Cho, 2006), ‘stabilized behaviour’ (Bateman et al, 2011) ‘stay in a relationship’ (Beatty et al, 2012). The codes ‘continuance commitment’, ‘maintain a relationship’, ‘long-term relationship’ and ‘stay in a relationship’ all share a focus on continuing a relationship. The code ‘stabilized behaviour’ shows continuance of the same behaviour, which is continuing a relationship in the case of user commitment to an online service. These codes lead to the conceptualization of the concept ‘continuing a relationship’.

Through selective coding the two main concepts ‘continuing a relationship’ and ‘psychological process’ were coded into the definition of User Commitment. User Commitment is defined as *‘a psychological process of a user, in which a user desires to continue his/her relationship with an online service’*.

Studies	Year	Codes from the literature regarding the definition of User Commitment
Meyer and Allen	1991	“Commitment is a psychological state. It is made up from at least three different components reflecting (1) a desire (affective commitment, (2) a need (continuance commitment) and (3) an obligation (normative commitment)
Lin et al.	2003	Commitment is ‘an enduring desire to maintain a valued relationship’ (Lin et al, p.108)
Vatanasombut et al.	2004	Provide no specific definition of commitment
Amichai-Hamburger	2005	Provide no specific definition of commitment
Cho	2006	Commitment is measured as ‘the willingness to commit to a long-term relationship’
Vatanasombut et al.	2008	Vatanasombut et al. (2008) state that ‘relationship commitment assumes that a relationship is important and should be maintained’ (p.420)
Sun	2010	Commitment is ‘the enduring desire to maintain a valued relationship’ (p. 95)
Bateman et al.	2011	Bateman et al (2011) use the definition set by Brickman (1987, p. 2) to define commitment ‘Commitment is a psychological bond that stabilizes individual behaviour under circumstances where the individual would otherwise be tempted to change that behaviour’
Beatty et al.	2012	Commitment is described as ‘the glue that keeps people in relationships, even in the possible face of dissatisfaction. Commitment perfectly represents the state that consumers are in when they decide to stay in a relationship’ (p.297).

Table 7: Overview of the identified codes regarding User Commitment by using open coding procedures

Bonding process of User Retention

The steps within conceptualization process of User Retention is, due to the systematic nature of the Grounded Theory Literature Review Method (Wolfswinkel et al, 2013) identical to the conceptualization processes of User Intention and User Commitment. Based on the excerpts identified within the seventeen studies regarding User Retention codes were identified. The identified codes are provided in table 8.

The trough axial and selective coding, two main concepts emerged to the definition of User Retention. These are ‘continuous behavioural action’ and ‘re-use’

The main concept ‘re-use’ originated from the codes ‘re-use’ (Oliver, 1999; Kohli et al, 2004; Vatanasombut et al, 2004; Chang, 2008; Chang and Zhu, 2012; Zhang et al, 2012) and ‘re-purchase’ (Pavlou, 2002; Reibstein, 2002; Chellappa and Kumar, 2005; Otim and Grover, 2006; Liang et al, 2008; Lin et al, 2010). As re-use is an abstraction of re-purchase, re-purchased was conceptualized as ‘re-use’.

The main concept ‘continuous behavioural action’ is based on the codes ‘behavioural action’ (Oliver, 1999; Jolley et al, 2006; Jolley et al, 2013), ‘continuity’ (Pavlou, 2002; Kohli et al, 2004; Chang, 2008; Chang and Zhu, 2012; Trepte et al, 2012) and ‘repeat use’ (Vatanasombut et al, 2004; Chellappa and Kumar, 2005; Otim and Grover, 2006; Liang et al, 2008; Lin et al, 2010). ‘Behavioural action’ is an abstraction of ‘use’, this led to the conceptualization of these codes as the concept ‘behavioural action’. By combining this concept with the code ‘continuity’ (because continuity is described as an aspect of user retention (Bhattacharjee, 2001) the concept ‘continuous behavioural action’ emerged.

After the identification of the main concepts selective coding procedures were used to combine the identified main concepts ‘continuous behavioural action’ and ‘to re-use’. This coding procedure led to the definition of User Retention. User Retention is ‘*the continuous behavioural process of a user, while re-using an online service*’.

Studies	Year	Codes from the literature regarding the definition of User Retention
Oliver	1999	Retention is the behavioural aspect of loyalty. Therefore action loyalty can be viewed as retention.
Pavlou	2002	Retention is described as continuity which is defined as ‘the perception of a buyer’s expectation of future transactions with sellers in a B2B marketplace’ (p.225).
Reibstein	2002	Retention is viewed as a customers’ favourable intention to repeat a purchase at the same website (p.467). It is measured as the number of times a customer shops at a particular site (p.469).
Kohli et al.	2004	Retention is described as keeping existent customers and appeal them into continuing to use the online service.
Vatanasombut et al.	2004	Retention is viewed as customers’ repeat use of an online service. Effective retention will stimulate website growth in number of users and popularity.
Hsieh et al.	2005	Hsieh et al. (2005) use the word commitment to refer to the retention of customers.
Chellappa and Kumar	2005	Retention is viewed as consumers’ repeat purchasing from a particular firm in an online environment
Jolley et al.	2006	Retention, as opposed to loyalty, has no basis in a psychological process. It is viewed solely as a behavioural phenomenon. Some aspects of retention are (1) single brand/website/firm, (2) behaviour only, (3) independent non-biased (through preference) choices
Otim and Grover	2006	Otim and Grover (2006) focus on repeat purchase intention of customers instead of actual behavioural retention.
Chang	2008	Chang (2008) describes retention as continued use of an online service
Liang et al.	2008	Retention is defined as loyal customer’s actual repeat purchase behaviour. This includes cross-buying of different products/services the firm has to offer (p775).
Lin et al.	2010	Retention is viewed as the intention to repeatedly purchase at a certain e-commerce retailer.
Sun	2010	Retention is defined as ‘a seller’s intention to visit and sell things on an online auction service provider’s marketplace in the future’ (p.95)
Chang and Zhu	2012	Retention is viewed as continued use of the social networking site
Trepte et al.	2012	Online retention is the continuing use of a customer with an online service
Zhang et al.	2012	Zhang et al. (2012) view retention as continuance behaviour within the current online service
Jolley et al.	2013	Retention is viewed as a purely behavioural process, while loyalty relates to a psychological process.

Table 8: Overview of the identified codes regarding User Retention by using open coding procedures

Bonding process of User Loyalty

The codes originated from the excerpts regarding User Loyalty are provided in table 9. User Loyalty has been defined before by Oliver (1999) and more recently by Toufaily et al (2013).

The definition of Oliver (1999) is as follows ‘loyalty is a deeply held commitment to rebuy or repatronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behaviour’ (p.34). Toufaily et al (2013) extend this definition by adding the concept ‘favourable beliefs and positive emotions toward the online company’. They also extend Oliver’s (1999) focus on e-commerce to online services in general, by focusing on ‘repeat behaviour of visits and/or purchases’ instead of ‘repetitive same-brand or same brand-set purchasing’. Toufaily et al (2013) define loyalty for online services as ‘the customer’s willingness to maintain a stable relationship in the future and to engage in a repeat behaviour of visits and/or purchases of online products/service, using the company’s website as the first choice among alternatives, supported by favourable beliefs and positive emotions toward the online company, despite situational influences and marketing efforts that lead to transfer behaviour’ (p.1439). Although these definitions regard user loyalty, they do not exclusively focus on online user bonding into account. Therefore these definitions axial coding procedures are applied to distil a definition of user loyalty in the context of user bonding, based on the entire literature sample.

Within the sample the codes ‘commitment’ (Oliver, 1999; Shankar et al, 2003); ‘a positive attitude towards the online service’ (Liang et al, 2008; Chiou and Pan, 2009; Kim and Niehm, 2009; Fuentes-Blasco et al, 2010; Nusair et al, 2013) ‘continuance’ (Ray et al, 2012) and ‘willingness’ were identified (Toufaily et al, 2013). ‘Willingness’ is an element of ‘commitment’ (Toufaily et al, 2013). Therefore this code is conceptualized as the concept ‘commitment’. As mentioned in the user bonding process User Commitment, the category ‘commitment’ and the code ‘continuance’ are conceptualized as ‘a psychological process of a user, in which a user desires to continue his/her relationship with an online service’.

The codes ‘repeat behaviour’ (Kim and Niehm, 2009), ‘repeat purchasing’ (Cyr, 2007; Chiou and Pan, 2009), ‘rebuy’ (Oliver, 1999; Kim and Niehm, 2009; Fuentes-Blasco et al, 2010; Nusair et al, 2013; Toufaily et al, 2013) are conceptualized in the same manner as ‘re-use’ and ‘re-purchase’ were for the user bonding process User Retention. Through open coding procedures the codes are conceptualized as the main concept of ‘repeat behaviour’.

Oliver (1999) and Toufaily et al, (2013) also include the code ‘resistance of situational influences and marketing efforts that lead to transfer behaviour’ within their definition of user loyalty.

Through selective coding procedures the two main concepts and the additional code by Oliver (1999) and Toufaily et al (2013) are combined. This lead User Loyalty being defined as ‘*the combination of a psychological state in which a user desires to continue his/her relationship with an online service, and behavioural action of a user to re-use the online service again, while resisting factors that might pull the user away from the online service*’.

Studies	Year	Codes from the literature regarding the definition of User Loyalty
Oliver	1999	'a deeply held commitment to rebuy or repatronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behaviour' (p. 34)
Shankar et al.	2003	Loyalty is defined as 'a deep commitment to the service provider' (p. 154)
Harris and Goode	2004	They use the definition of loyalty as proposed by Oliver (1999)
Eng and Kim	2006	'E-customer loyalty can be defined as customer loyalty to a business that sells online' (p. 439). Unfortunately, they do not clarify their definition on 'customer loyalty'.
Ho and Lee	2006	Provide no specific definition of User loyalty.
Ren et al.	2007	Ren et al. (2007) focus on loyalty within a group
Cyr	2007	E-loyalty is 'perceived intention to visit or use a website in the future and to consider purchasing from it in the future' (p.50)
Liang et al.	2008	Customer loyalty is 'a consumer's psychological attachment and attitudinal advocacy toward the online service provider, accompanied by this consumer's willingness to make an effort in maintaining the customer-firm relationship' (p. 775). Customer loyalty leads to customer retention and customer cross-buying
Chiou and Pan	2009	Loyalty is defined as repeat purchasing, resisting of competitive offers and generate positive word of mouth advertising. In order to create loyalty firms should meet the needs of their customers better than competitors to. (p. 330)
Kim and Niehm	2009	'E-loyalty or website brand loyalty refers to consumers' cognitive, affective, and behavioural reactions and favourable attitudes toward the site and tis brands that results in repeat buying and patronage behaviours' (p.224)
Fuentes-Blasco et al.	2010	E-loyalty is defined as 'a customer's favourable attitude towards the e-retailer that results in repeat buying behaviour' (p. 1839)
Castaneda	2011	Castaneda does not provide a direct definition of customer loyalty. He points out to the complicated role of satisfaction in loyalty literature. Satisfied customers do not always become loyal customers, and loyal customers need not be satisfied. However, satisfaction will most likely lead to loyalty.
Ray et al.	2012	Loyalty is seen as the (enforced) continuance of the online service
Lee and Kozar	2012	Lee and Kozar define three different outcome variables of a website (1) attitude toward a website, (2) intention and (3) action. Loyalty is neither and is grouped under 'others', along with satisfaction and preference
Nusair et al.	2013	'E-loyalty is defined as the customer's favourable attitude toward an electronic business, which results in repeat buying behaviour' (p. 15)
Toufaily et al.	2013	'Online customer loyalty is "the customer's willingness to maintain a stable relationship in the future and to engage in a repeat behaviour of visits and/or purchases of online products/service, using the company's website as the first choice among alternatives, supported by favourable beliefs and positive emotions toward the online company, despite situational influences and marketing efforts that lead to transfer behaviour"' (p. 1439)

Table 9: Overview of the identified codes regarding User Loyalty by using open coding procedures

The next section addresses the second research question 'Why do users develop bonds to online services?'

5. Why do users develop bonds to online services?

The answer to the second research question ‘Why do users develop bonds to online services?’ emerged through the application of grounded theory coding procedures on empirically verified factors that strengthen one of the four online user bonding processes. These factors were identified through coding each factor within the literature sample that had a direct positive influence on one of the four user bonding processes (User Intention, User Retention, User Commitment and User Loyalty). For instance, excerpts of factors that were identified within the study of Kim and Niehm (2009) are ‘perceived value’, ‘perceived information quality’, ‘trust’, ‘entertainment’ and ‘usefulness’ because these excerpts are empirically verified to have a direct positive effect on User Loyalty (Kim and Niehm, 2009). Through applying open coding procedures the individual excerpts were coded into higher order codes. These codes were eventually coded into higher order concepts.

Most of the factors were conceptualised one-to-one, meaning coding procedures adhered to the original conceptualizations and no new names for these factors were conceptualized. This one-to-one conceptualization sustained the original meaning and integrity given to the factors, by the authors of the articles in the sample. For instance, all excerpts, codes and concepts identified and referred to as ‘trust’ have a similar essence in different studies (e.g. Oliver, 1999; Gefen and Straub 2004; Harris and Goode, 2004; Liang et al, 2008). The homogeneity on the meaning and integrity of these excerpts within the various studies, allowed for coding the factor ‘trust’ identical to the original excerpts, codes and concepts referred to as ‘trust’. Other factors originated from excerpts and codes of differing abstraction levels. In this case, following open coding procedures, the highest order of abstraction was selected as conceptualization for the group of excerpts and codes. In total a number of 158 individual factors that strengthen online user bonding were identified. This Master Thesis does not describe the specific impact of each factor individually. This is too extensive for the scope of this research. The factors are presented in Appendix B. Each factor is succeeded by the article number from which these factors were originally conceptualised from. The article numbers correspond with the article numbers provided in the overview of the literature sample in appendix A.

The results show that each individual factor strengthens the bond between a user and the online service (e.g. Gefen et al, 2003; Tsai and Huang, 2007; Cheng, 2013). The more factors an online service provider implements, the more likely a bond is created and strengthened between the online service and its users (Reibstein, 2002). These results have implications for practitioners aiming to create a user bonding strategy.

After the identification of the individual factors, axial and selective coding procedures were applied to these factors to identify and develop interrelations that explain why users bond with online services (Strauss and Corbin, 1990; Wolfswinkel et al, 2013). These coding procedures lead to the conceptualization of seventeen mutually exclusive main concepts that explained why users bond with online services. Following the conceptualization of Kim and Son (2009) on ‘mechanisms’ this Master Thesis refers to these main concepts as ‘online user bonding mechanisms’. The identified online user bonding mechanisms are; personal disposition bonds, demographic characteristic bonds, organisational structure bonds, investment bonds, market dependent bonds, common identity bonds, dedication-based bonds, constrained-based bonds,

service quality bonds, system quality bonds, information quality bonds, offline bonds, product attribute bonds, IT experience bonds, website functionality bonds and website aesthetic bonds.

The specific conceptualization process of the online user bonding mechanisms will be described in the next sub-chapter.

Online user bonding mechanisms

1. Personal disposition bonds

Personal disposition is found to correlate to user-to-organisation bonding behaviour (Meyer and Allen, 1991). This is backed by the factors emerged from the literature review. The factors ‘attitude’, ‘habit’, ‘self-disclosure’, ‘risk preference’, ‘resistance to change’, ‘avoidance of conflict’, ‘individual fortitude’, ‘motivations’, ‘innovativity’, ‘aggressiveness’ and ‘inertia’ are all aspects of a user’s personal disposition (Oliver, 1999; Reibstein, 2002; Cho, 2006; Kim and Eng, 2006; Khalifa and Liu, 2007; Cyr, 2007; Al-Natour and Benbasat, 2009; Hernández et al, 2010; Beatty et al, 2012; Toufaily et al, 2013). Therefore these factors are conceptualized as the online user bonding mechanism ‘*personal disposition bonds*’.

Bonding through personal disposition bonds occurs through a user’s personal preferences and characteristics. For instance, the factor ‘habit’ is found to have a significant effect on user bonding (Reibstein, 2002; Jolley et al, 2006; Khalifa and Liu, 2007; Cyr, 2009). Especially in the online gambling industry it is profitable to establish a bond through the creation of user habit as this greatly enhances a user’s repeat behaviour (Jolley et al, 2006). In order to stimulate user habit for new and/or recently acquired customers, the focus should be on creating customer satisfaction (Jolley et al, 2006). Satisfied customers are more prone to return to an online service, and thus more vulnerable to the creation of user habit (Reibstein, 2002; Jolley et al, 2006). User satisfaction and user habit are enhanced through value propositions that reinforce their repurchasing habits. These are for example, discounts on the next purchase within a certain timeframe (Jolley et al, 2006). The focus for habitually bonded users would be on preventing dissatisfaction and defection (Jolley et al, 2006)

2. IT experience bonds

‘IT experience bonds’ are grounded in the factors ‘internet use’, ‘familiarity with online service’, ‘experience with IT’, ‘experience with online service’ and ‘online/offline preference’ (Meyer and Allen, 1991; Pavlou, 2002; Shankar et al, 2003; Gefen and Straub, 2004; Khalifa and Liu, 2007; Hernández et al, 2010; Trepte et al, 2012; Toufaily et al, 2013). These factors are all aspects of a user’s experience with online services, internet and IT in general. Since IT is a higher instance than online services and internet, this type of user bonding mechanism is conceptualized as ‘*IT experience bonds*’.

The two most often mentioned factors are ‘experience with IT’ and ‘familiarity’. User bonding occurs through the increase of experience a user has with IT (Kim and Son, 2009; Hernández et al, 2010). Users who have more experience with information technology and the internet feel more comfortable and capable and as a consequence, re-use an online service more often. This strengthens the bond between user and online service (Hernández et al, 2010).

The factor ‘familiarity’ also strengthens the online user bond (Pavlou, 2002; Gefen and Staub, 2004; Trepte et al, 2012). To increase the level of the factor ‘familiarity’ online services should design ‘typical’ websites (Gefen et al, 2003). Typical websites increase familiarity, because

they are similar to the structure and design to most other websites regarding that specific online service. The typical design also enhances the factor ‘perceived ease of use’, because users do not have to invest time to learn how to browse the website (Gefen et al, 2003). User familiarity can also be increased through ads and articles in popular press and by an increase in site visits (Gefen et al, 2003).

3. Demographic characteristics bonds

The factors ‘Age’, ‘Gender’, ‘Income’ and ‘Culture’ are all aspects of a users’ demographical profile (Shankar et al, 2003; Kim and Eng, 2006; Cyr, 2009; Chang and Zhu, 2012; Toufaily et al, 2013). Meyer and Allen (1991) also demonstrated the influence of demographic characteristics on user to organisation bonding. Drawing on their work, this user bonding mechanism is conceptualized as ‘*demographic characteristics bonds*’.

Bonds are established based on certain demographic characteristics such as age or culture-groups (Meyer and Allen, 1991; Chang and Zhu, 2012). For instance, research has shown that females are more likely to use social network sites than males (Chang and Zhu, 2012). This is because they are more likely to edit a profile, write comments and browse friends profiles. This in turn increases their social capital, which increases their intention to continue using a social network site (Chang and Zhu, 2012). Therefore online service providers of online communities can choose to specifically enhance their community to suit woman.

To enhance user bonding via the factor ‘culture’, online services should adapt their website design to the different cultural preferences in the world (Kim and Eng, 2006; Cyr, 2009). For instance, the effect of visual design is shown to differ across cultures. In collectivist cultures such as China the visual design of a service enhances trust, while is not the case for German or Canadian users (Cyr, 2009)

4. Dedication-based bonds

Dedication-based bonds bind users to an online service through a user’s genuine appreciation for the relationship (Bendapudi and Berry, 1997; Kim and Son, 2009). Factors that form the foundation of this type of bonds are ‘trust’, ‘satisfaction’, ‘commitment’, ‘attachment’, ‘integrity’, ‘pleasure’, ‘emotions’, ‘predictability’, ‘confidence’, ‘intention’, ‘retention’ and ‘loyalty’ (e.g. Oliver, 1999; Pavlou, 2002; Shankar et al, 2003; Gefen and Straub, 2004; Vatanasombut et al, 2004; Tsai and Huang, 2007; Li et al, 2012; Lee and Kozar, 2012). Each of these factors is based on a user’s appreciation and dedication towards the online service provider. This leads to the conceptualization of this user bonding mechanism as ‘*Dedication-based bonds*’.

The three most mentioned factors of this type of user bond are ‘trust’, ‘satisfaction’ and ‘commitment’. These factors are mentioned numerous times within the literature sample and have a significant impact on a user’s motivation to continue bonding with an online service (e.g. Oliver, 1999; Pavlou, 2002; Shankar et al, 2003; Gefen and Straub, 2004; Vatanasombut et al, 2004; Tsai and Huang, 2007; Li et al, 2012; Lee and Kozar, 2012). Within online banking services, ‘trust’ is found to be a function of the factors ‘shared value’, ‘perceived security’ and ‘communication’ (Vatanasombut et al, 2004; Vatanasombut et al, 2008). In order to increase the factor ‘trust’, online service providers should focus on transparent communication, communicating their values to their users so that users can identify themselves with the values

of the online service, and increase perceived security. The factor 'security' is further elaborated in the user bonding mechanism 'System quality bonds'. Service failure is the largest threat to the three mentioned factors and often results in user attrition (Chang, 2008). However, if an online service provides an adequate and timely recovery attempt research has shown that over 90% of disaffected customers can be retained (Stiefbold, 2003; Chang, 2008)

An outcome of dedication-based bonds are the factors 'experiential word of mouth' and 'reduction of customer's search costs' (Vatanasombut et al, 2004; Lee and Kozar, 2012). These factors are rooted in other user's experience with online services, that allow current and potential users to easily compare the value of the online services (Vatanasombut et al, 2004; Lee and Kozar, 2012). As mentioned in the theoretical framework, users bond with an online service based on positive word of mouth and other references by other users. By providing positive and experiential word of mouth user search costs are greatly reduced. Practitioners seeking to increase the bonding process User Intention should particularly focus on this bonding mechanism. Practitioners can enhance user referencing by providing incentives for users (such as discounts), to write reviews on reference sites and spread 'positive word-of-mouth' (Lee and Kozar, 2012)

5. Investment bonds

The user bonding mechanism '*Investment bonds*' is conceptualized one-to-one based on the work of Rusbult and Buunk (1993) mentioned in chapter two. Rusbult and Buunk (1993) state that users continue their relationship with an organisation because of sunk investments (investments that are lost when a user terminates the relationship) (Meyer and Allen, 1991; Rusbult and Buunk, 1993). The results show that this also holds true in an online service context. Within the literature three different types of factors emerged, which all adhere to certain investments made by the user to the benefit of the user/online service relationship. These factors are 'sunk costs', 'relationship investments' and 'learning costs' (Meyer and Allen, 1991; Oliver, 1999; Reibstein, 2002; Kim and Eng, 2006; Li et al, 2006; Lian et al, 2008; Fuentes-Blasco et al, 2010; Beatty et al, 2012; Ray et al, 2012; Zhang et al, 2012).

The most mentioned factor of Investment bonds is 'sunk costs'. This factor covers all the investments a user loses when switching to another online service (e.g. Meyer and Allen, 1991; Oliver, 1999; Eng and Kim, 2006; Li et al, 2006; Lian et al, 2008). An online service can implement such costs through for instance asking a one-time admission fee to the content or the embodiment of friends and contacts in an online network community. Users will lose their connection to their friends facilitated by the online service, if they switch services. This causes relational lock-in (Ren et al, 2007).

6. *Constrained-based bonds*

This type of bonding mechanism is designed to (forcefully) constrain a user within a relationship between user and online service (Bendapudi and Berry, 1997; Kim and Son, 2009).

The factors ‘stickiness’, ‘constraint based attachment’, ‘lock-in’ and ‘structural embeddedness’ aim to retain users in a relationship, by imposing certain obstructions for leaving the relationship (Reibstein, 2002; Hsieh et al, 2005; Kim and Eng, 2006; Tsai and Huang, 2007; Lin et al, 2010; Shih, 2012; Cheng and Huang, 2013; Jolley et al, 2013). However, constriction can also occur through termination costs. Termination costs are investments users should make (monetary or non-monetary) in order to terminate the relationship with an online service provider (Vatanasombut et al, 2004; Chellappa and Kumar, 2005; Hsieh et al, 2005; Vatanasombut et al, 2008; Chiou and Pan, 2009; Sun, 2010; Beatty et al, 2012; Ray et al, 2012). Monetary costs are ‘relationship termination costs’ and ‘transfer costs’, while non-monetary costs are represented by the factors ‘search and evaluation costs’ (to find a new online service provider) and ‘procedural switching costs’ (Beatty et al, 2012). Another type of constrained-based bonds are factors that emphasize the lost benefits for users while terminating the relationship with an online service (Lin et al, 2010; Ray et al, 2012; Shih, 2012). These factors are ‘structural bonds’, ‘information usefulness’, ‘transaction cost advantage’, ‘network externalities’, ‘benefit loss costs’, ‘service uncertainty’, and ‘brand relationship’ (Lin et al, 2010; Ray et al, 2012; Shih, 2012). Due to the fact that each of these factors imposes a certain constriction on the user to leave the relationship, this group of factors is conceptualized one-to-one on the works of Bendapudi and Berry (1997) as ‘*Constrained-based bonds*’.

‘Lock-in’ is one of the most mentioned factors of the user bonding mechanism constrained-based bonds. Technological lock-in occurs when a single technology has a large market share and advantage by increasing the costs of other technologies (Shih, 2012). This was the case in the battle of video standards, won by the VCR format. Technological lock-in can also be achieved when a certain technology is not compatible with other technologies, such as the iTunes store for an iPhone, Ipad or IMac by Apple. Users are also likely to be locked in to a particular technology if they have invested considerable monetary or non-monetary investments in that technology, such as learning costs (Shih, 2012).

The most mentioned factor of the subgroup termination costs is ‘relationship termination costs’ (Vatanasombut et al, 2004; Chellappa and Kumar, 2005; Hsieh et al, 2005; Vatanasombut et al, 2008; Chiou and Pan, 2009; Sun, 2010). Online services enhance this factor by issuing (contract-based) fines for pre-maturely terminating the relationship with an online service (Chiou and Pan, 2009).

Users who are bound through relationship loss constraining bonds stay bound to an online service, because the cost of losing the benefits of the current relationship are too high. These lost benefits are for instance, the loss of transaction cost advantages or the uncertainty coupled with choosing a new online service (Ray et al, 2012; Shih, 2012). By providing user loyalty programmes or increased discounts after a specific number of amount of purchases this user bonding mechanism is enhanced (Ray et al, 2012)

7. Common identity bonds

User bonding via common identity bonds focuses on bonding the user to the common purpose and identity of the online service as a whole (Ren et al, 2007). Online service providers should focus on communicating a clear identity (for example through the factors ‘brand image’ or ‘reputation’) and create user attachment through this sense of shared goals and values (Vatanasombut et al, 2004; Ren et al, 2007; Vatanasombut et al, 2008). The factors ‘brand image’, ‘reputation’, ‘permission based advertising’, ‘shared values’, ‘identity based attachment’, ‘competence’, ‘reliability’, ‘credibility’, ‘uniqueness’ and ‘entertainment’ focus on establishing a bond by attaching users to a community or the identity of an online service (Pavlou, 2002; Vatanasombut et al, 2004; Ren et al, 2007; Vatanasombut et al, 2008; Zhang et al, 2011; Jolley et al, 2013; Lee and Kozar, 2012). This purpose adheres to the common identity theory. In line with the work of Ren et al (2007) this user bonding mechanism is conceptualized as ‘*common identity bonds*’.

Practical implications for enhancing the factor ‘identity based attachment’ are providing social categorization of the users, in-group interdependence and intergroup comparison (Ren et al, 2007). Social categorization lets users identify themselves with a certain social category based on their own values and goals, in-group interdependence focuses on establishing a shared cause that the group as a whole can attain (Ren et al, 2007). An example of an in-group interdependence community is an online service that provides open source software. The main characteristic of open source software is that it relies on the community as a whole to develop and maintain the software. This development goal serves as a common cause to bind the users to this software and community (Bryant et al, 2005; Ren et al, 2007). Intergroup comparison focuses on participation behaviour within groups. When users participate in a certain group, they compare themselves with other groups. This out-group comparison stimulates the feeling of belonging and bonding to their own group (Ren et al, 2007). By designing online services to focus on group comparison, organisations enhance the bonds their users feel for that online service in comparison to other competitive online services (DeLone and McLean, 2003; Ren et al, 2007).

The other most mentioned factor is ‘entertainment’ (Kim and Niehm, 2009; Koo and Ju, 2010). Entertainment includes the innovativeness and emotional appeal of an online service’s website (Kim and Niehm, 2009). Next to the direct positive influence on strengthening the user bond, entertainment also enhances the factors ‘perceived information quality’ (factor of the user bonding mechanism: Information quality bonds) and ‘perceived value of the online service’ (factor of the user bonding mechanism: Organisational structure bonds). Entertainment is also associated with the hedonistic values pleasure, arousal and experiential value (Kim and Niehm, 2009; Koo and Ju, 2010). Entertaining and innovative forms of online services increase user’s pleasure. When users retrieve the memory related to the experience with the online service they are reminded of the pleasant emotional state. This enhances user’s perception of overall value of the online service for money (Koo and Ju, 2010). Therefore it is important for online services to develop entertaining and innovative websites (Kim and Niehm, 2009; Koo and Ju, 2010) Examples of innovativeness and entertainment are for instance online comparison features when choosing between products of an e-retailing service and other interactive features that support users to accomplish their tasks (Kim and Niehm, 2009).

8. *Organizational structure bonds*

A solid business strategy improves an online service's financial performance and user bonding rate (Chellappa and Kumar; 2005). Research has shown that organisational characteristics, such as decentralization of decision making and empowerment of users also influence user bonding (Meyer and Allen, 1991). The factors 'online retail strategy', 'first mover advantages', 'differentiation strategy through product augmentation', 'IT policies' and technological competencies' are all building blocks of an online services' business strategy (Reibstein, 2002; Chellappa and Kumar, 2005; Jolley et al, 2006; Jolley et al, 2013; Toufaily et al, 2013). And the factors 'perceived empowerment', 'perceived value of online service', 'perceived relationship quality', 'perceived choice', 'perceived risk', 'perceived involvement with online service' and 'frequency of use' are all direct outcome of the organizational structure and strategy of the online service provider (Shankar et al, 2003; Harris and Goode, 2004; Vatanasombut et al, 2004; Chang, 2008; Liang et al, 2008; Vatanasombut et al, 2008; Kim and Niehm, 2009; Fuentes-Blasco et al, 2010; Sun, 2010; Castaneda, 2011; Shih, 2012; Toufaily et al, 2013). Therefore, following the research of Meyer and Allen (1991) mentioned in the theoretical framework, this user bonding mechanism is conceptualized as '*organizational structure bonds*'.

While implementing an online user bonding strategy online service providers should be aware that their strategy has significant effects on online user bonding (Reibstein, 2002). An online service provider applying a first mover strategy has the advantage that online user behaviour becomes routine after a while. If the users are used to using the online service, for instance because there are no alternatives, their decision process becomes 'habitual' (factor of the user bonding mechanism: Personal disposition bonds), they become cognitively locked-in and the need to search for alternatives decreases (Reibstein, 2002) These effects strengthen the bond between users and online service.

By providing free product-augmenting services online services differentiate themselves from competitors and provide extra value for their users (Chellappa and Kumar, 2005; Zhang et al, 2011). These services range from front-end design, such as an entertaining and innovative website (factor of the user bonding mechanism: Common identity bonds) to back-end requirements such as inventory management, which allows for quick and reliable shipping and handling (factor of the user bonding mechanism: Product attribute bonds) (Chellappa and Kumar, 2005). The factor 'Perceived empowerment' shares similarities with a user's self-efficacy and experience in the context that users who feel empowered are more likely to re-use an online service and thus strengthen the bond between user and online service (Chang, 2008; Vatanasombut et al, 2008). Perceived empowerment can be attained by (1) acting as a facilitator to the user's problem-solving processes, rather than being a provider of products or services, (2) provide users with web applications that are flexible and easy to use or control and (3) enhance users self-efficacy by providing them with critical resources to support problem solving (Vatanasombut et al, 2004). These resources are for example a 'frequently asked questions' page or instructions tailored to the specific product and problems of a user.

The factor 'perceived value' is defined as 'consumer perception of the net benefits obtained in exchange for the costs incurred to obtain the desired benefits' (Fuentes-Blasco et al, 2010). Increasing a user's perceived value is important as it is an effective manner to counteract switching costs (factor of the user bonding mechanism: Constrained-based bonds) of competitive online services (Fuentes-Blasco et al, 2010)

9. *Offline bonds*

‘Offline activities of online services’ and even the ‘offline quality’ of an online service influence user bonding (Vatanasombut et al, 2004; Trepte et al, 2012). Online banking services are often an extension of a regular offline banking company. In order to sustain a perceived quality online it is very important that the banking company also retains a good reputation and quality offline. These type of effects are called spill-over effects (Vatanasombut et al, 2004). An positive reputation enhances user trust, which in turn enhances user bonding (Vatanasombut et al, 2004). Offline quality is increased by establishing reliable offline service points with representatives that can also support user’s online banking businesses (Vatanasombut et al, 2004).

Additionally, research has shown that a large number of gamers of online gaming services, such as world of Warcraft, not only bond with the online game due to its entertainment factor, but also due to the social side of the gaming service and the interaction with other gamers. This is found to be one of the strongest motivators for gamers to bond with an online game (Frostling-Henningsson, 2009; Trepte et al, 2012). Online services strengthen the user bonds by facilitating offline activities for gamers to meet, such as gaming conventions or festivals.

Due to the offline nature of these factors, this type of bond mechanisms is conceptualized as ‘*offline bonds*’. User bonds are enhanced by providing adequate offline support and activities that complement the nature of the online service (Vatanasombut et al, 2004; Trepte et al 2012).

10. *Service quality bonds*

Online services enhance user bonds by implementing adequate customer relationship tools. DeLone and McLean refer to this type of customer relationship enhancement as ‘service quality’ (DeLone and McLean, 1992; DeLone and McLean, 2003) Factors as ‘financial bonds’, ‘structural bonds’, ‘personalization’, ‘customization based attachment’, ‘support service quality’, ‘perceived monitoring’, ‘pre-purchase services’, ‘after-sales service’, ‘employee communication style’, ‘social support’, ‘affective cues’, ‘cognitive cues’ and ‘perceived feedback’ are all aspects of a customer relationship strategy (Meyer and Allen, 1991; Pavlou, 2002; Lin et al, 2003; Kohli et al, 2004; Kotha et al, 2004; Vatanasombut et al, 2004; Hsieh et al, 2005; Cho, 2006; Otim and Grover, 2006; Ho and Lee, 2006; Khaliva and Liu, 2007; Tsai and Huang, 2007; Vatanasombut et al, 2008; Dabholkar et al, 2009; Sun, 2010; Zhang et al, 2011; Cheng and Huang, 2013; Jolley et al, 2013; Toufaily et al, 2013).

The factors range from offering personalized financial benefits for long-term users, to pre- and after sales-services for every user of an online service (Kohli et al, 2004; Hsieh et al, 2005; Otim and Grover, 2006; Khalia and Liu, 2007). This type of bonding mechanism is defined by DeLone and McLean as service quality, therefore this type of online user bonding mechanism is conceptualized one-on-one as ‘*Service quality bonds*’.

Online user bonding via this mechanism occurs through social cues, such as support, affective cues, cognitive cues and feedback, a user perceives when interacting with an online service’s customer relationship mechanism, such as a helpdesk. The most mentioned factor of this user bonding mechanism is ‘support service quality’. Support service quality has a direct impact on perceived online service quality (Ho and Lee, 2007). This factor covers the support features of an online service, such as clear interactions within the website and via the social networks of the online service (Ho and Lee, 2007). Support service is mainly provided by employees of the

online service, through customer support. Measurements of this type of service quality are accuracy and responsiveness (Ho and Lee, 2007). However, support service are also provided through other users via forums. By facilitating these forums online services enhance ‘support service quality’.

11. Product attribute bonds

Users that bond through product attribute bonds, revisit the online service, because of the attributes of the offered products, services and website of the online service provider, such as ‘price’, ‘product augmentation’ and ‘on-time delivery’. Factors within this category focus on the specific characteristics of the product and ambient services on offer (Reibstein, 2002; Shankar et al, 2003; Chellappa and Kumar, 2005; Lewis, 2006; Otim and Grover, 2006; Sun, 2010; Lee and Kozar, 2012; Jolley et al, 2013; Toufaily et al, 2013). These factors are ‘price’, ‘product augmentation’, ‘product representation’, ‘product information’, ‘product quality’, ‘value for money’, ‘purchase volume’, ‘shipping and handling’, ‘shipping fees’ and ‘on-time delivery’ (Reibstein, 2002; Kohli et al, 2004; Lewis, 2006; Otim and Grover, 2006; Zhang et al, 2011; Lee and Kozar, 2012; Toufaily et al, 2013). These factors all describe attributes of the offered product of an online service provider. This leads to the conceptualization of this user bonding mechanism as *‘product attribute bonds’*.

The factor ‘price’ is most mentioned as factor that influences user bonding (Kohli et al, 2004; Otim and Grover, 2006; Lee and Kozar, 2012; Toufaily et al, 2013). Price premiums and discounts are known to draw and keep users bonded to an online service. Low search costs for users when using pricing bots, enable users to easily identify the lowest price of a product and switch to competitive online services. Therefore the factor ‘price’ is not likely to establish a long term user bond (Kohli et al, 2004)

The factor ‘product augmentation’ influences user bonding, through augmentation of the offered product or service. These augmented services, such as entertaining and innovative design or user loyalty programmes positively influence a user’s emotional state, which in turn enhances user bonding, because the user gets a positive feeling by using a certain online service (Chellappa and Kumar, 2005; Zhang et al, 2011).

12. Common bond

The factors ‘social bonds’, ‘group identity’, ‘bond based attachment’, ‘in-group favouritism’, ‘relational embeddedness’, ‘subjective norms’, ‘cooperative norms’ and ‘anonymity’ are all based on interaction between users. This interaction is facilitated by the online service (Pavlou, 2002; Lin et al, 2003; Amichai-Hamburger, 2005; Hsieh et al, 2005; Ren et al, 2007; Tsai and Huang, 2007; Cater and Zabkar, 2009; Beatty et al, 2012; Chang and Zhu, 2012; Trepte et al, 2012; Cheng and Huang, 2013; Jolley et al, 2013). Common bond theory focuses on these types of user to user attachments (Ren et al, 2007). Therefore this type of bonding is conceptualized as *‘Common bond’*.

When implementing common bond, practitioners should be aware that users only indirectly bond with an online service (Ren et al, 2007). Users bond directly with other users, while the online service facilitates this type of interaction. This implies that when users leave the online service, often their friends also leave (Jolley et al, 2006) However, if the factors are

implemented correctly, common bond mechanisms are empirically verified as having more impact on user bonding than dedication-based bonding factors, such as satisfaction, constrained-based bonding factors, such as switching barriers and customization-based bonding factors. Furthermore, community building exceeds the combined effect of overall satisfaction and switching barriers on user bonding (Tsai and Huang, 2007). In order to attain this type of interaction, an online service should incorporate some type of community or ‘community building tool’ (factor of the user bonding mechanism: website functionality bonds) based on the online service. Examples of these community building tools are forums, blogs or a social media page, such as Facebook or Instagram (Jolley et al, 2006; Chang and Zhu, 2012).

13. Market dependent bonds

The user bonding mechanism Market dependent bonds is conceptualized from factors that focus on the influence of the market on users of an online service (Meyer and Allen, 1991; Vatanasombut et al, 2004; Chellappa and Kumar, 2005; Li et al, 2006; Zhang et al, 2012). Factors that belong to this bonding mechanism are ‘quality of alternatives’, ‘low entry barriers’, ‘reduced distinctiveness of firms’ and ‘information asymmetry’ (Meyer and Allen, 1991; Vatanasombut et al, 2004; Chellappa and Kumar, 2005; Li et al, 2006; Zhang et al, 2012). Rusbult and Buunk (1993) qualified this type of bonding mechanism as market dependent bonding. Users bond with the online service because they perceive the quality the online service in comparison with alternatives as superior (Meyer and Allen, 1991; Rusbult and Buunk, 1993). Following the conceptualization of Rusbult and Buunk (1993) this type of online user bonding mechanism is conceptualized as ‘*Market dependent bonds*’.

The most mentioned factor is ‘quality of alternatives’, which provides a to be strong pull-factor away from the online service, if the quality of alternatives is perceived as superior as mentioned in the theoretical framework (Meyer and Allen, 1991; Rusbult and Buunk, 1993; Li et al, 2006; Zhang et al, 2012). Online services can influence this factor by constantly comparing the quality of their service to that of their main competitors. Focus group research is a possibility to achieve more information on the quality of the online service and the perceived quality of alternatives (Li et al, 2006).

14. Website functionality bonds

The factors ‘product selection tool’, ‘search function’, ‘evaluation function’, ‘task characteristics’, ‘transparent transaction’, ‘order-tracking’, ‘links’, ‘integration with other devices’, ‘accessibility’, ‘community toolkit’ and ‘download speed’(Reibstein, 2002; Kotha et al, 2004; Otim and Grover, 2006; Ren et al, 2007; Al-Natour and Benbasat, 2009; Koo and Ju, 2010; Sun, 2010; Toufaily et al, 2013) all describe a certain part of a website’s functional design. Based on this similarity this user bonding mechanism is conceptualized as ‘*Website functionality bonds*’

Users that bond with an online service through website functionality bonds perceive the website functionality of that particular online service superior to alternative services. Examples of such functionalities are a fully adjustable search function for apparel retailing, or real-time order-tracking software (Otim and Grover, 2006). The other mentioned website functionality factors provide guidelines for practitioners, on which features to implement in the functional design of their websites.

15. Website aesthetic bonds

Website aesthetics is an important aspect of an online service. It is the first thing users notice when clicking through an online service (Cho, 2006; Otim and Grover, 2006; Al-Natour and Benbasat, 2009; Koo and Ju, 2010; Sun, 2010; Toufaily et al, 2013). Website aesthetics are the online equivalent of the a bricks-and-mortar store in the offline world (Al-Natour and Benbasat, 2009). Factors of website aesthetic bonds are ‘navigation’, ‘structure’, ‘design’, ‘layout’, ‘graphics’, ‘colours’ and ‘brand image presence’ (Reibstein, 2002; Co, 2006; Mithas et al, 2006; Otim and Grover, 2006; Al-Natour and Benbasat, 2009; Koo and Ju, 2010; Sun, 2010; Lee and Kozar, 2012; Zhang et al, 2012; Toufaily et al, 2013). Each of the factors forms a part of the aesthetic design of a website. Therefore this user bonding mechanism is conceptualized as ‘*Website aesthetic bonds*’.

Consumers that bond via website aesthetic bonds revisit the website because of its appealing aesthetics, design and navigation (Lee and Kozar, 2012). They bond with an online service because they highly appreciate the aesthetic design of its website. It is important that website aesthetics are adjusted to each type of online service and the demographic characteristics of its target group (Lee and Kozar, 2012).

For example a banking service needs a different design than a high fashion e-retailing service. The design has to correspond to the target group of users and the function of the online service. This has implications for set of colours, layout and structure of the website (Cho, 2006; Otim and Grover, 2006; Al-Natour and Benbasat, 2009; Koo and Ju, 2010; Sun, 2010; Toufaily et al, 2013). Structured navigation through an online service increases a user’s pleasure while browsing through the online service (Koo and Ju, 2010, Sun, 2010). This factor is enhanced by implementing the factor ‘links’. Links are an important factor of website aesthetic bonds. Online services should develop links that allow users to find the desired information/products within three clicks (Koo and Ju, 2010). Shortcut paths, dropdown menus and convenient links are possibilities to navigate a user through an online service (Koo and Ju, 2010).

16. System quality bonds

The conceptualization of this user bonding mechanism is directly derived from the Information systems success model (DeLone and McLean, 1992). System quality is one of the three quality dimensions of the Information systems Success model (DeLone and McLean, 1992; DeLone and McLean, 2003). System quality measures the characteristics of an online service desired by a user (DeLone and McLean, 2003, p. 24). Within the set of factors, eighteen factors adhered to the definition of system quality factors set by DeLone and McLean (2003). These factors are a valuable addition to the five factors mentioned in the updated model (DeLone and McLean, 2003). The identified factors are ‘perceived ease of use’, ‘perceived ease of ordering’, ‘perceived usefulness’, ‘perceived ease of access’, ‘security’, ‘transaction efficiency’, ‘usability’, ‘simplicity’, ‘learnability’, ‘consistency’, ‘navigability’, ‘interactivity’, ‘telepresence’, ‘responsiveness’, ‘flexibility’, ‘reliability’, ‘delivery efficiency’ and ‘convenience’ (Reibstein, 2002; Gefen et al, 2003; Vatanasombut et al, 2004; Cho, 2006; Ho and Lee, 2006; Otim and Grover, 2006; Khalifa and Liu, 2007; Vatanasombut et al, 2008; Hernández et al, 2010; Sun, 2010; Lee and Kozar, 2012; Joley et al, 2013; Toufaily et al, 2013).

Bonding via system quality bonds is strongly influenced by a user’s initial perception of the online service and their desired system requirements. Bonding that occurs via system quality

bonds depends on whether or not the system quality meets the user's expectations and desires of an online service. An online service should keep in mind that different groups of users may have opposing needs and expectations of the same online service (Hernández et al, 2010). User segmentation aids practitioners in defining the needs and expectations of each user group (Hernández et al, 2010)

Two of the most mentioned factors, 'perceived ease of use' and 'perceived usefulness' are directly derived from the Technology Acceptance Model (Gefen et al, 2003; Hernández et al, 2010). This shows that technology acceptance is a crucial part in establishing a bond between user and online service. As mentioned in the theoretical framework, without the initial phase of acceptance, online user bonding cannot be established (Bhattacharjee, 2001).

It is important for an online service to design easy to use websites (factor of the user bonding mechanism: website aesthetic bonds). For example, designing familiar looking interfaces enhances the perceived ease of use (Gefen et al, 2003). Familiar looking websites are designed through reviewing successful competitive websites and imitating them or conducting focus group research on a number of users of the online service and implementing their wishes (Gefen et al, 2003). 'Perceived usefulness' is enhanced by the efficiency of a website (Zhang et al, 2011). For e-commerce services the factors 'product representation' (factor of the user bonding mechanism: Product attribute bonds) and 'transaction efficiency' enhance user's efficiency in the buying process, and thus enhances a user's perceived usefulness of the website (Hernández et al, 2010; Zhang et al, 2011). Next to online service website efficiency, the sensation of self-efficacy increases a user's perceived usefulness of an online service (Hernández et al, 2010). Self-efficacy is also increased by designing an easy to use website. Utilitarian motives such as 24 h opening times or next-day delivery also have a positive influence on the factor 'perceived usefulness' and thus on online user bonding (Hernández et al, 2010).

The other most mentioned factor for system quality bonds is 'security' (Vatanasombut et al, 2004; Cho, 2006; Khalifa and Liu, 2007; Vatanasombut et al, 2008; Sun, 2010). This factor is especially relevant for online financial services, such as online banking (Vatanasombut et al, 2004; Vatanasombut et al, 2008). The factor security consists of two parts, the 'perception of security in interaction with the online services' and the 'perception of security in using the internet to transmit sensitive information' (Vatanasombut et al, 2008). In order to ensure a perception of security, online services could implement and inform users about their available security features, such as certificates and secure servers (Vatanasombut et al, 2004). To enhance the perception of security for sharing sensitive information, online services could communicate their privacy policies and advertise the technology they apply to prevent computer crimes (Vatanasombut et al, 2004)

17. Information quality bonds

Finally, the last user bonding mechanism is based on the quality dimension 'information quality' (DeLone and McLean, 1992; DeLone and McLean, 2003). This type of bond captures an online service's content quality. Factors that enhance this type of bond are 'supportability', 'accuracy', 'timeliness', 'concise nature', 'relevance', 'completeness', 'format', 'ease of obtaining information in general' and 'reliability of information' (Oliver, 1999; Ho and Lee, 2006; Mithas et al, 2006; Kim and Niehm, 2009; Sun, 2010; Lee and Kozar, 2012; Toufaily et al, 2013)

User bonding through website information bonds is based on perceived superiority of website information and content regarding certain topic (Mithas et al, 2006). Online services that benefit from website information bonds to bind their users are for instance forums, blogs, Wikipedia-like services, online magazines and newspapers.

The factors ‘reliability of information’ (Oliver, 1999; Ho and Lee, 2006; Kim and Niehm, 2009), ‘accuracy’ (Mithas et al, 2006; Kim and Niehm, 2009; Sun, 2010) and ‘timeliness’ (Mithas et al, 2006; Kim and Niehm, 2009; Sun, 2010) are mentioned most often. These factors indicate three of the aspects good quality website content should meet. In order to bond users, the content of the online service should be reliable, accurate and provided at the right time (Oliver, 1999; Ho and Lee, 2006; Mithas et al, 2006; Kim and Niehm, 2009; Sun, 2010) The other factors also indicate requirements that enhance the perceived quality of information (Mithas et al, 2006).

Recapping, twelve of the mentioned online user bonding mechanisms are grounded in the user-to-organisation relationship theories and frameworks addressed in the theoretical framework of the Master Thesis. Five online user bonding mechanisms were newly identified. The mechanisms ‘Personal disposition bonds’, ‘Demographic characteristic bonds’ and ‘Organizational structure bonds’ originate from the commitment theory by Meyer and Allen (1991). ‘Investment bonds’ and ‘Market dependent bonds’ are mentioned in the investment theory by Rusbult and Buunk (1993) and commitment theory by Meyer and Allen (1991). Ren et al (2007) already elaborated on common identity theory and common bond theory in the contexts of online communities. The findings indicate that these theories also hold true as a user bonding mechanism in the larger contexts of online services. Dedication-based bonds and constrained-based bonds were one-to-one conceptualized based on the works of Bendapudi and Berry (1997) and Kim and Son (2009). This Master Thesis identified additional factors enhancing these types of bonds. The ground of the final three user bonding mechanisms ‘service quality bonds’, ‘system quality bonds’ and ‘information quality bonds’, is founded in the DeLone and McLean model of Information System success (1992). This Master Thesis provides beginning in the integration process of these seven theories based on the concept of online user bonding. The results show that online user bonding provides to be the key concept to this integration of theories. Additional empirical research is needed to validate this integration. Table 11 provides an overview of the bonding mechanisms and the theories they originated from.

BONDING MECHANISM	THEORY	AUTHOR (YEAR)
Personal disposition bonds	Commitment theory	Meyer and Allen (1991)
Demographic characteristic bonds	Commitment theory	Meyer and Allen (1991)
Organizational structure bonds	Commitment theory	Meyer and Allen (1991)
Investment bonds	Investment theory Commitment theory	Rusbult and Buunk (1993) Meyer and Allen (1991)
Market dependent bonds	Investment theory	Rusbult and Buunk (1993)
Common identity bonds	Common identity theory	Ren et al (2007)
Common bonds	Common bond theory	Ren et al (2007)
Dedication-based bonds	Dedication-based theory	Bendapudi and Berry (1997) Kim and Son (2009)
Constrained-based bonds	Constrained-based theory	Bendapudi and Berry (1997) Kim and Son (2009)
Service quality bonds	DeLone and McLean model of Information systems success	DeLone and McLean (2003) DeLone and McLean (1992)
System quality bonds	DeLone and McLean model of Information systems success	DeLone and McLean (2003) DeLone and McLean (1992)
Information quality bonds	DeLone and McLean model of Information systems success	DeLone and McLean (2003) DeLone and McLean (1992)
Offline bonds	-	-
Product attribute bonds	-	-
IT experience bonds	-	-
Website functionality bonds	-	-
Website aesthetic bonds	-	-

Table 11: User bonding mechanisms and the user-to-organisation theories they adhere to

Concluding, the results of the literature review show seventeen online user bonding mechanisms that explain why users bond with an online service. Each of these mechanisms emerged from the literature via categories of factors that shared a certain commonality which explained why user-to-online service bonds are strengthened. The results show that the user bonding mechanisms explain why users bond and the identified factors stimulate online user bonding certain types of user bonds.

The research question '*Why do users bond with an online service?*' is therefore answered with 'users bond with an online service via (at least) seventeen different bonding mechanisms. They bond with an online service, because (of);

- (1) their own personal disposition and preference,
- (2) the experience they have with IT,
- (3) their demographic characteristics,
- (4) the dedication they feel towards the online service,
- (5) the investments they have already made in the relationship with the online service,
- (6) they are constrained from leaving the relationship with the online service,
- (7) they identify themselves with the online service,
- (8) the organizational structure of the online service,
- (9) the offline reputation of and experience with the online service
- (10) the quality of the service the online service provider provides
- (11) the product and service characteristics
- (12) they like the other users that use the online service
- (13) market influences
- (14) the functionality of the website of the online service
- (15) the users like the aesthetic design of the website.
- (16) the quality of the system of the online service
- (17) the quality of the information provided by the online service.

Within a user's psychological and/or behavioural process, bonding mechanisms can be applied simultaneously. Thus, allowing a user to explain the bond with an online service through multiple bonding mechanisms. For instance, users are able to bond with an online service because a) they like the aesthetic design of the website, b) they favour the quality of the service that the online service provider provides and c) they feel a certain dedication towards the online service.

The discussion section elaborates on user behaviour within the online bonding continuum and provides further information on the relationship between the individual factors and the online user bonding processes (User Intention, User Commitment, User Retention and User Loyalty). Additionally a threshold of factors, required to implement a user bonding strategy, is provided.

6. Discussion

This Master Thesis focused on conceptualizing online user bonding and identifying why users bond with an online service. The results show that online user bonding consists of both psychological and behavioural bonding processes. Additionally, seventeen user bonding mechanisms were identified which explain why users bond with online services. The discussion section provides additional insights in the relationship between the user bonding processes and the user bonding mechanisms. It also shows how the factors, forming the foundation of the user bonding mechanisms, play a crucial role in aligning the user bonding processes to the user bonding strategy and purpose of the online service provider. Aligning the user bonding antecedents, mechanism and processes with the strategy and product/services of the online service provider is key to the development of a solid online user bonding strategy (Reibstein, 2002; Ren et al, 2007; Kim and Son, 2009).

For instance, the well-known case of MySpace showed a mismatch between the online bonding process and the strategy and goal of MySpace (Ren et al, 2007; Wilkinson and Thelwall, 2010; Xu et al, 2012). Despite the fact that up until 2012 the number of new members of MySpace continued to grow, only about 1 in 10 members remained active a year after joining. MySpace showed the classical example of too much focus on user attraction and too little focus on user bonding (Ren et al, 2007; Wilkinson and Thelwall, 2010). The fall of MySpace substantiates the importance of user bonding for the long-term success of online service providers. Research shows that MySpace should have focused more on bonding their users via User Commitment and User Loyalty, instead of User Retention (Wilkinson and Thelwall, 2010; Xu et al, 2012).

Results of this literature review show that online user bonding is a dynamic process (Oliver, 1999; Reibstein, 2002; Toufaily et al, 2013). Meaning that the level of user bondedness is variable and users can feel more or less bonded. This variation explains user transition behaviour from one user bonding process to another user bonding process (Oliver, 1999; Li et al, 2006; Vatanasombut et al, 2008; Dabholkar et al, 2009; Lee and Kozar 2012). However, to the best of our knowledge, to date no research has focused on the transition behaviour of bonded users. Therefore, this Master Thesis extends the online user bonding continuum with insights on the relatedness of the four bonding processes and user transition behaviour based on the results of the literature review.

Online service providers are able to influence user bonding mechanisms and user bonding processes, by adjusting the amounts of factors that correspond to specific online user bonding processes. The overview of which factors adhere to which user bonding processes is provided in table 12

User Intention antecedents	User Commitment antecedents	User Retention antecedents	User Loyalty antecedents
Attitude [31] [37] Habit [24] Familiarity with online service [8] Experience with IT [37] Experience with online service [24] [54] Perceived empowerment [30] Perceived value [48] Trust [5] [8] [11] [30] Satisfaction [24] Commitment [20] [30] [31] [34] Integrity [8] Predictability [8] Confidence [11] Pleasure [38] Desire based attachment [26] Negative emotion [78] Dissatisfaction [78] Psychological distancing [78] Sunk costs [20] Relationship investments [20] Learning costs [20] Relationship termination costs [21] [30] Constraint based attachment [21] [26] Lock-in [39] [48] Structural embeddedness [52] Stickiness [39] Information usefulness [48] Transaction cost advantage [48] Network externalities [48] Brand image [54] Reputation [43] [54] Shared values [30] Identity based attachment [30] Competence [43] Credibility [54] Uniqueness [54] Entertainment [38] Personalization [26] Customization based attachment [26] Support service quality [11] [43] [52] After-sales service [24] Communication style [30] [34] Price [54] Shipping fees [19] Social support quality [78] [54] Affective cues [31] [48]	Self-disclosure [16] Risk preference [16] Resistance to change [44] Avoidance of conflict [44] Experience with IT [1] Experience with online service [1] Perceived empowerment [12] [30] Perceived relationship quality [40] Trust [12] [16] [40] Satisfaction [40] Sunk costs [1] [44] Relationship investments [1] [44] Relationship termination costs [12] [40] Procedural switching costs [44] Shared values [30] Identity based attachment [30] Financial bonds [1] [40] Personalization [1] Structural bonds [6] [16] Social bonds [6] Group identity [13] [15] In-group favouritism [13] Subjective norms [1] [44] Quality of alternatives [1] Integration [40] Accessibility [40] Navigation [16] [40] Design [16] [40] Usability [16] [40] Responsiveness [16] [40] Flexibility [16] [40] Reliability [16] [40] Security [16] [40] Completeness [40] Timeliness [40] Accuracy [40] Format [40]	Habit [4] [18] Familiarity with online service [3] [49] Age [45] Gender [45] Perceived empowerment [12] [27] Perceived relationship quality [40] Perceived choice [27] Trust [2] [3] [12] Satisfaction [10] [18] [22] [38] [45] [50] Commitment [12] [40] Loyalty [29] Intention [4] Sunk costs [2] [50] Relationship investments [4] Relationship termination costs [12] [14] Lock-in [4] [39] Structural bonds [39] [53] Stickiness [39] Reputation [3] Permission based advertising [53] Shared values [12] Identity based attachment [12] First mover advantages [4] [18] Differentiation strategy through product augmentation [14] [53] Technological competencies [14] Credibility [3] Offline quality [12] Offline activities of online service [12] [49] Financial bonds [15] Structural bonds [10] [15] Perceived monitoring [3] Support service quality [4] [12] [22] Pre-purchase services [10] [22] Proactive communication [53] Cognitive cues [53] Price [10] [22] Product augmentation [14] [53] Product representation [4] Product information [4] Shipping and handling services [4] On-time delivery [4] [22] Social support quality [2] Perceived feedback [3]	Individual fortitude [2] Motivations [56] Innovativity [56] Aggressiveness [56] Inertia [56] Habit [28] [56] Internet Use [7] Experience with IT [56] Experience with online service [56] Online/offline preference [56] Income [7] Culture [17] [28] [56] Perceived empowerment [56] Perceived relationship quality [29] Perceived value [9] [35] [36] [56] Perceived risk [56] Perceived involvement with the online service [42] Frequency of use [7] Trust [2] [9] [23] [28] [29] [42] [47] [56] Satisfaction [7] [9] [28] [33] [42] [47] [56] Commitment [2] [55] [56] Attachment [25] Retention [54] Intention [46] Sunk costs [17] [29] [36] [47] Relationship investments [29] Relationship termination costs [33] Search and evaluation costs [47] Transfer costs [47] Constrained based attachment [17] Lock-in [17] Benefit loss costs [47] Service uncertainty [47] Brand relationship [47] Brand image [54] Reputation [54] Shared values [25] Identity based attachment [25] Online retail strategy [56] IT policies [56] Competence [56] Reliability [56] Credibility [56] Uniqueness [2] [54] Entertainment [35] Financial bonds [56] Support service quality [23] [56]

<p>Cognitive cues [48] Identity based attachment [26] Relational embeddedness [52] Quality of alternatives [20] Experiential word of mouth [54] Product selection [11] Task characteristics [31] Transparent transactions [31] Links [38] Structure [21] Design [31] [38] Layout [38] Graphics[38] Colours [38] Perceived ease of use [5] [37] Perceived usefulness [5] [24] [37] [43] Security [24] [30] Transaction efficiency [24] Usability [43] Simplicity [54] Learnability [54] Navigability [54] Interactivity [54] Telepresence [54] Accuracy [21] Timeliness [21] Relevance [54]</p>		<p>Relational embeddedness [15] [45] [49] Cooperative norms[3] Anonymity [53] Quality of alternatives [50] Low entry barriers [12] Reduced distinctiveness of firms [12] Information asymmetry [14] Reduction of search costs [12] Product selection [4] Search function [22] Evaluation function [22] Transparent transactions [22] Order tracking [22] Navigation [4] [95] Design [22] Perceived ease of access [53] Perceived ease of ordering [4] Security [12] Delivery efficiency [22] Convenience [40] [53] Ease of obtaining information in general [40]</p>	<p>Price [54] [56] Ease of obtaining information on the product/service [7] Value for money[56] Product quality [56] Purchase volume [56] Group identity [25] Identity based attachment [25] Bond based attachment [25] Involvement with online service [42] Accessibility [56] Community toolkit [25] Download speed [56] Design [56] Brand image presence [56] Ease of use [54] [56] Simplicity [54] [56] Readability [54] [56] Consistency [54] [56] Learnability [54] [56] Interactivity [54] [56] Supportability [54] [56] Telepresence [54] [56] Convenience [54] [56] Responsiveness [23] Completeness [35] Accuracy [35] Timeliness [35] Concise nature [35] Relevance [54] [56] Reliability [2] [23] [35]</p>
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Table 12: The four user bonding processes and the adhering factors. These factors directly stimulate the user bonding processes.

Affecting the behaviour of bonded users

Within the literature eight different user transition paths were identified. These user transition paths describe the transition behaviour of users that are bonded through one of the four user bonding processes and transition into another bonding process. For instance, users bond via User Intention, after a while become loyal through loyalty strengthening factors and thus transition from User Intention to User Loyalty (Oliver, 1999).

The desired online user bonding process, depends on the nature of the online service. For instance, an e-commerce provider that sells kitchens, would incorporate a different online user bonding process than an e-commerce provider that sells fast moving consumer goods. The first e-commerce provider would suffice with an online user bonding strategy aimed at User Intention or User Commitment, because in general people don't buy a kitchen that often and should focus on implementing User Intention and/or User Commitment factors. The second e-commerce provider however, should focus on an online user bonding strategy aimed at attaining User Loyalty or User Retention and thus increase User Loyalty and/or User Retention factors, because this e-commerce provider needs frequent visits and purchases from their users in order to sustain profitability.

The aim of the extended online user bonding continuum is to provide more transparency on the behaviour of bonded users. Additionally, this extension incorporates eight different user transition paths directly derived from the literature sample. The dotted arrows in figure 5 represent user behaviour of users that bond or terminate the bond with the online service provider through one of the four user bonding processes. The normal arrows represent user transition behaviour into other user bonding processes. The extended online user bonding continuum is presented in figure 5.

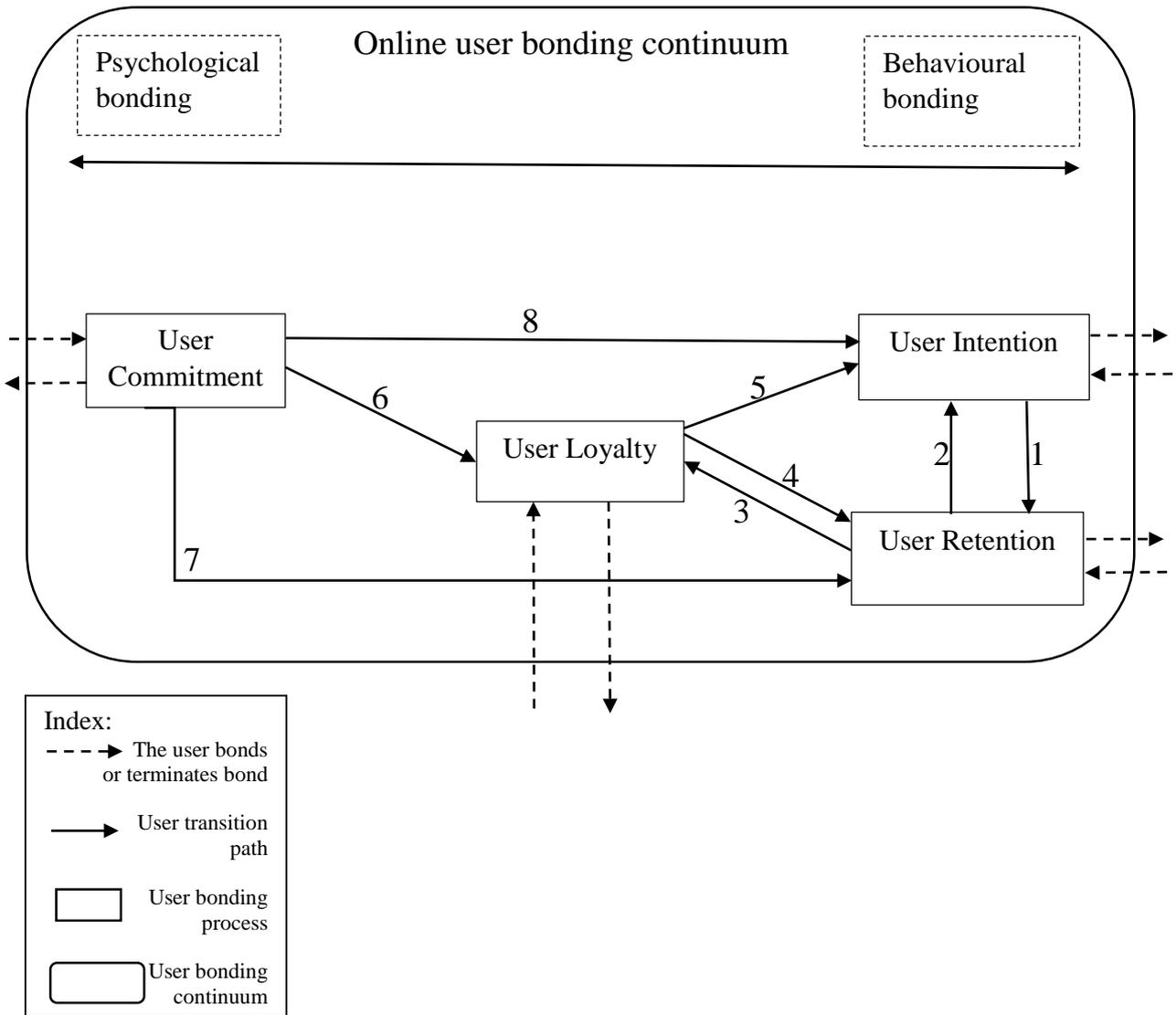


Figure 5: Extended online user bonding continuum, which provides transparency on the transition behaviour of bonded users between the four different user bonding processes.

Each user transition path is numbered. We now chronologically address the numbered transition paths. The first is a user who transitions from a User Intention bonding process to the User Retention bonding process.

1. Users that bond via User Intention bonding processes are easily tempted by competitive offers. Users that bond via User Intention bonding processes are most likely to terminate their bond between user and online service, compared to users who bond through other user bonding processes (Oliver, 1999). Termination of the user bond (all dotted arrows moving outward of the user bonding continuum) results in user attrition. As attracting new users is five times more expensive than maintaining current ones, online service providers should focus on transitioning users to another user bonding processes, in which they are less vulnerable for competitive offerings (Oliver, 1999; Bhattacharjee, 2001; Reibstein, 2002). In order to trigger a user to transition from User Intention to User Retention, an online service can increase the amount of User Retention factor specifically for that user. These factors are provided in table 12, column three. Factors

only affect User Retention and do not affect User Intention are ‘providing explicit information on product representation’, ‘product information’, ‘shipping and handling services’ and ‘on-time delivery’ (Reibstein, 2002). By informing the user via email on the ease of ordering at a particular online service the amount of perceived User Retention factors is increased and users are more likely to bond via User Retention (Reibstein, 2002)

2. User can also transition back from User Retention to User Intention (Reibstein, 2002). This occurs if they have no more need for the products/services of the online service provider, for instance due to changes in lifestyle (Jolley et al, 2006; Chang and Zhu, 2012) For example, a user continually re-used an online service to buy diapers. Over time, the user’s child grew older and potty trained. Therefore this user has no more need for diapers. However, when the next child arrives they still intend to use the online service, because they feel familiar or dedicated to the online service provider (Gefen and Straub, 2004). If this user decides not to have any more children, their need for diapers is gone and the user is lost. If however a friend of the user gives birth, this user can refer to this online service. Positive word-of-mouth stimulates the attraction of new users (Lee and Kozar, 2012) and could lead to the users’ friend entering the online user bonding process User Retention (dotted line inwards). Dedication-based bonds are for instance attained through member-gets-member programmes.
3. By stimulating a user’s desire to re-use the online service the user’s psychological processes are triggered. When combining these with the behavioural process of re-using the online service transitions a user from User Retention to User Loyalty (Lee and Kozar, 2012). User Loyalty is the strongest online user bonding process, because it encompasses both behavioural and psychological processes (Oliver, 1999; Shankar et al, 2003; Liang et al, 2008; Chiou and Pan, 2009; Kim and Niehm, 2009; Fuentes-Blasco et al, 2010; Nusair et al, 2013; Ray et al, 2012; Toufaily et al, 2013). Loyal users also actively resist factors that lead to user attrition (Oliver, 1999; Toufaily et al, 2013). User Loyalty is stimulated through optimal service quality and loyalty programs, such as the frequent flyer program (Reibstein, 2002; Liang et al, 2008)
4. Nonetheless, if a user loses his/her positive affection towards an online service, for instance due to service failure loyal users lose the psychological affection toward the online service provider and remain bonded only through behavioural processes and thus transition from User Loyalty to User Retention (Castaneda, 2011; Beatty et al, 2012),.
5. If the service failure has a large impact on the relationship between a user and the online service, the user stops engaging in repeat behaviour and loses his/her psychological preference (Castaneda, 2011; Beatty et al, 2012). This way a user within the user bonding process User Loyalty transitions to the user bonding process User Intention. To maintain user bonding through User Loyalty online service providers should emphasize on the factors that enhance User Loyalty (Reibstein, 2002; Lee and Kozar, 2012). These factors are provided in table 12.

6. The next few transition processes start in the user bonding process User Commitment. User commitment is not only a user bonding process, but also a factor which enhances the other user bonding processes (see table 12). Therefore users that are bonded through User Commitment processes are able to transition to each of the other user bonding processes (Gefen et al, 2003; Vatanasombut et al, 2004; Li et al, 2006; Vatanasombut et al, 2008; Sun, 2010; Nusair et al, 2013; Toufaily et al, 2013). Committed users do not actively re-use the online service, but feel a strong desire to continue the relationship with an online service (Meyer and Allen, 1991; Lin et al, 2003; Amichai-Hamburger, 2005; Cho, 2006; Sun, 2010; Bateman et al, 2011; Beatty et al, 2012). If the committed user is triggered to engage in re-use behaviour of an online service and retains his/her psychological desire towards the online service, he/she transitions to the user bonding process User Loyalty. By providing User Loyalty factors that trigger a behavioural reaction, such as discounts, product augmentation on a recently bought product or even constrained-based bonding mechanisms user transition behaviour to User Loyalty is stimulated (Oliver, 1999; Cater and Zabkar, 2009; Nusair et al, 2013; Toufaily et al, 2013).
7. On the other hand, if the user is triggered into engaging in re-use behaviour, but loses his/her specific psychological desire than the user transitions from User Commitment to User Retention. This happens for instance, when a user perceives bad branding and/or publicity on his/her favourite online service provider which eliminates the psychological preference toward that online service. However, through the former psychological bond, the user is very familiar (bonding mechanism: IT experience bonds) with that online service and still feels that this online service is the most convenient. Because the user re-uses the online service, but loses his/her psychological preference users, in this case, transition from User Commitment to User Retention (Vatanasombut et al, 2004; Sun, 2010). While User Retention directly influences an online service providers' financial performance (Reibstein, 2002), transitioning users from psychological based bonding processes to behavioural based bonding processes is not without caution. Without the psychological desire to maintain the established relationship users are more vulnerable to competitive offerings that trigger user switching behaviour to another online service provider (Oliver, 1999) which was the case with MySpace (Xu et al, 2012)
8. If a user has lost his/her psychological desire to maintain a bond between user and organisation, but still intends to use the online service in the future, due to User Intention factors, the users transitions from User Commitment bonding processes to User Intention bonding processes. By providing the right amount of factors corresponding to User Commitment, online service providers can prevent users transitioning to non-desired user bonding processes (Li et la, 2006; Vatanasombut et al, 2008; Al-Natour and Benbasat, 2009; Dabholkar et al, 2009).

Online user bonding threshold

Through adjustment of the amount, exposure and impact of the factors of user bonding, online service providers are able to influence a user's psychological and/or behavioural processes and therefore cause users to become more or less bonded to an online service provider. There is however a certain threshold of factors necessary to establish any of the online user bonding processes. This threshold was identified through axial coding procedures and comparing the factors of the user bonding processes. Factors that appeared in all four user bonding processes were conceptualized as factors that represent the minimum requirements to any user bonding process and thus strategy. This set of factors is referred to as the user bonding threshold. Table 13 provides an overview of this user bonding threshold. The factors are succeeded by the article numbers they originate from. These article numbers correspond to the article numbers provided in Appendix A.

Online user bonding threshold
Trust [2] [3] [5] [8] [9] [11] [12] [16] [23] [28] [29] [30] [32] [40] [42] [47] [56]
Satisfaction [7] [9] [10] [18] [22] [24] [27] [28] [32] [33] [40] [42] [45] [47] [50] [56]
Sunk costs [1] [2] [17] [20] [29] [36] [44] [47] [50]
Relationship termination costs [12] [14] [15] [30] [33] [40]
Perceived empowerment [12] [27] [30] [56]
IT experience [1] [37] [56]
Shared values [12] [25] [30]
Identity based attachment [12] [25] [30]
Design [16] [22] [31] [38] [40] [56]

Table 13: Online user bonding threshold. This threshold shows the factors required for implementing any of the four user bonding processes.

The first two factors, 'trust' and 'satisfaction', are the most frequently mentioned factors to any online user bonding process (e.g. Pavlou, 2002; Reibstein, 2002; Cho, 2006; Vatanasombut et al, 2008; Cater and Zabkar, 2009). These factors are essential ingredients to the relationship between users and online services (Pavlou, 2002; Reibstein, 2002; Cho, 2006) Trust reduces a user's (perceived) risks and enhances user satisfaction. Users that trust the online service provider and are satisfied with the relationship are more likely to invest in a bond with the online service (Cho, 2006; Vatanasombut et al, 2008; Lin et al, 2010). Both trust and satisfaction are stimulated by placing emphasis on customer relations, through dedication-based bonding mechanisms (Gefen and Straub, 2004; Cho, 2006; Lin et al, 2010).

Bendapudi and Berry (1997) and Kim and Son (2009) already pointed out that opposite to dedication-based bonding mechanisms, constrained-based bonding mechanism, are also very effective in binding users. The findings show that this also holds true for the online user bonding threshold. The second most mentioned factors that stimulate user bonding are ‘sunk costs’ and ‘relationship termination costs’. They also are prerequisite factors to any online bonding process (e.g. Oliver, 1999; Chellappa and Kumar, 2005; Hsieh et al, 2005; Eng and Kim, 2006; Liang et al, 2008; Chiou and Pan, 2009; Beatty et al, 2012; Ray et al, 2012; Zhang et al 2012) Sunk costs are monetary or non-monetary investments, such as time investments or the purchase of equipment (Rusbult and Buunk, 1993; Hsieh et al, 2005). Relationship termination costs are fines, that occur when the relationship is terminated before an agreed upon date or the loss of a preferred customer status (Vatanasombut et al, 2004; Chellappa and Kumar, 2005) These factors exert a strong influence on binding the user to online services (Rusbult and Buunk, 1993; Vatanasombut et al, 2004)

The factor perceived empowerment is part of the user bonding mechanism ‘organizational structure bonds’. This indicates that if an online service aims to bond their users in the long-run, they should incorporate certain aspects of online user bonding in their organizational structure (Meyer and Allen, 1991). Perceived empowerment is attained by providing the user with the power of choice regarding certain aspects of the service the online service provider provides (Vatanasombut et al, 2004; Chang, 2008; Vatanasombut et al, 2008; Toufaily et al, 2013)

IT experience is dependent on a user’s personal disposition and forms the foundation for ‘personal disposition bonds’ (Meyer and Allen, 1991). As mentioned, factors of this bonding mechanism are difficult to influence. However, an online service provider can adjust the level of IT experience required to use the online service. By making the online service easy to use and simple and focusing on increasing the system quality bonding mechanism, the level of IT experience required for the online service is decreased. An easy to user online service, decreases the need for IT experience and makes this factor less essential (DeLone and McLean, 2003; Gefen et al, 2003; Hernández et al, 2010; Lee and Kozar, 2012)

The factors ‘shared values’ and ‘identity based attachment’ are both part of the bonding mechanism ‘common identity’ bond. This indicates the importance of establishing a mechanism that binds users to the goals and identity of the online services (Ren et al, 2007). By targeting user segments, that share the same values and the identity as the online service these factors are achieved. Vice versa, an online service can also adjust their own goals and identity to match them to the values and identity of the group of users this online service serves (Vatanasombut et al, 2004; Ren et al, 2007; Vatanasombut et al, 2008)

The importance of website aesthetics and design to each online user bonding process is apparent. Unstructured and crowded sites lead to confused and angry users (Koo and Ju, 2010). This sharply decreases the likeliness that users bond with the online service (Koo and Ju, 2010). Management of design, through colour and graphics is key to increase pleasure and attractiveness of an online service (Koo and Ju, 2010). Pleasure and attractiveness of the online service enhance user satisfaction and trust. As mentioned, these factors in turn greatly enhance the likelihood of bonding users to an online service (Cho, 2006; Otim and Grover, 2006; Koo and Ju, 2010)

7. Conclusion

The goal of this research was to systematically define and conceptualize online user bonding in the context of online services and to understand why users bond with an online service. Toward that goal, the Grounded Theory Literature Review Method (Wolfswinkel et al, 2013) was applied to a carefully selected body of literature regarding online user bonding.

The results of the first research question indicate that the concept of online user bonding is composed of four bonding processes. These bonding processes find their origin in a user's psychological and/or behavioural processes. The bonding processes User Intention and User Retention are grounded in a users' behavioural processes. User Intention is conceptualized as '*a user's intention to re-use an online service*', User Retention is conceptualized as '*a user's continuous behavioural process of re-using the online service*'. User Commitment originates from a users' psychological process. User Commitment is conceptualized as '*a user's psychological desire to continue his/her relationship with an online service*'. The fourth user bonding process, User Loyalty is grounded in both the behavioural and psychological processes of a user. User Loyalty is conceptualized as '*a user's psychological desire to continue his/her relationship with an online service combined with a continuous behavioural process of re-using the online service, while resisting factors that might pull the user away from the online service*'. The definition of online user bonding is conceptualized from the conceptualizations of the user bonding processes. Online user bonding in the context of online services is defined as '*a users' psychological and/or behavioural process that stimulates active engagement of the user in any relationship with an online service*'.

The results of the second research question indicate that users bond with an online service because of seventeen different mechanisms. These mechanisms each represent reasons that explain why users bond with online services. These mechanisms are;

- (1) Personal disposition bonds – *bonding is based on the user's own personal disposition and preference*
- (2) IT experience bonds – *bonding is based on the experience users have with IT*
- (3) Demographic characteristic bonds – *bonding is based on the demographic characteristics of the user*
- (4) Dedication-based bonds – *bonding is based on the dedication users perceive towards the online service*
- (5) Investment bonds – *bonding occurs through the investments users have made for the purpose of the relationship with the online service*
- (6) Constrained-based bonds – *bonding occurs through constraining the user from terminating the relationship with the online service*
- (7) Common identity bonds – *users identify themselves with the online service, which triggers bonding*
- (8) Organizational structure bonds - *the organizational structure of the online service stimulates user bonding*
- (9) Offline bonds – *bonding is based on the offline reputation of and user experience with the online service*
- (10) Service quality bonds – *bonding is based on the quality of the service the online service provider provides*

- (11) Product attributes bonds – *bonding based on the product and service attributes*
- (12) Common bonds – *bonding occurs because users feel bonded to other users that use the online service*
- (13) Market dependent bonds – *bonding occurs through influences of the market*
- (14) Website functionality bonds – *bonding based on the functionality of the website of the online service*
- (15) Website aesthetic bonds – *bonding occurs because users perceive the aesthetic design of the website as appealing*
- (16) System quality bonds – *bonding is based on the quality of the information system of the online service*
- (17) Information quality bonds – *bonding occurs through the quality of the information provided by the online service*

Each of these seventeen bonding mechanisms comprises a set of bonding factors. The factors are tested through empirical research in the papers in the literature sample. This increases their validity. Each factor stimulates online user bonding by exerting a direct and positive influence on online user bonding. A total of 158 individual factors was identified, these factors are listed appendix B.

Comparing the above bonding processes and bonding mechanisms with the TAM model, some interesting aspects emerge. First of all, the TAM model describes the initial phase of acceptance of the technology (Davis, 1989), while online user bonding occurs only after the user has decided to continue to use the online service in the decision phase. The decision phase is a post-acceptance phase, which follows up the initial phase of acceptance, in which the user decides to continue to use the online service or discontinues to use the online service (Bhattacharjee, 2001). The TAM model focuses on creating a behavioural intention to use (Davis et al, 1989; Venkatesh et al, 2003). Online user bonding also incorporates psychological bonding to bind the user to an online service in the form of User Commitment and User Loyalty (Meyer and Allen, 1991; Oliver, 1999; Kim and Niehm, 2009). The TAM model and online user bonding concept overlap in the context of creating behavioural intention to use (Davis, 1989; Gefen et al, 2003; Cheng and Huang, 2013), but the online user bonding concept also follows the tradition of the IS continuance model, as it incorporates User Retention as a continuous behavioural process of using the online service (Bhattacharjee, 2001). The TAM model and user acceptance are based solely on cognitive beliefs, because the user has not yet experienced the online service (Bhattacharjee, 2001), while online user bonding is grounded in the user's experience with the online service and his/her cognitive beliefs about that experience (Oliver, 1999; Bhattacharjee, 2001). Concluding, the TAM model and online user bonding focus on different aspects of the user-to-online service relationship. However, the two most mentioned factors within the bonding mechanism 'System quality bonds' are 'perceived ease of use' and 'perceived usefulness'. These factors are directly derived from TAM research (Gefen et al, 2003; Hernández et al, 2010). This indicates that, even though the focus of TAM is different than that of online user bonding, technology acceptance is a crucial part in establishing a bond between user and online service. Online user bonding, just as the IS continuance model focuses on post-acceptance behaviour of the users who already utilized the online service once (Bhattacharjee, 2001). The TAM model focuses on pre-acceptance behaviour of these users (Davis et al, 1989; Vankatesh et al, 2003).

Another result of the literature review is the integration of commitment theory, investment theory, common identity theory, common bond theory, dedication-based theory, constrained-based theory and the DeLone and McLean model of IS success. Through the identification of the above 17 bonding mechanisms, this Master Thesis shows the integration of the different user-to-organisation theories. These theories are all centred around online user bonding and aim to establish some form of relationship between the user and the online service. Table 11 provides an overview of the bonding mechanisms and the corresponding theories.

Practical implications

This Master Thesis provides practical insights in the nature of online user bonding. Each online user bonding strategy begins with implementing the factors addressed in the user bonding threshold. The threshold provides insights in the minimum requirements for any online user bonding strategy.

Next, practitioners could choose the type of bonding process which best suits their overall business strategy. This decision is largely dependent on the nature of their product and/or service, focus on (1) deciding between psychological or behavioural process and (2) on calculating the frequency of re-visits to the online service.

After selecting the online user bonding process of choice, practitioners are able to identify the factors that directly supporting their user bonding process of choice by using table 12. These factors provide directions for setting up business protocols, information system and website design etc. based on the user bonding process of choice.

After establishing the foundation of the user bonding strategy through the user bonding process and the adhering factors, the next step is to focus on triggering users to bond with the online service. The seventeen bonding mechanisms each represent different reasons why users bond with online services. These bonding mechanisms serve as guidelines and provide insights in users' motives to bond. The bonding mechanisms correspond to a set of factors (see table 12). By checking which implemented factors correspond to which bonding mechanisms, practitioners can get insights in the motives users are likely to use when they decide to bond with the online service. Based on these insights practitioners can adjust their overall bonding strategy. More often than not, users bond with an online service because of multiple motives and thus multiple bonding mechanisms. This can be overcome by implementing several online user bonding mechanisms simultaneously in an online service provider's user bonding strategy.

Research stresses the importance of aligning the online user bonding processes with the overall business strategy of the online service provider (Reibstein, 2002; Ren et al, 2007; Kim and Son, 2009). If, even after careful consideration of the online bonding strategy, users bond with an online service through non-desired bonding processes, the extended online user bonding continuum model provides guidelines for transitioning bonded users into other user bonding processes. By transitioning bonded users to the desired user bonding process, practitioners are able to create an optimal fit between users, user bonding processes and strategy. A solid user bonding strategy greatly enhances the survival rate of the online service (Bhattacharjee, 2001). To the best of our knowledge, user behaviour of bonded users has not been documented before. Customer relationship management systems could aid practitioners into exposing the right amount of factors to the individual customer through targeted marketing campaigns.

Limitations

Limitations of the Master Thesis, include the trade-offs that were made during the selection stage in the methodology. The outlets of the literature sample only include peer-reviewed journals with an impact factor greater than 1.0. This means that this research does not include any information on ‘online user bonding’ found in conference papers, books, practitioner magazines and journals with an impact factor less than 1.0.

Due to the goal of this research, the set of search terms focused specifically on ‘online user bonding’. An effect of this choice is that the literature sample is not designed to also incorporate a specific focus on the four user bonding processes. Further research could include these user bonding processes to enhance the existing nuances between the user bonding processes and their connection to online user bonding and the user bonding mechanisms.

Additionally, a literature review as research methodology has its own limitations. The findings of this literature review are based on existing literature instead of empirical research. However, this limitation was narrowed down by setting the criteria for inclusion to only include empirical research papers in the literature sample. This criteria ensures that the literature review is based upon the empirical research of former researchers, and thus can be seen as an integration of empirical research. The empirical findings of former researchers function as qualitative data within the sample (Wolfswinkel et al, 2013).

Further Research

The topic of online user bonding is very interesting and still requires a great deal of exploration, both theoretically and empirically. Further theoretical research methodologies, such as meta-analyses, could strengthen the theoretical foundation and systematic consensus on the concept of online user bonding. To be able to understand the phenomenon of user bonding we suspect numerous different theories and frameworks have to be integrated. This Master Thesis took a first step in the integrative process. Further research could focus on integrating other user-to-organisation relationship theories to complement table 11.

The overlap identified on the concept ‘User Intention’ between TAM and online user bonding is very interesting and calls for more empirical development. Further research could address whether or not User Intention is different for first time users (using the TAM model) and users who already acquainted with the online service (using online user bonding principles). In other words, further research could examine if the same concept is the same for pre- and post-adoption phases.

Further research could extent the scope of online services to mobile services and empirically verify if the seventeen user bonding mechanisms for users also hold true in a mobile environment. Each of the user bonding mechanisms can also be verified in different types of online services, such as e-commerce, e-banking and online encyclopaedia. Further empirical research could focus on validating the behaviour of bonded users and verify the extended online user bonding continuum. Key-turning point factors could be discovered (based on the factors identified in Appendix B) that instantly trigger users into another user bonding processes. These type of findings will enhance the transparency on online user bonding and ultimately increase the survival rate of online service providers.

8. References

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Appendix A

Overview of literature sample

<i>Number</i>	<i>Authors (Year)</i>	<i>Journal</i>
1	Meyer and Allen (1991)	Human Resource Management Review
2	Oliver (1999)	Journal of Marketing
3	Pavlou (2002)	Journal of Strategic Information Systems
4	Reibstein (2002)	Journal of the Academy of Marketing Sciences
5	Gefen et al (2003)	MIS Quarterly
6	Lin et al (2003)	Service Industries Journal
7	Shankar et al (2003)	International Journal of Research in Marketing
8	Gefen and Straub (2004)	Omega – International Journal of Management Science
9	Harris and Goode (2004)	Journal of Retailing
10	Kohli et al (2004)	Journal of Management Information Systems
11	Kotha et al (2004)	Journal of Business
12	Vatanasombut et al (2004)	Communications of the ACM
13	Amichai-hamburger (2005)	Cyberpsychology and Behavior
14	Chellappa and Kumar (2005)	Journal of Management Information Systems
15	Hsieh et al (2005)	Journal of Retailing
16	Cho (2006)	Journal of Retailing
17	Eng and Kim (2006)	Service Industries Journal
18	Jolley et al (2006)	Journal of Business Research
19	Lewis (2006)	Journal of Retailing
20	Li et al (2006)	Decision Sciences
21	Mithas et al (2006)	Journal of Management Information Systems
22	Otim and Grover (2006)	European Journal of Information Systems
23	Ho and Lee (2006)	Tourism Management
24	Khalifa and Liu (2007)	European Journal of Information Systems
25	Ren et al (2007)	Organization Studies
26	Tsai and Huang (2007)	Information and Management
27	Chang (2008)	Cyberpsychology and Behavior
28	Cyr (2008)	Journal of Management Information Systems

29	Liang et al (2008)	Service Industries Journal
30	Vatanasombut et al (2008)	Information and Management
31	Al-Natour and Benbasat (2009)	Journal of the Association of Information Systems
32	Cater and Zabkar (2009)	Industrial Marketing Management
33	Chiou and Pan (2009)	Journal of Business and Psychology
34	Dabholkar (2009)	Psychology and Marketing
35	Kim and Niehm (2009)	Journal of Interactive Marketing
36	Fuentes-Blasco et al (2010)	Service Industries Journal
37	Hernández et al (2010)	Journal of Business Research
38	Koo and Ju (2010)	Computers in Human Behavior
39	Lin et al (2010)	Communications of ACM
40	Sun (2010)	Journal of Electronic Commerce Research
41	Bateman et al (2011)	Information systems research
42	Castaneda (2011)	Journal of Business and Psychology
43	Zhang et al (2011)	Information and Management
44	Beatty et al (2012)	Journal of Service Research
45	Chang and Zhu (2012)	Computers in Human Behavior
46	Lu et al (2012)	Journal of Electronic Commerce Research
47	Ray et al (2012)	Information Systems Research
48	Shih (2012)	Psychology and Marketing
49	Trepte et al (2012)	Computers in Human Behavior
50	Zhang et al (2012)	Journal of Electronic Commerce Research
51	Cheng (2013)	Journal of Electronic Commerce Research
52	Cheng and Huang (2013)	International Journal of Information Management
53	Jolley et al (2013)	Journal of Business Research
54	Lee and Kozar (2012)	Computers in Human Behavior
55	Nusair et al (2013)	Tourism Management
56	Toufaily et al (2013)	Journal of Business Research

Appendix B

Overview of the identified factors that have a direct influence on online user bonding and the User Bonding mechanisms they adhere to

Factors that are studied in the context of online user bonding	User Bonding mechanisms
Attitude [31] [37]	1) Personal disposition bonds
Habit [4] [18] [24] [28]	
Self-disclosure [16]	
Risk preference [16]	
Resistance to change [44]	
Avoidance of conflict [44]	
Individual fortitude [2]	
Motivations [56]	
Innovativity [56]	
Aggressiveness [56]	
Inertia [56]	
Internet use [7]	2) IT experience bonds
Familiarity with online service [3] [8] [49]	
Experience with IT [1] [37] [56]	
Experience with online service [1] [24] [54] [56]	
Online/offline preference [56]	
Age [45]	3) Demographic characteristic bonds
Gender [45]	
Income [7]	
Culture [17] [28] [56]	
Trust [2] [3] [5] [8] [9] [11] [12] [16] [23] [28] [29] [30] [32] [40] [42] [47] [56]	4) Dedication-based bonds
Satisfaction [7] [9], [10] [18] [22] [24] [27] [28] [32] [33] [40] [42] [45] [47] [50] [56]	
Commitment [2] [12] [20] [30] [31] [34] [40] [54] [55] [56]	

Attachment [25] [56]	
Integrity [8]	
Pleasure [26] [38]	
Negative emotions [46]	
Predictability [8]	
Confidence [11]	
Intention [4] [46]	
Retention [54]	
Loyalty [29]	
Experiential word of mouth [54]	
Reduction of customer's search costs [12]	
Sunk costs [1] [2] [17] [20] [29] [36] [44] [47] [50]	5) Investment bonds
Relationship investments [4] [20] [29] [44]	
Learning costs [20]	
Relationship termination costs [12] [14] [15] [30] [33] [40]	6) Constrained-based bonds
Search and evaluation costs [47]	
Transfer costs [47]	
Procedural switching costs [44]	
Stickiness [39] [53]	
Constraint based attachment [15] [17] [26]	
Lock-in [4] [17] [39] [48]	
Structural embeddedness [52]	
Brand relationship [47]	
Information usefulness [48]	
Transaction cost advantage [48]	
Network externalities [48]	
Benefit loss costs [47]	
Service uncertainty [47]	
Brand image [54]	

Reputation [3] [43] [54]	7) Common identity bonds
Permission based advertising [53]	
Shared values [12] [25] [30]	
Identity based attachment [12] [25] [26] [30]	
Competence [43] [56]	
Reliability [56]	
Credibility [3] [54] [56]	
Uniqueness [2] [54] [56]	
Entertainment [35] [38]	
Online retail strategy [56]	8) Organizational structure bonds
First mover advantages [4] [18]	
Differentiation strategy through product augmentation [14] [53]	
IT policies [56]	
Technological competencies [14]	
Perceived empowerment [12] [27] [30] [56]	
Perceived value of online service [9] [35] [36] [48] [56]	
Perceived relationship quality [29] [40]	
Perceived choice [27]	
Perceived risk [56]	
Perceived involvement with online service [42]	
Frequency of use [7]	
Offline quality [12]	9) Offline bonds
Offline activities of online service [12] [49]	
Financial bonds [15] [40] [56] [1]	10) Service quality bonds
Structural bonds [6] [10] [15] [16]	
Personalization [26] [1]	
Customization based attachment [26]	
Support service quality [4] [11] [12] [22] [23] [43] [52] [56]	
Perceived monitoring [3]	

Pre-purchase services [10] [22]	
After-sales service [24]	
Employee communication style [30] [34] [53]	
Involvement with the online service [42]	
Social support [2] [46] [54]	
Affective cues [31] [48]	
Cognitive cues [48]	
Perceived feedback [3]	
Price [10] [22] [54] [56]	11)Product and service characteristic bonds
Product augmentation [14] [53]	
Product representation [4] [40]	
Product information [4] [7]	
Product quality [56]	
Value for money [56]	
Purchase volume [56]	
Shipping and handling [4] [43]	
Shipping fees [19]	12)Common bonds
On-time delivery [4] [22]	
Social bonds [6] [32]	
Group identity [13] [15] [25]	
Bond based attachment [25]	
In-group favouritism [13]	
Relational embeddedness [15] [45] [49] [52]	
Subjective norms [44]	
Cooperative norms [3]	13)Market dependent bonds
Anonymity [53]	
Quality of alternatives [1] [20] [50]	
Low entry barriers [12]	
Reduced distinctiveness of firms [12]	

Information asymmetry [14]	14) Website functionality bonds
Product selection tool [4] [11]	
Search function [22]	
Evaluation function [22]	
Task characteristics [31]	
Transparent transactions [22] [31]	
Order-tracking [22]	
Links [38]	
Integration with other devices [40]	
Accessibility [40] [56]	
Community toolkit [25]	
Download speed [56]	15) Website aesthetic bonds
Navigation [4] [16] [40] [50] [54]	
Structure [21]	
Design [16] [22] [31] [38] [40] [56]	
Layout [38]	
Graphics [38]	
Colours [38]	
Brand image presence [56]	16) System quality bonds
Perceived ease of use [5] [37] [54] [56]	
Perceived ease of ordering [4]	
Perceived usefulness [5] [24] [37] [43]	
Perceived ease of access [53]	
Security [12] [16] [24] [30] [40]	
Transaction efficiency [24]	
Usability [16] [40] [43]	
Simplicity [54] [56]	
Learnability [54] [56]	
Consistency [56]	

Navigability [54]	
Interactivity [54] [56]	
Telepresence [54] [56]	
Responsiveness [16] [23] [40]	
Flexibility [16] [40]	
Reliability [16] [40]	
Delivery efficiency [22]	
Convenience [40] [53] [56]	
Supportability [54] [56]	17)Information quality bonds
Accuracy [21] [35] [40]	
Timeliness [21] [35] [40]	
Concise nature [35]	
Relevance [54] [56]	
Completeness [35] [40]	
Format [40]	
Ease of obtaining information in general [40]	
Reliability of information [2] [23] [35]	