Journal of Business Ethics (2009) 90:505–522
DOI 10.1007/s10551-010-0603-1

Web 2.0 Social Networks: The Role of Trust

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ABSTRACT. Online social networks (OSNs) have gained enormous popularity in recent years. Hundreds of millions of social network users reveal great amounts of personal information in the Web 2.0 environment that is largely devoid of security standards and practices. The central question in this article is why so many social network users are being so trusting. The focus is on theory-building on trust as a critical issue in OSNs. A theoretical framework is developed, which facilitates a multi-level and multi-dimensional analysis of research problems related to trust in OSNs. First, the structural and relational underpinnings of trust in OSNs are investigated from a governance perspective that integrates concepts of social network theory, social capital and the role of value in relational exchanges. Subsequently, the focus moves to the individual's decision to trust and to processes through which trust actually emerges. Different types and sources of trust from the trust literature and their importance for trust-related decisions and behaviours in OSNs are discussed. Several research propositions are presented, which contribute to a better understanding of the role of trust and the relevance of facets of trust and social capital in OSNs.

KEY WORDS: online social networks, privacy, security, social capital, social networking, sources of trust, trust, value, Web 2.0 environment

Introduction

The concepts of Web 2.0 facilitate a new type of communication that becomes increasingly important. Web 2.0 is the popular term for advanced Internet technology and applications, including blogs, wikis, podcasting, RSS, and social networks (Lai and Turban, 2008; Scholz, 2008). The essential difference between Web 2.0 and the traditional Web is that content is user-generated, and there is considerably more collaboration amongst Internet users. The most interesting Web 2.0 application in recent years is the emergence of online social networks (OSNs) or virtual communities which have opened up possibilities for rich, online human-to-human interaction unprecedented in the history of Internet communication. OSNs such as Facebook, mySpace, Friendster, Xing or studiVZ are a new form of self-representation and communication, and they imply a social behaviour that is different from the real world (Bonhard and Sasse, 2006). Since their introduction, these OSNs have attracted millions of users, from all continents and from all age groups, although the younger generation is more prominent (Cachia et al., 2007). OSNs have become an essential part in the everyday activities of their users, a parallel universe for many, satisfying in the virtual world the human need for sociability (Ganley and Lampe, 2009). The notions of network and community have been examined under various contexts over the years. Recently, several researchers have begun to clarify the relevant questions and investigate important characteristics of OSNs (Boyd and Ellison, 2007; Chewar et al., 2005).

Much of Web 2.0 is based upon – or actually built upon – increased personal information flows online (Zimmer, 2008). Information technology experts characterize Web 2.0 social networks as 'attractive targets for those with malicious intent', because each site offers a huge user base sharing a common infrastructure, and the information that users willingly supply is highly valuable (Mansfield-Devine, 2008). The average user's profile contains information about her/his home address, her/his pet's name, where she/he went to school, her/his mother's maiden name and other family details – just the kind of information used for security or 'lost password'questions for online banking and other confidential services. Every now and then, problems

related to privacy or security issues on social network sites are reported in the media. For instance, in May 2008, the social networking website Bebo admitted that a 'bug'in its systems enabled users to view other people's private information. Phone numbers and addresses were made available as some of Bebo's 40 million users found themselves randomly switched to other people's accounts (Eriksen, 2008). Other examples for potentially harmful opportunistic behaviours are the unauthorized tracking of members' activities on other websites, the practice of posting names of potential new friends onto a member's personal web page, and allowing members to anonymously search other members' profiles (Sledgianowski and Kulviwat, 2009). Evidence from many OSNs indicates that millions of social network users nevertheless do not hesitate to share their thoughts, experiences, images, files, videos and links in an environment that is largely devoid of security standards and practices. Users actually tend to trust other community members with expertise, identity, personal information, and even money lending (Lai and Turban, 2008). Users also tend to trust providers of social network sites to keep their information and photos private. Thus, social networking obviously takes place within a (largely unwarranted) context of trust. Consequently, the question arises – why are social network users being so trusting?

Little research has considered the interrelationships amongst trust, social networks and the Web 2.0 environment. In this article, the author analyses the role of trust in Web 2.0 communities from a network governance perspective that integrates concepts of social network theory, social capital, and the role of value in relational exchanges. By placing greater emphasis on trust, this research aims at affording a better understanding of selected social processes in Web 2.0 networks. Specifically, the following research questions are discussed:

- What are the major influence factors for Internet users to engage in OSNs?
- What are the structural and relational underpinnings of trust in OSNs?
- What are the types and sources of trust in OSNs?

The main aim of this research is to develop a conceptual framework that allows the integration of different trust perspectives and facilitates a multifaceted analysis of various aspects of trust in OSNs. Hence the focus is on theory building on trust as a critical issue in OSNs. As part of preliminary research, the author conducted three focus groups with Facebook, StudiVZ and XING participants to learn more about the range of attitudes and opinions that OSN members have with regard to privacy and trust. A total of 21 people (8 male, 13 female) were involved in the focus groups which were conducted in the author's office during April and May 2009. In the StudiVZ and Facebook focus groups, all participants were students (age range from 19 to 26), in the XING focus group, all participants were professionals (age range from 30 to 54). The focus group transcriptions were used to provide qualitative insights into motives and opinions of OSN members, and their framework of understanding trust-related problems in OSNs. Some comments and summaries from the focus group discussions are used as illustrative material.

Trust has been defined by researchers in many different ways, which often reflect the paradigms of the particular academic discipline of the researcher (Granovetter, 1985; Hosmer, 1995; Koehn, 2003; Lewicki and Bunker, 1995; Mayer et al., 1995; Rotter, 1967, 1971; Rousseau et al., 1998; Williamson, 1993; Zucker, 1986). To analyse trust in OSNs, an adequate framework must incorporate the social and relational underpinnings of trust. Thus, the role of trust in OSNs is discussed from two different angles. First, drawing on social capital and social network theory, trust is viewed as a structurally embedded asset or a property of relationships and networks, which helps to shape interaction patterns within OSNs (Murphy, 2006). The focus is on relationship patterns and structures and not on processes through which trust is built. Secondly, types and sources of trust are discussed from the perspective of the individual who is considering trust-related behaviour that is coupled with participation in OSNs. Here, trust is defined as a belief or expectation about the other (trusted) party, or as a willingness to rely on another party, coupled with a sense of vulnerability or risk if the trust is violated (for a detailed summary and an overview of the most prominent trust definitions, see McKnight and Chervany (1996), Kaluscha (2004) and Goodall Powers (2001)).

The article proceeds as follows. In the first section, a working definition of OSNs is adopted, followed by an overview of goals and benefits of participation in OSNs. Then, a conceptual framework that integrates perspectives from social network and social capital theory is developed which facilitates the identification of key structural and relational issues related to trust in OSNs. Subsequently, the focus moves to the individual's decision to trust and to processes through which trust actually emerges. The adequacy and relevance of different types and sources of trust from the trust literature for trust-related decisions and behaviours in OSNs are discussed. The article concludes with a brief discussion on future directions for research on trust in OSNs and about the broader implications of the proposed framework.

Defining online social networks

A social network can broadly be defined as a set of actors and the set of ties representing some relationship – or lack of relationship – amongst the actors (Brass et al., 1998). Actors in a social network (people, organizations or other social entities) are connected by a set of relationships, such as friendship, affiliation, financial exchanges, trading relations or information exchange. In the first volume of his seminal trilogy on 'The Information Age', Castells (1996) emphasizes the openness of networks, arguing that networks are open structures that are able to integrate new actors or nodes as long as they share the same communication codes (e.g. values or performance goals). Porter Liebeskind et al. define social networks as 'a collectivity of individuals among whom exchanges take place that are supported only by shared norms of trustworthy behaviour'(1995, p. 7). According to this definition, exchanges that are conducted through social networks are supported by mechanisms of trust, whereby shared norms of trustworthy behaviours may be instilled through different processes.

An OSN uses computer support as the basis of communication amongst its members (Andrews et al., 2002). Web-based social networks provide different means for users to communicate, such as e-mail, instant messaging services, blogging and photo/video-sharing. Hundreds of OSNs have been launched, with similar technological features that support a wide range of interests and practices (Ellison et al., 2007). These social network sites provide a dynamic and multimodal platform which enables discussions, sharing of multimedia content, organisation of events, etc., amongst members with common interests, such as school, friendship, work, and hobbies (Cachia et al., 2007; Sledgianowski and Kulviwat, 2009). Content is both provided by and consumed by the OSN members. Membership is usually free with access being granted after registering and completing an optional profile, which typically includes descriptors such as age, location, interests, and an 'about me'section. Most sites also encourage users to upload a photo. The visibility of a profile varies by social network site and according to the user's disposition (Boyd and Ellison, 2007). The linking of profiles through friendship requests and acceptances and the ability to view the resulting connections on others' profiles are tangible mechanisms that reflect existing social networks (Ellison et al., 2007; Lange, 2007).

Drawing on Boyd and Ellison (2007), OSNs are defined as web-based services that (1) allow individuals to create a public or semi-public profile for themselves within a bounded system, (2) indicate a list of other users with whom they are connected, and (3) view and traverse their list of connections and those made out by other users within the system. The type and specific name of these connections may vary from network to network. This definition does not specify the closeness of any given connection or relationship, but only that participants are linked in some respect (Lange, 2007).

Most OSNs support the maintenance of already existing social ties, but there are also networking services that support the formation of new connections with strangers, based on shared interests, political views, or activities. Some OSNs are directed at diverse audiences, whereas others attract people based on common interests or shared racial, sexual, religious, or nationality-based identities (Boyd and Ellison, 2007). Social network sites can be broadly classified into four categories, although the lines between the different network types can blur significantly (Ellison et al., 2007). Social network sites can place special emphasis on staying in touch with friends and reconnecting with people (friendship-oriented networks such as Facebook, StudiVZ);

they can be oriented to work- or business-related contexts (career- or business-oriented networks such as XING, LinkedIn) or to romantic relationship initiation (e.g. Match.com, the original goal of Friendster); or they can aim at connecting those with shared interests such as music or animals (communities of interest such as MySpace, Dogster).

In the marketing literature, the terms 'online social network' and 'virtual community' are often used synonymously. Virtual communities are viewed as consumer groups of varying sizes that communicate regularly and for some duration in an organized way over the Internet through a common location or mechanism to achieve personal as well as shared goals of their members (Dholakia et al., 2004; Ridings et al., 2002). When social network sites 'hit the mainstream 'after the launch of MySpace in 2003, a shift in the organization of online communities became apparent. While websites dedicated to communities of interest still exist and flourish (e.g. Dogster, CafeMom, Feierabend), OSNs catering to a broader audience are primarily organized around people, and not interests. Early public online communities such as Usenet and public discussion forums were structured by topics or according to topical hierarchies, but prevailing social network sites are structured as personal or 'egocentric' networks, with the individual at the centre of his/her own community (Boyd and Ellison, 2007). These OSNs, addressing a very broad target audience, enable users to articulate and make visible their social networks, whereas the opportunity to come into contact with strangers usually is of minor importance.

Motivation to participate in online social networks

For the past several years, information exchange between consumers on OSN sites has been growing exponentially. Thus, especially marketing researchers have been and still are challenged to provide insights as to what motivates consumers to participate in and contribute to OSNs. Recent research into virtual communities has advanced our understanding of the reasons why people get involved in OSNs. Nevertheless, many knowledge gaps still exist (de Valck et al., 2009; Pempek et al., 2009). Many people join OSNs out of a desire to be part of a community composed of people who share similar interests. However, participation in OSNs can meet a considerable number of needs. One important focus of online communities is on guidance and informational support that enhances decision making (Macaulay et al., 2007). Other needs that can be met by OSNs are affiliation and belonging, power and prestige, and entertainment (Andrews et al., 2002; Balasubramanian and Mahajan, 2001).

Using the perspective of expectancy-value theories (see the overview in Eccles and Wigfield (2002)), value can be regarded as one of the most important determinants of an individual's decision to participate in an OSN and to exchange personal information. People are most likely to perform an action when the product of expectancy, and value is at its highest (Heckhausen, 1989). (Perceived) 'value' and 'values' are conceptually distinct constructs, because value is the outcome of an evaluative judgement, whereas the term values refers to the standards, norms, criteria or ideals that serve as the basis for such an evaluative judgement (Sanchez-Fernandez and Iniesta-Bonillo, 2007). Concerning value typologies, the range and the variety found in the literature are very wide, although the hedonic versus utilitarian value difference shows through many typologies of consumer value (Babin et al., 1994; Batra and Ahtola, 1990; Diep and Sweeney, 2008; Gallarza and Gil Saura, 2006; Sanchez-Fernandez and Iniesta-Bonillo, 2007; Sweeney and Soutar, 2001).

The presence of utilitarian and hedonic value components, which have been referred to as 'thinking and feeling' dimensions (Sweeney and Soutar, 2001), has been demonstrated in virtual communities as well (Dholakia et al., 2004). *Utilitarian value* refers to tangible or objective benefits and can be defined as the value derived from accomplishing some pre-determined instrumental purpose (Chaudhuri and Holbrook, 2001; Dholakia et al., 2004). It can be characterized as functional, task-related, rational, cognitive or instrumental (Sanchez-Fernandez and Iniesta-Bonillo, 2007). In a particular sense, this value component not only captures the more extrinsic reasons for engaging in an activity, but it also relates directly to an individual's internalized short- and long-term goals (Eccles and Wigfield, 2002). For OSN participants, either

informational value or instrumental value can be of special relevance. Informational value is derived from getting and sharing information in the online community (Dholakia et al., 2004). Several XING participants responded that one of the most important benefits of XING is the 'automatic' updating of contact features – the contacts (there are not friends but contacts in XING) of the participants upgrade their profiles themselves, so 'I have always current data such as phone numbers, e-mail addresses, changes of job from my schoolmates, former fellow students, etc'. When social interactions in online communities help participants to accomplish specific tasks, such as solving a problem, validating a decision already reached, or buying a product, OSNs provide instrumental value. As one StudiVZ participant put it, 'When I need written notes about the last class I missed I just have to look on StudiVZ who else is attending this class to find out whom I can ask'.

Hedonic value relates to the experiential aspects of human consumption in which emotions and feelings of enjoyment or pleasure play a pivotal role (Chaudhuri and Holbrook, 2001). It reflects the entertainment and emotional worth of an activity and can be characterized as non-instrumental, experiential and affective (Sanchez-Fernandez and Iniesta-Bonillo, 2007). The hedonic dimension of value is similar to the construct of intrinsic value as defined by Eccles and Wigfield (2002). They define intrinsic value as the enjoyment an individual gets from performing an activity or the subjective interest the individual has in the subject. Dholakia et al. (2004) use the notion of 'entertainment value' for the value that community members derive from fun and relaxation through playing or otherwise interacting with others. As one Facebook participant articulated, 'for me, entertainment (on Facebook) is an important factor – when I sit in front of the computer all afternoon and work on a project paper, I have about 10 to 20 logins during the afternoon'.

Several researchers have proposed *social value* as another dimension of value (Sanchez-Fernandez and Iniesta-Bonillo, 2007; Sweeney and Soutar, 2001) that should not be subsumed under utilitarian value. Because of its particular importance in the context of online communities, in this article, social value is also considered as an additional value dimension, which is not independent but potentially related to the other value dimensions. Social benefits have been shown to be the influence factor that most strongly motivates consumers to participate in online communities and to articulate themselves (de Valck et al., 2009; Ellison et al., 2007). The social dimension of value relates to theories of motivation which focus on people being altruistic, cohesive, and seeking acceptance and affection in interpersonal relationships (Arnold and Reynolds, 2003). Dholakia et al. (2004) differentiate between two kinds of social value. Maintaining interpersonal connectivity refers to the social benefits derived from establishing and maintaining contact with other people, such as friendship, and social support. Another type of social value is social enhancement, the value that network participants derive from gaining acceptance and approval of other members. Available research suggests that most OSNs primarily support pre-existing offline relationships or solidify offline contacts, as opposed to meeting new people (Boyd and Ellison, 2007). Recent studies report that students and alumni primarily use Facebook to communicate, connect and stay in contact with others (Ellison et al., 2007; Fogel and Nehmad, 2009). The particular importance of social value also became apparent in the three focus group discussions the author conducted with StudiVZ, Facebook and XING participants. For instance, when asked what they thought was the most important benefit of using Facebook, discussants responded that they could stay in touch and reconnect with friends all over the world.

In the context of OSNs, the utilitarian, hedonic and social value dimensions should not be seen as a question of either/or but rather as a question of more/less. However, the relative importance of the value dimensions might not be the same on different types of Web 2.0 social networking sites. Connectivity and friendship-oriented networks such as StudiVZ and Facebook emphasize social value and hedonic value (reflecting enjoyment, fun and pleasure), whereas in online groups that operate on functional support and shared experience (e.g. eBay, XING), utilitarian value might be especially important. Communities of interest can afford their members primarily utilitarian value, but also social value and hedonic value. Connectivity and friendship-oriented networks do not focus on utilitarian value, but nevertheless they also provide informational and instrumental value to their participants,

e.g. by satisfying the curiosity of the members or by making available actual personal data. Beyond their functional focus, career and business related networks afford social benefits as well, e.g. by providing the opportunity to gain approval and acceptance of other members. The above considerations suggest the following propositions:

P1: The perception of utilitarian, hedonic and social value is positively related to participation in OSNs.
P2: The relative importance of utilitarian, hedonic and/or social value for participation in OSNs is contingent upon the type of the OSN.

Trust and social capital in online social networks

The role of trust in OSNs can be investigated from a governance perspective that allows us to integrate concepts of social network theory and social capital. Here, governance relates to the different modes of co-ordinating individual actions, and networks are viewed as providing an organizing structure for relations between actors. Trust can be seen as a powerful alternative to formal governance mechanisms that allow exchange relationships to be formed and that attempt to control opportunism (Puranam and Vanneste, 2009). The focus is on patterns and structures and not on processes through which trust actually emerges. Conceptual debates in the social capital literature and ambiguous empirical results suggest, in most cases, that trust has an important part to play in networks, but the precise role is not completely clear (Gubbins and MacCurtain, 2008). The relationship amongst the concepts of social networks, social capital, and trust is far from conclusive. In what follows, more light is shed on selected facets of the complex relationship between trust, social capital, and OSNs.

Social capital is a term with numerous definitions in multiple fields and can be viewed as an umbrella theory that brings together such concepts as social networks, trust, social exchange, social resources, embeddedness, and social support (Adler and Kwon, 2002; Burt, 2000; Glenane-Antoniadis et al., 2003; Graddy and Wang, 2009; Spence and Schmidpeter, 2003). Despite the conceptual confusion surrounding social capital, most researchers agree that social capital refers to investment in personal relationships or social structure that facilitates the achievement of individual or collective goals (Glanville and Bienenstock, 2009). Nahapiet and Ghoshal (1998) distinguish between three interrelated dimensions of social capital: structural (the 'hardware' of social networks), relational (describes the personal relationships which influence people's behaviour and fulfil their social motives, such as respect and friendship), and cognitive (refers to those resources which provide shared representations, interpretations and systems of meaning amongst parties).

As Graddy and Wang (2009) and Glanville and Bienenstock (2009) elaborate in their conceptual reviews, amongst the most influential researchers on social capital, Bourdieu and Wacquant (1992) and Coleman (1988) emphasized the structural and network characteristics of social capital, whereas Fukuyama (1999) focused on the relational and trust aspects of social capital. Putnam's definition represents a synthesis of the network and trust views of social capital: '… the core idea of social capital is that social networks have a value… social contacts affect the productivity of individuals and groups' (Putnam, 2000, pp. 18–19). Similarly, Nahapiet and Ghoshal define social capital as 'the sum of the actual and potential resources embedded within, available through and derived from the network of relationships possessed by an individual…' (1998, p. 243). In this regard, the concept of social capital can be considered as a way to describe the value that can be accrued through a social network and from the social resources of the actors embedded within that network (Gubbins and MacCurtain, 2008). In other words, the value of social networks manifests to participants as social capital (Ganley and Lampe, 2009).

The cognitive dimension of social capital refers to resources that increase the understanding between parties and has been less discussed in the mainstream literature on social capital (Nahapiet and Ghoshal, 1998). Networks provide not only information and sociability, but also a sense of belonging and social identity (Castells, 2001). This dimension of social capital is related to social psychology theory and research that have emphasized that social categorization processes enhance perceptions of similarity which provides a basis for trust between group

members (Kramer et al., 1996; van der Zee et al., 2009). Such common social identities generate cognitive benefits that can serve as a substitute for other forms of trust building at an individual level. 'When there is trust at the depersonalized group level, individuals may feel little need to verify trust before engaging in exchange with other group members' (van der Zee et al., 2009, p. 178).

In OSNs, the relationship between trust and social capital can be analysed on different levels. There is an ongoing debate as to whether social capital is the property of individuals or collectives, but many scholars argue that it can be both (Ferlander, 2007; Glanville and Bienenstock, 2009; Goddard, 2003). From a macro-level or group perspective, social capital is seen as a collective resource that enables productive outcomes such as exchange of valuable information (Bowey and Easton, 2007). Where social capital and trust exist, actors do not need costly monitoring and governance procedures. Instead, individuals can rely on a governance logic based on informal trust, reciprocity, and reliable norms of fairness. From a micro-level perspective, the focus is on how individuals create social capital for their benefit and gain returns through access to social networks, e.g. in terms of job opportunities or emotional support (Ferlander, 2007). Thus, social capital can be viewed both as an outcome gained by individuals in an OSN and as a tool for facilitating the governance of such spaces (Ganley and Lampe, 2009). Macro-level social capital can be conceived as an emergent property of micro-level social capital (Glanville and Bienenstock, 2009). Viewed structurally, the patterns of micro-level social capital to which individuals have access contribute to what constitutes social capital at the macro-level. Individuals with limited access to social capital but who participate in groups or communities with high social capital still benefit in some ways. For example, OSN members with relatively few friends and contacts can spot immediately the (maybe many) friends of their friends and thus easily get in touch with personally unknown but presumably trustworthy persons. As Wellman et al. already have noticed in their study in the first surge of Internet usage, '… computer-supported social networks members tend to trust strangers, much as people gave rides to hitchhikers in the flowerchild days of the 1960s' (1996, p. 223).

A better understanding of social processes in Web 2.0 communities requires a finer-grained analysis of the quality and configuration of network ties, which is closely related to social capital theory. Adopting a social network approach to the analysis of trust involves the assumption that individual actors are embedded within a network of relationships (Jones et al., 1997). The concept of embeddedness refers to the influence of the network on its members' behaviour (Granovetter, 1992). Granovetter (1992) distinguishes between two levels of embeddedness: relational embeddedness and structural embeddedness. Relational embeddedness can be associated with the relational dimension of social capital and describes the kind of personal relationships people have developed with each other through a history of interactions. Structural embeddedness can be related to the structural dimension of social capital and refers to the network's overall structure or architecture and thus concerns the properties of the social system and the network of relations as a whole. It provides the basis for social mechanisms to adapt, coordinate, and safeguard exchanges and thus enhances the likelihood of network governance (Jones et al., 1997). Structural embeddedness focuses on social pressure that the network as a whole exercises on the development of a single relationship. The embedded perspective proposes an evolutionary conceptualization of trust and argues that trust increases as a consequence of the accumulation of positive experiences (Ganzaroli, 2002). Granovetter (1992) suggests that being embedded in cohesive networks accelerates the creation of trust. The cohesiveness of the network structure, where a specific relationship is embedded, facilitates the circulation of information about parties' reputation and the socialization of common behaviour. The prevalent characteristics of a network shape the behaviour of its members. Therefore, if a person acts in a context where all the others behave ethically, she/he will feel guilty about behaving opportunistically (Ganzaroli, 2002).

Consequently, the cohesiveness and density of a network are structural attributes that are closely related to the emergence of trust. Tie strength is a multidimensional construct that represents the strength of interpersonal relationships in the social network and comprises closeness, intimacy, support, and association (Brown et al., 2007; Glanville and Bienenstock, 2009). Strong ties are intimate

relationships, e.g. with immediate family and close friends, and tend to be multi-stranded and regularly maintained (Ferlander, 2007) (for a detailed definition see Wellman and Wortley (1990, p. 564)). Weak ties, on the other hand, are non-intimate relationships, e.g. with acquaintances, and tend to be single-stranded and maintained infrequently. Both strong and weak ties contribute to the creation of social capital. Coleman (1988) tends to equate social capital with strong ties, whereas Granovetter (1973) and Burt (2000) stress the role and advantages of weak ties.

Different forms of outcome can be associated with different structural and relational attributes of social capital (Ferlander, 2007; Glanville and Bienenstock, 2009). Emotional support, involving the provision of empathy and caring, usually is restricted to strong ties. Instrumental support, referring to practical help, e.g. in relation to money or work, and informational support, relating to the provision of advice and information leading to a solution to problems, can be associated both with strong and weak ties. Social support and companionship that involves spending social time (leisure time) with others usually is confined to strong ties. These different forms of support can easily be linked to the value dimensions that have been proposed to influence participation in OSNs, implying again that network participation is closely related to the potential enhancement of social capital.

On the one hand, a considerable number of ties in OSNs can be characterized as strong ties, as much contact in OSNs is between people who see each other in person more or less frequently. Strong ties facilitate frequent, reciprocal, companionable, and often supportive contact (Wellman et al., 1996). Examining the provision of support in neighbourhood communities Wellman and Wortley (1990) found that the strength of a relationship had the strongest association with emotional support. Strong ties are also more likely to provide social companionship, such as discussing ideas, doing things together. In terms of trust, strong ties are related to 'thick' trust that is generated by intensive, frequent contact between people who personally know each other (trust in close friends) (Ferlander, 2003). Trust is more likely to emerge amongst strong ties, presumably due to greater emotional bonds, better knowledge and understanding, and the development of common ways of thinking and communication (Levin and Cross, 2004). Trusting ties offer certain advantages over non-trusting ties as they help to stabilize networks and increase cooperation.

On the other hand, many online ties are between persons who are weakly tied, socially and physically distant, and not bound into densely knit work structures or narrow circles of friends (Wellman et al., 1996). Weak ties are related to 'thin' trust, which can be described as a broader, but weaker and more abstract form of trust (Ferlander, 2003; Luhmann, 1989). Levin et al. (2002) introduced the concept of trusted weak ties and empirically demonstrated the structural benefits of weak ties, showing that they provide better access to non-redundant and innovative information. Their findings suggest that there are trusting and non-trusting weak and strong ties, implying that trust and tie strength are related but not synonymous (see also Gubbins and MacCurtain (2008)). Investigating the mediating role of trust in effective knowledge transfer in organizations Levin and Cross (2004) found that trusted weak ties yielded the most useful knowledge for the knowledge seeker's work. Because of their greater structural ability to provide new information or novel insights, weak ties provide more useful knowledge than strong ties. Levin and Cross emphasize that strong ties are still helpful in the knowledge they provide, but '… trusted weak ties may be even more helpful due to their added ability to provide non-redundant information' (2004, p. 1480).

The OSNs allow users to create and maintain larger sets of relationships from which they could potentially draw resources, because the Web 2.0 technology is well-suited to maintaining such ties cheaply and easily (Ellison et al., 2007). The ubiquitousness of the Internet facilitates long-term contact with people all over the world, regardless of their spatial distance. Weak ties in (online) social networks tend to link individuals with many other people who might be more socially dissimilar, providing new sources of useful information or new perspectives. In this way each participant can effortlessly get to know socially and/or physically distant people. Regarding strong ties, OSNs can be considered primarily as a complimentary means of communication. In the creation of social capital, the potential of OSNs to increase the number of weak

TABLE I

Outcomes associated with tie strength as a structural attribute of social capital and different levels of trust

Tie strength	Trust	
	Low	High
Low (weak ties)	No support, no valuable information	Low emotional and social support, new information, most useful knowledge
High (strong ties)	Support if it is required, no valuable information	High emotional and social support, helpful knowledge, companionship

ties seems especially important. The above considerations lead us to the conclusion that OSNs enhance social capital by supporting both strong and weak social ties. However, trusted weak ties are the prevalent relationships in OSNs that essentially contribute to network performance by providing non-redundant and innovative information. Table I presents predicted relationships amongst levels of trust and strength of ties in an OSN in terms of support offered to participants and the quality of information provided.

The predictions of Table I can be expressed as propositions, as follows:

P3: In an OSN, weak ties and low trust are likely to result in little or no social and emotional support amongst participants.
P4: In an OSN, weak ties and high trust are likely to result in low social and emotional support amongst participants.
P5: In an OSN, strong ties and low trust are likely to result in social and emotional support amongst participants only if required.
P6: In an OSN, strong ties and high trust are likely to result in high levels of social and emotional support amongst participants.
P7: In an OSN, weak ties and low trust are likely to result in little or no valuable information being shared amongst participants.
P8: In an OSN, weak ties and high trust are likely to result in the highest level of useful information and knowledge being shared amongst participants.
P9: In an OSN, strong ties and low trust are likely to result in little or no valuable information being shared amongst participants.
P10: In an OSN, strong ties and high trust are likely to result in moderate levels of useful information and knowledge being shared amongst participants.

Another structural dimension of social capital refers to the distinction between bonding and bridging network ties. Bonding and bridging are not 'either-or' categories in which social networks can be neatly divided, but 'more or less' dimensions along which different forms of social capital can be compared (Putnam, 2000). One has strong ties to people who are emotionally close to oneself, and one has bonding ties to people similar to oneself (Ferlander, 2007). Likewise, one has weak ties to people who are emotionally distant from oneself, and bridging ties to people who are different from oneself, e.g. in terms of age, socioeconomic status or ethnicity. Although conceptually different, the impacts of the two sets of ties are similar: the value of strong and bonding ties lies in their tendency to provide greater emotional and social support, and the value of weak and bridging ties lies in the greater provision of access to new and diverse sources of information. In general, the Internet can serve both bonding and bridging functions (Norris, 2002). Again, OSNs can reinforce and strengthen existing social ties but can also provide cross-cutting links between otherwise disconnected groups. Drawing on the findings of Steinfield et al. (2008), the following proposition is made:

P11: Participation in socially and work-oriented OSNs results in higher bridging social capital, whereas the influence on bonding social capital is less significant.

As previously mentioned, the relationship between social capital and trust is complex and far from conclusive. Some researchers consider trust to be an antecedent of social capital; other researchers consider trust as a dimension or element and still others as an outcome of social capital (Glanville and

Bienenstock, 2009). 'Claiming that social capital can be studied only as a dependent or independent variable ignores the possibility of complex causal mechanisms, which are not an exception but the rule' (Adam and Roncevic, 2003, p. 167). The above considerations lead us to the conclusion that the relationship between social capital and trust is not unidirectional but reciprocal. On the one hand, the exchange of social and emotional support and valuable information in (online) social networks would be limited without trust both in the network infrastructure and the other network participants. Where there are high levels of trust, people are more willing to provide support and take risk in information exchanges (Nahapiet and Ghoshal, 1998). Hence, it can be assumed that trust will affect the participation in OSNs and the social capital that can be accrued both from the network itself and the resources that may be mobilized through the network through its influence on creating value. On the other hand, the interpretation of trust as a consequence of (other dimensions of) social capital is also possible. OSN ties can be built for a variety of reasons, and where the exchange of useful information succeeds, trust may be presumed to follow (see also Adam and Roncevic (2003) who exemplify their arguments by reference to cooperation).

Types of trust in online social networks

In the analysis of types and bases of trust that follows, the focus is on the individual's decision to trust and on processes through which trust actually emerges. The relative importance of trust depends – amongst other factors – upon the complexity and the context of a decision or an action. To analyse trust in the Web 2.0 environment, different types of trust have to be distinguished. First, trust can be conceptualized on different levels of analysis, reflecting the array of entities, individuals, dyads, groups, networks, systems, firms and inter-firm alliances in which trust and related processes play a role (Rousseau et al., 1998). By now it should have become clear that in Web 2.0 social networks, trust is both a micro- and a macro-level phenomenon in which there is an interplay between the macro-network created by the (corporate) actor who designed it and the micro-groups formed by the individual network users (Lai and Turban, 2008).

In the organizational trust literature, trust is mostly defined as a belief or expectation about the other (trusted) party, or as a behavioural intention or willingness to depend or rely on another party, coupled with a sense of vulnerability or risk if the trust is violated (e.g. Mayer et al., 1995; Rousseau et al., 1998). Accordingly, trust in the Web environment is most often defined as a belief or expectation about the website, the web vendor and/or the Internet as the trusted party or object of trust or as a behavioural intention or willingness to depend or rely on the trusted party (Grabner-Kräuter and Kaluscha, 2003; McKnight and Chervany, 1996, 2002; McKnight et al., 2002). In the context of OSNs, other network participants, the social network site, and the Web 2.0 technology can all be considered as objects of trust.

Considering other network participants as objects of trust, an individual's beliefs about specific characteristics of other members in the OSN, such as their competence, ability, integrity, honesty, and benevolence, will affect trusting intentions and behaviours. These attributes of the trusted party reflect different components of trustworthiness, a concept that again is defined differently by a number of researchers (e.g. Bews and Rossouw, 2002; Corritore et al., 2003; Mayer et al., 1995; McKnight et al., 2002; Riegelsberger et al., 2005). However, the characteristics of communication partners are perceived differently online, and the relative importance of these characteristics may be different in OSNs than in real world interactions (Mayer, 2009). OSNs make it easier to provide false or misleading information, and it is more difficult to verify information provided by others. In such situations of uncertainty, trust can serve as an important mechanism to reduce the uncertainty and complexity of exchanges and relationships (Grabner-Kräuter, 2002; Luhmann, 1989).

The social network site itself can be seen as another object of trust that captures both characteristics of an organization (the network provider) and a technology (the Internet serving as a transmission medium for online activities, or more specifically the security services and technical solutions embedded in Web 2.0 technologies). Hence, trusting beliefs with regard to the OSN site can relate either to personal or organizational attributes that reflect components of trustworthiness such as competence, benevolence

and integrity (Mayer et al., 1995; McKnight and Chervany, 2002), or to technology-related characteristics such as functionality, reliability and security.

In the context of e-business, several researchers have suggested that the technology itself – serving as a transmission medium for conducting economic transactions and including security services and technical solutions embedded in e-commerce technologies – has to be considered as an object of trust (Corritore et al., 2003; Grabner-Kräuter and Faullant, 2008; Pennington et al., 2003/2004; Ratnasingam, 2005; Rotchanakitumnuai and Speece, 2003; Shankar et al., 2002). Accordingly, the Web 2.0 technology itself can be considered as another object of trust. Luhmann (1989) speaks of system trust whereby a system is assumed to be operating in a predictable way (e.g., in the way that legal systems or electronic commerce systems are expected to function). Trust in technical systems mainly is based on the perceived functionality (e.g. reliability, capability, correctness, availability and security) of a system (Lee and Turban, 2001; Thatcher et al., 2007). Technology trust captures a subset of institution-based trust that is built on the adherence to technical standards, security procedures, and protective mechanisms that technical solutions can provide (Ratnasingam, 2005).

It is difficult to sort out the complicated cause-and-effect relations between participation in OSNs and trust. Again, the relationship is likely to be reciprocal, but the stronger impact probably runs from trusting to joining OSNs (see also Newton (2001) and his analysis of trust and membership of voluntary organizations). 'It is less plausible to argue that people are trusting because they have learned this attitude in their voluntary organizations, although membership may reinforce pre-existing levels of trust' (Newton, 2001, p. 207). Accordingly, risk-taking behaviour that is expressed in the participation in OSNs can be primarily viewed as the outcome of trust. Participation in the network characterizes individual behaviour, which is influenced by trusting beliefs and intentions towards one or more of the above mentioned objects of trust and comprises different forms of behaviour: the revelation of personal information, the (non-)adjustment of the privacy settings, and the online exchange of information and social support. In turn, participation and continuous interactions on an OSN site may entail positive experiences that reinforce initial trust. These considerations suggest the following propositions:

P12: Trusting beliefs and intentions towards other network participants, the social network site, and/or the Web 2.0 technology influence risk-taking behaviour in OSNs.
P13: Continuous interactions and positive experiences in OSNs will enhance initial trust.

Propensity to trust or dispositional trust can be characterized both as a type of trust and a source of context-specific trusting beliefs about a specific trusted object. Propensity to trust or dispositional trust is the extent to which a person displays a tendency to be willing or depend on others across a broad spectrum of situations and persons (McKnight et al., 2002). It has its roots in personality psychology (e.g. Rotter, 1967) and can be seen as a stable intra-individual characteristic that leads to generalized expectations about the trustworthiness of others (Costa et al., 2009). Mayer et al. define propensity to trust as a stable within-party factor which can be thought of as '… the general willingness to trust others' (1995, p. 715). According to McKnight et al. (1998) the impact of dispositional trust on trust towards other individuals or groups is higher under less familiar circumstances, i.e. when the situation, the type of relationship and the group members are new or unknown. Correspondingly, the following two propositions emerge:

P14: For persons with little or no direct experience with OSNs, dispositional trust will have a higher impact on trusting beliefs in other network participants, the social network site, and the Web 2.0 technology.
P15: For all OSN participants, experience with the OSN and other participants will moderate the impact of dispositional trust on trusting beliefs.

Bases of trust in online social networks

Trust may develop for a number of reasons, and often for a variety of reasons working together. A number of authors have identified different bases or sources of trust in relational exchanges (e.g. Doney and Cannon, 1997; Kramer, 1999; Lewicki and Bunker, 1995; McKnight et al., 1998; Shapiro et al.,

1992; Zucker, 1986). The terminology is not always the same and not all authors elaborate on all potential bases of trust. Drawing from the general trust literature, the following section briefly outlines important bases of trust in OSNs. The aim is not to develop a new typology of trust bases, but to point out similarities between diverse terminologies proposed by different authors.

It is suggested that trust in OSNs can derive from different bases though not all bases need to come into play in all situations. Besides, the relevance of different bases of trust in different types of OSNs is assessed. In the context of OSNs, it makes sense to combine the discussion of different grounds or bases of trust with the perspective of trust as a dynamic concept which can be divided into different developmental stages or phases, each with specific characteristics (Lewicki et al., 2006).

According to Rousseau et al. (1998), three different phases of trust can be distinguished: the phase of trust building, where trust is formed; the phase of stabilizing trust, where trust already exists; and the phase of dissolution, where trust declines.

In the phase of trust building, besides dispositional trust there are several other bases on which trust in a specific social network site and/or in other network participants can emerge. These include users' first perceptions of trust-relevant attributes of the object of trust, rational calculation of potential costs and benefits of participation, and institutional features that are independent of the attributes of other users.

When an Internet user for the first time visits and explores a social network site, her/his initial trust can be based primarily on *first perceptions of trust-relevant attributes* of the object of trust. McKnight et al. (1998) refer to *cognition-based trust* which relies on rapid, cognitive cues or first impressions, as opposed to personal interactions. Cognitive perceptions of network characteristics such as size of the network, current number of participants online, discussed topics, privacy and security, usefulness and ease of use of the network site can be considered as important bases or antecedents of network trust in the phase of initial trust formation and trust building on 'self-researched' network sites (McKnight et al., 1998). First perceptions of trust-relevant attributes can also result from categorization processes. Kramer (1999) has coined the term *category-based trust*, which refers to trust predicated on information regarding the trusted party's membership in a social or organizational category or network. Shared membership in a social network can serve as a rule for defining the boundaries of low-risk interpersonal trust that bypasses the need for closer personal knowledge (Kramer, 1999). Because of the cognitive consequences of category membership and ingroup bias, individuals tend to attribute positive characteristics such as honesty, benevolence, integrity, and cooperativeness to other network members. Initial trust in OSNs also can develop through *transference processes* that result in first perceptions of trustworthiness. According to Doney and Cannon (1997), the 'extension pattern' of trust development suggests that trust can be transferred from one trusted 'proof source' (a person the trustor personally knows and who has proved her/his trustworthiness in previous interactions) to another person, group of persons or other object of trust with which the trustor has little or no direct experience. Reputation is considered a major driver for this kind of trust development (Moorman et al., 1993). Results of the three focus groups with StudiVZ, Facebook and XING participants show that recommendations and invitations of real-world friends were by far the most important reasons for joining these OSNs. The following propositions emerge:

P16: First impressions of the social network site, categorization and transference processes are relevant sources of trust in all types of OSNs.
P17: The relative importance of first impressions, categorization and transference processes will be contingent on situation-specific factors such as the presence of recommendations of real-world friends to join a certain OSN.

In the first developmental stage online trust can also be based on *rational calculation of potential costs and benefits*. Lewicki and Bunker (1995) named this first stage *calculus-based trust*. Similarly, Doney and Cannon (1997) speak of trust involving a *calculative process*, when the trustor calculates the costs and rewards of another party choosing between cheating or staying in the relationship. Concerning the credibility of profile information of other network participants a XING focus group discussant has doubted the tenability of wrong or flattering

information, '… because other people who really know that person immediately would find out that he is cheating'. Assuming that – compared to other types of OSNs – the decision to participate in business- or work-related OSNs is more rationally motivated, it is expected that

P18: Calculative processes are more relevant bases of trust in business- or work-related OSNs than in other types of OSNs.

In *institution-based trust*, formal mechanisms are used to provide trust that does not rest on personal characteristics or on past history of exchange (Zucker, 1986). Institution-based trust refers to an individual's perceptions of the structures (e.g. legal and technological protections) that make an environment (in the case of OSNs, the Web 2.0) feel trustworthy (Costa et al., 2009). A consumer who is comfortable with the Internet environment and the security of its structures is likely to have more trust in a specific corporate actor on the Web, because she/he believes that proper 'Internet security guards' and technical solutions such as confidentiality mechanisms, authentication mechanisms, and access control mechanisms exist that protect against loss of privacy, identity, or money (McKnight et al., 2002). The structural assurance dimension of institution-based trust is closely related to trust in technological systems as a specific type of trust. However, institutional bases of trust go beyond security services and technical solutions embedded in Web technologies and also comprise explicit and tacit understandings regarding transaction norms, interactional routines, and exchange practices in OSNs. Such explicit and tacit understandings, captured in both formal and informal rules, provide an important basis for inferring that other participants in the social network are likely to behave in a trustworthy manner (Kramer, 1999). Kramer (1999) refers to *rule-based trust*, which is predicated not on a conscious calculation of consequences, but rather on a shared understanding of the system of rules pertaining to appropriate behaviour. Thus, because business- and work-related OSNs are more formally structured and convey more seriousness:

P19: In business- and work-related OSNs, institutional bases of trust are more important than in other types of OSNs.

After some time and continuous interactions on a social network site, the judgements of a participant about this specific network become more a function of the interactions themselves. The trust relationship may enter the second stage of trust development which is dominated by trust based on the trustor's *knowledge and understanding about the trusted party* resulting from past interactions (*knowledge- or experience-based trust*) (Lewicki and Bunker, 1995). Kramer (1999) refers to trust that increases or decreases as a result of the cumulative interaction between two parties as *history-based trust*. Similarly, Doney and Cannon (1997) describe the *prediction process* of developing trust that relies on repeated interactions and the trustor's assessment of the other party's past behaviour and evinced trustworthiness. Hence, in the phase of stabilizing trust, factors such as familiarity with the technological features and communication tools of the social network site or satisfaction with past interactions with other community members are important antecedents of online trust. It is expected that

P20: The relevance of past interactions or experience with a social network site as bases of trust does not differ significantly between different types of OSNs.

The most mature level of trust is restricted to interpersonal trust and is dominated by internalization of the other's preferences, mutual empathy, and *identification* with each other (*identification-based trust*). In case of identification-based trust, one party has fully internalized the other's preferences, emerging from a history of personal interactions with the other (Rousseau et al., 1998; van der Zee et al., 2009). Identification-based trust represents the highest and most solid level of trust which may be reached by the parties to the trust relationship. Trust is mainly formed and influenced by joint values, tasks and goals, by creating a collective identity, and by physical proximity or emotional closeness (Lewicki and Bunker, 1995; Ratnasingam, 1999; Shapiro et al., 1992). It is proposed, therefore, that

P21: Identification-based trust is more important in friendship-oriented OSNs than in other types of OSNs.

Taken together, it has been demonstrated that in the context of OSNs, dispositional trust as well as first perceptions of trust-relevant attributes, calculative processes, institutional beliefs, knowledge about and experience with the OSN and its members, and processes of identification may influence trust judgements and decisions. Following the considerations of Kramer (1999), it is suggested that scholars avoid emphasizing the disparity between different perspectives and bases of trust and not regard them as mutually incompatible. Rather, a more useful approach is to acknowledge the relevance of different sources of trust at different stages of trust development and in different contexts. Each of these bases of trust can partially explain trust in OSNs, but if we focus on only one source, we face the danger of the other sources acting as hidden confounding factors, because in a given context, any or all bases may be relevant (McKnight et al., 1998).

Conclusion

Online social networks are still developing, and research on the topic has only started (Mayer, 2009). Research approaches that borrow from multiple disciplines are considered to be especially fruitful to improve our understanding of factors that influence adoption and usage of social network sites. This research contributes to an on-going dialogue about the growing importance of social network sites as new places for individuals to exchange personal information and present themselves in manifold ways. It marks a step towards an overall conceptual understanding of the role of trust and the relevance of facets of trust and social capital in OSNs. The proposed framework allows the integration of different trust perspectives and facilitates a multi-level and multi-dimensional analysis of research problems related to trust in OSNs.

At first, the structural and relational underpinnings of trust in OSNs were investigated from a governance angle that integrates concepts of social network theory and social capital. The analysis revealed that social capital can be viewed both as an outcome gained by individuals in an OSN and as a tool for facilitating the governance of such spaces. Furthermore, it was shown that the relationship between social capital and trust is not unidirectional but reciprocal. Subsequently, this author has attempted to systematically identify promising areas for upcoming empirical research on the emergence of trust towards different objects of trust in OSNs and the relationship between trusting beliefs and intentions and risk-taking behaviour in network participation. Drawing from the general trust literature, different types of trust that are relevant in OSNs were outlined and different bases of trust in OSNs were identified. The author is not suggesting that every empirical study on trust in OSNs should try to cover all types and sources of trust – rather, that a study should acknowledge the various trust perspectives that exist and specify the perspectives and subset of trust that the study will employ (see also McKnight and Chervany, 1996).

In summary, this research offers a diverse perspective on a number of critical trust issues in OSNs, only a few of which have been explored here. Building on the propositions developed in this article, a number of specific questions can be addressed in future empirical studies. For example: What structural and relational characteristics of networks contribute to the enhancement of social capital in OSNs? What are the relationships between structural attributes of OSNs and different levels of trust and their outcomes? What are the antecedents of trust in OSNs and how do these antecedents influence trust development? How do different types of trust influence the willingness to join OSNs and the willingness to provide personal information? How does the interaction between the characteristics of OSNs and different types of trust influence participation in OSNs and revelation of personal information? Future research should analyse these issues to further our understanding of why and how trust develops – or does not develop – in OSNs.

References

Adam, F. and B. Roncevic: 2003, 'Social Capital: Recent Debates and Research Trends', *Social Science Information* **42**(2), 155–183.

Adler, P. S. and S.-W. Kwon: 2002, 'Social Capital: Prospects for a New Concept', *Academy of Management Review* **27**, 17–40.

Andrews, D., J. Preece and M. Turoff: 2002, 'A Conceptual Framework for Demographic Groups

Resistant to On-Line Community Interaction', *International Journal of Electronic Commerce* **6**, 9–24.
Arnold, M. J. and K. E. Reynolds: 2003, 'Hedonic Shopping Motivations', *Journal of Retailing* **79**(2), 77–95.
Babin, B. J., W. R. Darden and M. Griffin: 1994, 'Work and/or Fun: Measuring Hedonic and Utilitarian Shopping Value', *Journal of Consumer Research* **20**(4), 644–656.
Balasubramanian, S. and V. Mahajan: 2001, 'The Economic Leverage of the Virtual Community', *International Journal of Electronic Commerce* **5**, 103–138.
Batra, R. and O. T. Ahtola: 1990, 'Measuring the Hedonic and Utiliarian Sources of Consumer Attitudes', *Marketing Letters* **2**(2), 159–170.
Bews, N. F. and G. J. Rossouw: 2002, 'A Role for Business Ethics in Facilitating Trustworthiness', *Journal of Business Ethics* **39**(4), 377–390.
Bonhard, P. and M. A. Sasse: 2006, ''Knowing me, Knowing you' – Using Profiles and Social Networking to Improve Recommender Systems', *BT Technology Journal* **24**(3), 84–98.
Bourdieu, P. and L. J. Wacquant: 1992, *An Invitation to Reflexive Sociology* (University of Chicago Press, Chicago).
Bowey, J. L. and G. Easton: 2007, 'Entrepreneurial Social Capital Unplugged: An Activity-Based Analysis', *International Small Business Journal* **25**(3), 273–306.
Boyd, D. M. and N. B. Ellison: 2007, 'Social Network Sites: Definition, History, and Scholarship', *Journal of Computer-Mediated Communication* **13**(1), http://jcmc.indiana.edu/vol13/issue1/boyd.ellison.html.
Brass, D., K. Butterfield and B. Skaggs: 1998, 'Relationships and Unethical Behavior: A Social Network Perspective', *Academy of Management Review* **23**, 14–31.
Brown, J., A. J. Broderick and N. Lee: 2007, 'Word of Mouth Communication Within Online Communities: Conceptualizing the Online Social Network', *Journal of Interactive Marketing* **21**(3), 2–20.
Burt, R. S.: 2000, 'The Network Structure of Social Capital', *Research in Organizational Behavior* **22**, 345–423.
Cachia, R., R. Compañó and O. Da Costa: 2007, 'Grasping the Potential of Online Social Networks for Foresight', *Technological Forecasting and Social Change* **74**(8), 1179–1203.
Castells, M.: 1996, *The Rise of the Network Society* (Blackwell, Cambridge, MA).
Castells, M.: 2001, *The Internet Galaxy. Reflections on the Internet, Business, and Society* (Oxford University Press, Oxford).
Chaudhuri, A. and M. B. Holbrook: 2001, 'The Chain of Effects from Brand Trust and Brand Affect to Brand Performance: The Role of Brand Loyalty', *Journal of Marketing* **65**, 81–93.
Chewar, C. M., D. S. McCrickard and J. M. Carroll: 2005, 'Analyzing the Social Capital Value Chain in Community Network Interfaces', *Internet Research* **15**(3), 262–280.
Coleman, J. S.: 1988, 'Social Capital in the Creation of Human Capital', *American Journal of Sociology* **94**, 95–120.
Corritore, C. L., B. Kracher and S. Wiedenbeck: 2003, 'On-line Trust: Concepts, Evolving Themes, a Model', *International Journal of Human-Computer Studies* **58**, 737–758.
Costa, A. C., K. Bijlsma-Frankema and B. de Jong: 2009, 'The Role of Social Capital on Trust Development and Dynamics: Implications for Cooperation, Monitoring and Team Performance', *Social Science Information* **48**(2), 199–228.
de Valck, K., G. H. van Bruggen and B. Wierenga: 2009, 'Virtual Communities: A Marketing Perspective', *Decision Support Systems* **47**(3), 185–203.
Dholakia, U. M., R. P. Bagozzi and L. K. Pearo: 2004, 'A Social Influence Model of Consumer Participation in Network- and Small-Group-Based Virtual Communities', *International Journal of Research in Marketing* **21**(3), 241–263.
Diep, V. C. S. and J. C. Sweeney: 2008, 'Shopping Trip Value: Do Stores and Products Matter?', *Journal of Retailing and Consumer Services* **15**(5), 399–409.
Doney, P. M. and J. P. Cannon: 1997, 'An Examination of the Nature of Trust in Buyer-Seller Relationships', *Journal of Marketing* **61**, 35–51.
Eccles, J. S. and A. Wigfield: 2002, 'Motivational Beliefs, Values, and Goals', *Annual Review of Psychology* **53**, 109–132.
Ellison, N. B., C. Steinfield and C. Lampe: 2007, 'The Benefits of Facebook ''Friends'': Social Capital and College Students' Use of Online Social Network Sites', *Journal of Computer-Mediated Communication* **12**(4), 1143–1168.
Eriksen, A. M. 2008. 'Glitch Opens Bebo Users' Private Details to Others', *The New Zealand Herald*..
Ferlander, S.: 2003, *The Internet, Social Capital and Local Community* (Department of Psychology, University of Sterling).
Ferlander, S.: 2007, 'The Importance of Different Forms of Social Capital for Health', *Acta Sociologica* **50**(2), 115–128.
Fogel, J. and E. Nehmad: 2009, 'Internet Social Network Communities: Risk Taking, Trust, and Privacy Concerns', *Computers in Human Behavior* **25**, 153–160.

Fukuyama, F.: 1999, Social Capital and Civil Society. IMF Conference on Second Generation Reforms, International Monetary Fund.

Gallarza, M. G. and I. Gil Saura: 2006, 'Value Dimensions, Perceived Value, Satisfaction and Loyalty: An Investigation of University Students' Travel Behaviour', *Tourism Management* **27**(3), 437–452.

Ganley, D. and C. Lampe: 2009, 'The Ties that Bind: Social Network Principles in Online Communities', *Decision Support Systems* **47**(3), 266–274.

Ganzaroli, A.: 2002, *Creating Trust Between Local and Global Systems* (Erasmus Research Institute of Management, Erasmus University Rotterdam, Rotterdam).

Glanville, J. L. and E. J. Bienenstock: 2009, 'A Typology for Understanding the Connections Among Different Forms of Social Capital', *American Behavioral Scientist* **52**(11), 1507–1530.

Glenane-Antoniadis, A., G. Whitwell, S. J. Bell and B. Menguc: 2003, 'Extending the Vision of Social Marketing through Social Capital Theory: Marketing in the Context of Intricate Exchange and Market Failure', *Marketing Theory* **3**(3), 323–343.

Goddard, R. D.: 2003, 'Relational Networks, Social Trust, and Norms: A Social Capital Perspective on Students' Chances of Academic Success', *Educational Evaluation and Policy Analysis* **25**(1), 59–74.

Goodall Powers, J.: 2001, 'The Formation of Interorganizational Relationships and the Development of Trust', Unpublished Doctoral Dissertation, University at Albany, Albany, NY.

Grabner-Kräuter, S.: 2002, 'The Role of Consumers Trust in Online Shopping', *Journal of Business Ethics* **39**, 43–50.

Grabner-Kräuter, S. and R. Faullant: 2008, 'Consumer Acceptance of Internet Banking: The Influence of Internet Trust', *International Journal of Bank Marketing* **26**(7), 483–504.

Grabner-Kräuter, S. and E. A. Kaluscha: 2003, 'Empirical Research in On-Line Trust: A Review and Critical Assessment', *International Journal of Human-Computer Studies* **58**, 783–812.

Graddy, E. and L. Wang: 2009, 'Community Foundation Development and Social Capital', *Nonprofit and Voluntary Sector Quarterly* **38**(3), 392–412.

Granovetter, M. S.: 1973, 'The Strength of Weak Ties', *American Journal of Sociology* **78**(6), 1360–1380.

Granovetter, M. S.: 1985, 'Economic Action and Social Structure', *American Journal of Sociology* **91**, 481–510.

Granovetter, M. S.: 1992, 'Problems of Explanation in Economic Sociology', in N. Nohria and R. G. Eccles (eds.), *Networks and Organizations: Structure, Form, and Action* (Harvard Business School Press, Boston), pp. 25–56.

Gubbins, C. and S. MacCurtain: 2008, 'Understanding the Dynamics of Collective Learning: The Role of Trust and Social Capital', *Advances in Developing Human Resources* **10**(4), 578–599.

Heckhausen, H.: 1989, *Motivation und Handeln* (Springer, Berlin).

Hosmer, L. T.: 1995, 'Trust: The Connecting Link Between Organizational Theory and Philosophical Ethics', *Academy of Management Review* **20**(2), 379–403.

Jones, C., W. S. Hesterly and S. P. Borgatti: 1997, 'A General Theory of Network Governance: Exchange Conditions and Social Mechanisms', *Academy of Management Review* **22**(4), 911–945.

Kaluscha, E. A.: 2004, *The Importance of Initial Consumer Trust in B2C Electronic Commerce* (University of Klagenfurt, Klagenfurt).

Koehn, D.: 2003, 'The Nature of and Conditions for Online Trust', *Journal of Business Ethics* **43**, 3–19.

Kramer, R. M.: 1999, 'Trust and Distrust in Organizations: Emerging Perspectives, Enduring Questions', *Annual Review of Psychology* **50**, 569–598.

Kramer, R. M., M. B. Brewer and B. A. Hanna: 1996, 'Collective Trust and Collective Action: The Decision to Trust as a Social Decision', in R. M. Kramer and T. R. Tyler (eds.), *Trust in Organizations. Frontiers of Theory and Research* (Sage, Thousand Oaks, CA), pp. 357–389.

Lai, L. S. L. and E. Turban: 2008, 'Groups Formation and Operations in the Web 2.0 Environment and Social Networks', *Group Decision and Negotiation* **17**(5), 387–402.

Lange, P. G.: 2007, 'Publicly Private and Privately Public: Social Networking on YouTube', *Journal of Computer-Mediated Communication* **13**(1), http://jcmc.indiana.edu/vol13/issue1/lange.html.

Lee, M. K. O. and E. Turban: 2001, 'A Trust Model for Consumer Internet Shopping', *International Journal of Electronic Commerce* **6**(1), 75–91.

Levin, D. Z., R. Cross and L. C. Abrams: 2002, The Strength of Weak Ties you can Trust: The Mediating Role of Trust in Effective Knowledge Transfer. Academy of Management Proceedings 2002, pp. 1–7.

Levin, D. Z. and R. Cross: 2004, 'The Strength of Weak Ties you can Trust: The Mediating Role of Trust in Effective Knowledge Transfer', *Management Science* **50**(11), 1477–1490.

Lewicki, R. J. and B. B. Bunker: 1995, 'Developing and Maintaining Trust in Work Relationships', in R. M. Kramer and T. R. Tyler (eds.), *Trust in Organisations* (Sage Publishing, London), pp. 114–139.

Lewicki, R. J., E. C. Tomlinson and N. Gillespie: 2006, 'Models of Interpersonal Trust Development: Theoretical Approaches, Empirical Evidence, and Future Directions', *Journal of Management* **32**(6), 991–1022.

Luhmann, N.: 1989, *Vertrauen. Ein Mechanismus der Reduktion sozialer Komplexität* (Stuttgart).

Macaulay, L. A., K. Keeling, P. McGoldrick, G. Dafoulas, E. Kalaitzakis, and D. Keeling: 2007, 'Co-Evolving E-Tail and On-Line Communities: Conceptual Framework', *International Journal of Electronic Commerce* **11**, 53–77.

Mansfield-Devine, S.: 2008, 'Anti-Social Networking: Exploiting the Trusting Environment of Web 2.0', *Network Security* (November), 4–7.

Mayer, A.: 2009, 'Online Social Networks in Economics', *Decision Support Systems* **47**(3), 169–184.

Mayer, R. C., J. H. Davis and D. F. Schoorman: 1995, 'An Integrative Model of Organizational Trust', *Academy of Management Review* **20**(3), 709–734.

McKnight, D. H. and N. L. Chervany: 1996, 'The Meanings of Trust', MISRC Working Paper, http://www.misrc.umc.edu/wpaper/WorkingPapers/9604.pdf. Accessed Oct 2002.

McKnight, H. D. and N. L. Chervany: 2002, 'What Trust Means in e-Commerce Customer Relationships: An Interdisciplinary Conceptual Typology', *International Journal of Electronic Commerce* **6**(2), 35–59.

McKnight, D. H., V. Choudhury and C. Kacmar: 2002, 'Developing and Validating Trust Measures for e-Commerce: An Integrative Typology', *Information System Research* **13**(3), 334–359.

McKnight, H. D., L. L. Cummings and N. L. Chervany: 1998, 'Initial Trust Formation in New Organizational Relationships', *Academy of Management Review* **23**(3), 473–490.

Moorman, C., R. Deshpande and G. Zaltman: 1993, 'Factors Affecting Trust in Market Research Relationships', *Journal of Marketing* **57**, 81–101.

Murphy, J. T.: 2006, 'Building Trust in Economic Space', *Progress in Human Geography* **30**(4), 427–450.

Nahapiet, J. and S. Ghoshal: 1998, 'Social Capital, Intellectual Capital, and the Organizational Advantage', *Academy of Management Review* **23**, 242–266.

Newton, K.: 2001, 'Trust, Social Capital, Civil Society, and Democracy', *International Political Science Review* **22**(2), 201–214.

Norris, P.: 2002, 'The Bridging and Bonding Role of Online Communities', *Harvard International Journal of Press/Politics* **7**(3), 3–13.

Pempek, T. A., Y. A. Yermolayeva and S. L. Calvert: 2009, 'College Students' Social Networking Experiences on Facebook', *Journal of Applied Developmental Psychology* **30**(3), 227–238.

Pennington, R., D. H. Wilcox, and V. Grover: 2003/2004, 'The Role of System Trust in Business-to-Consumer Transactions', *Journal of Management Information Systems* **20**(3), 197–226.

Porter Liebeskind, J., A. Lumerman Oliver, L. G. Zucker, and M. B. Brewer: 1995, *Social Networks, Learning, and Flexibility: Sourcing Scientific Knowledge in New Biotechnology Firms* (SSRN).

Puranam, P. and B. S. Vanneste: 2009, 'Trust and Governance: Untangling a Tangled Web', *Academy of Management Review* **34**, 11–31.

Putnam, R. D.: 2000, *Bowling Alone: The Collapse and Revival of American Community* (Simon & Schuster, New York, NY).

Ratnasingam, P.: 1999, 'Risks in Low Trust among Trading Partners in Electronic Commerce', *Computers & Security* **18**, 587–592.

Ratnasingam, P.: 2005, 'Trust in Inter-Organizational Exchanges: A Case Study in Business to Business Electronic Commerce', *Decision Support Systems* **39**(3), 525–544.

Ridings, C. M., Gefen, D. and B. Arinze: 2002, 'Some Antecedents and Effects of Trust in Virtual Communities', *The Journal of Strategic Information Systems* **11**(3–4), 271–295.

Riegelsberger, J., A. M. Sasse and J. D. McCarthy: 2005, 'The Mechanics of Trust: A Framework for Research and Design', *International Journal of Human-Computer Studies* **62**, 381–422.

Rotchanakitumnuai, S. and M. Speece: 2003, 'Barriers to Internet Banking Adoption: A Qualitative Study Among Corporate Customers in Thailand', *International Journal of Bank Marketing* **21**(6), 312–323.

Rotter, J. B.: 1967, 'A New Scale for the Measurement of Interpersonal Trust', *Journal of Personality* **35**, 651–665.

Rotter, J. B.: 1971, 'Generalized Expectancies for Interpersonal Trust', *American Psychologist* **26**(5), 443–452.

Rousseau, D. M., S. B. Sitkin, R. S. Butt and C. Camerer: 1998, 'Not so Different After All: A Cross-Discipline View of Trust', *Academy of Management Review* **23**(3), 393–404.

Sanchez-Fernandez, R. and M. A. Iniesta-Bonillo: 2007, 'The Concept of Perceived Value: A Systematic Review of the Research', *Marketing Theory* **7**(4), 427–451.

Scholz, T.: 2008, 'Market Ideology and the Myths of Web 2.0', *First Monday* **13**(3), http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/2138/1945.

Shankar, V., G. L. Urban and F. Sultan: 2002, 'Online Trust: A Stakeholder Perspective, Concepts, Implications, and Future Directions', *Journal of Strategic Information Systems* **11**, 325–344.

Shapiro, D. L., B. H. Sheppard and L. Cheraskin: 1992, 'Business on Handshake', *Negotiation Journal* **8**, 365–377.

Sledgianowski, D. and S. Kulviwat: 2009, 'Using Social Network Sites: The Effects of Playfulness, Critical Mass and Trust in a Hedonic Context', *The Journal of Computer Information Systems* **49**(4), 74–83.

Spence, L. J. and R. Schmidpeter: 2003, 'SMEs, Social Capital and the Common Good', *Journal of Business Ethics* **45**(1), 93–108.

Steinfield, C., N. B. Ellison and C. Lampe: 2008, 'Social Capital, Self-Esteem, and Use of Online Social Network Sites: A Longitudinal Analysis', *Journal of Applied Developmental Psychology* **29**(6), 434–445.

Sweeney, J. C. and G. N. Soutar: 2001, 'Consumer Perceived Value: The Development of a Multiple Item Scale', *Journal of Retailing* **77**(2), 203–220.

Thatcher, J. B., M. L. Loughry, J. Lim and D. H. McKnight: 2007, 'Internet Anxiety: An Empirical Study of the Effects of Personality, Beliefs, and Social Support', *Information & Management* **44**, 353–363.

van der Zee, K., M. Vos and K. Luijters: 2009, 'Social Identity Patterns and Trust in Demographically Diverse Work Teams', *Social Science Information* **48**(2), 175–198.

Wellman, B., J. Salaff, D. Dimitrova, L. Garton, M. Gulia and C. Haythornthwaite: 1996, 'Computer Networks as Social Networks: Collaborative Work, Telework, and Virtual Community', *Annual Review of Sociology* **22**, 213–238.

Wellman, B. and S. Wortley: 1990, 'Different Strokes from Different Folks: Community Ties and Social Support', *American Journal of Sociology* **96**, 558–588.

Williamson, O. E.: 1993, 'Calculativeness, Trust, and Economic Organization', *Journal of Law and Economics* **36**, 453–486.

Zimmer, M.: 2008, 'The Externalities of Search 2.0: The Emerging Privacy Threats when the Drive for the Perfect Search Engine Meets Web 2.0', *First Monday* **13**(3), http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/rt/printerFriendly/2136/1944.

Zucker, L. G.: 1986, 'Production of Trust: Institutional Source of Economic Structure, 1840–1920', *Research in Organizational Behavior* **8**, 53–111.

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