Why do we continue using social networking sites? The giving loop that feeds computer-mediated social ties

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ABSTRACT

This article investigates usage continuance of social networking sites (SNSs). We propose an approach based on an SNS giving loop through the theoretical framework of gift theory (Mauss, 1954). We use mixed data and techniques with a classic grounded-theory (GT) approach. Using both qualitative and quantitative data, we define and model the components of the SNS gift-triptych that are significant in explaining the durability of computer-mediated social ties (CMSTs). We highlight the relationship between the dynamics of reciprocal giving and usage continuance/discontinuance of Facebook. We show that a giving loop defined through the give-receive-return triptych explains Facebook usage continuance: the more complete the giving loop is, the more individuals are inclined to continue using the social networking site. Those users who enter into reciprocal-giving dynamics and develop strong CMSTs are those who will use more frequently and more lastingly the social networking site.

Keywords: *Computer-mediated social ties, Facebook, Giving loop, Social networking sites, Usage continuance, Mauss.*

RÉSUMÉ

Cet article étudie la continuité d'usage des réseaux sociaux numériques. Au travers du cadre de la théorie du don (Mauss, 1954), nous proposons une approche basée sur une boucle du don au sein des réseaux sociaux. Nous utilisons des données et techniques de recherche mixtes, avec une approche Glasérienne de la théorie enracinée. A l'aide de données qualitatives et quantitatives, nous définissons et modélisons les composantes du triptyque du don sur les réseaux sociaux ; ces composantes expliquent de manière significative la durabilité des liens sociaux médiatés. Nous mettons en évidence la relation entre les dynamiques du don réciproque et la continuité/discontinuité d'usage de Facebook. Nos résultats nous permettent de mettre en exergue l'importance de l'impact de nouvelles variables sur la continuité d'usage de Facebook. En effet, nous démontrons que la boucle du don-contre-don définie par le triptyque donner-recevoir-rendre explique la continuité d'usage du réseau social puisque les personnes qui entrent dans cette dynamique du don sont les plus enclines à utiliser le réseau social d'une manière continue.

Mots-clés : *Liens sociaux médiatés, Facebook, Boucle du don, Réseaux sociaux numériques, Continuité d'usage, Mauss.*

1. INTRODUCTION

The development and use of social networking sites (SNSs) have increased exponentially during the last decade. Such platforms may be defined as websites that facilitate the building of a network of contacts, in order to exchange various types of content (text, images, videos, and recordings) online. SNSs help to maintain existing relationships or to create new ones. The relationships that bind the members of these networks embody different types of computer-mediated social ties (CMSTs) with family members, friends, colleagues, acquaintances, etc. (Boyd & Ellison, 2007).

There are various types of SNSs: public, corporate, special-interest-based, etc. The power of SNSs for the dissemination of information has been recognized (McCorkindale, 2010): information circulates in these social networks practically instantaneously. The use of SNSs by firms for internal and external communication purposes has also been highlighted (Mikuláš, 2012). Firms are using SNSs on a massive scale in order to strengthen their brand images, gain brand awareness on public SNSs, and offer their staff the opportunity to share all types of information on company-owned SNSs. Firms develop their own SNSs and/or use those accessible to a public audience to develop and maintain their digital identities (Rosoor, 2012), and to help develop customer loyalty (Baird & Parasnis, 2011; Kumar & Benbasat, 2006). As a consequence, firms are investing more time and money in these tools, in terms of involvement in these online communities. The proliferation of SNSs, the plurality of their purposes and a society based on overconsumption of all goods (including technology) are elements that encourage users readily to desert an SNS that they have been using in favor of another. Firms' investments in SNSs can prove very costly, and uselessly so, if people do not use them, or if people use them at first and then stop doing so. Hence, the survival of these sites, which is linked to their usage continuance, is a strategic challenge that has to be met by organizations – and the mechanisms and dynamics involved in this process are important phenomena to investigate.

In the literature on information systems (IS), usage continuance of new information

technologies (IT) has been shown to be a crucial indicator of the success of their implementation (Bhattacherjee, 2001). Many works that investigate usage continuance do so through the proxy of usage-continuance intention (e.g., Hsieh *et al*., 2011; Marett *et al*., 2013; Sun, 2013), while only a very few study the actual dynamics of usage continuance (e.g., Kane & Labianca, 2011; Parthasarathy & Bhattacherjee, 1998; Zhu & Kraemer, 2005). Many works that deal with IS usage continuance borrow the variables of traditional adoption and acceptance models, as they consider that the post-adoption process is in fact a succession of adoptions (Jasperson *et al*., 2005; Kim & Malhotra, 2005). Other researchers choose to test the post-adoption model developed by Bhattacherjee (*post-acceptance model*: PAM, 2001) in order to study and explain this process (Thong *et al*., 2006; Limayem *et al*., 2007; Larsen *et al*., 2009). However, some works are emerging that propose using socially oriented frameworks to explain usage continuance – for example, Sun (2013), who investigates herd behavior; and Hsieh *et al*. (2011), who study social capital. But, to our knowledge, no work in mainstream IS literature (represented by the Senior Scholars' Basket of Journals) has more specifically investigated the usage continuance of SNSs, which have the specificity of being oriented toward social exchange. Investigating the usage continuance/discontinuance of SNSs necessitates taking into account their essential "social dimension"; a new theoretical understanding, anchored to this social dimension, is needed.

In this article, we investigate the actual usage continuance of SNSs. We propose a framework (*gift theory*: Mauss, 1954) that is little mobilized in IS literature (Skågeby, 2010) to help us understand how CMSTs are developed and are intrinsically linked to SNS usage continuance. Our work involves two different and interrelated phases, both exploratory and "grounded" (Glaser, 1978; Glaser & Strauss, 1967) in data. The first phase enables us – through qualitative data – to highlight a gift-triptych, a giving loop and the digital reciprocity that governs exchanges taking place within the context of public SNSs. In fact, the gift-triptych and the giving loop emerge through our qualitative data as feeding CMSTs. As most of our interviewees' comments during the first phase involved Facebook, we concentrated on this SNS during the second phase of our research. This public SNS is one of the four platforms most used by firms to interact with their customers (Culnan *et al*., 2010), even though 11 million people have been recorded as having stopped using Facebook since 2011[1]. During the second phase of our research, we developed scales for some new variables that we find significantly explain Facebook usage continuance. We opted for a grounded theory approach because it helps developing new perspectives on previously researched phenomena such as usage continuance (Sousa and Hendriks, 2006). The need for new perspectives is particularly acute when some contexts (like SNSs in the case of usage continuance) have been little investigated in past research.

Our contributions are methodological and theoretical. On the methodological side, grounded-theory (GT) studies using mixed qualitative and quantitative data and techniques – especially those that openly adopt a GT approach – are still fairly rare in IS research (Walsh, 2014). On the theoretical side, we contribute to the usage-continuance/post-adoption literature, as it appears to have neglected the social specificities of SNSs that we investigate.

[1] http://business.time.com/2014/01/15/more-than-11-million-young-people-have-fled-facebook-since-2011/

The article is structured as follows. We first present a theoretical preview of our work (Section 2). We then detail our research design (Section 3). In Section 4, we detail the results of our research. We continue by presenting the model that emerged from our data, discussing our results, highlighting limitations and contributions, and suggesting future avenues (Section 5). Finally, in Section 6, we draw our conclusions.

2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

In line with our classic GT stance (Glaser, 1978; Glaser & Strauss, 1967), an important part of the literature review was conducted after the first phase of our research project had almost been completed, and after our core category (the giving loop in SNSs) had emerged. However, the literature review is presented *ex ante* in order to facilitate understanding for the reader (Suddaby, 2006). Even though we retained in our literature review on SNSs only those elements relevant to the present paper, a summary of the broader review that was conducted is provided in Appendix A.

In this section, we (1) investigate SNSs; (2) consider the importance of social capital in SNS usage continuance; (3) investigate the concept of social ties; and (4) revisit gift theory (Mauss, 1954).

2.1. Social networking sites (SNSs)

In the literature, there is no consensus on the definition of – or on the correct term to be used to describe – the IT that is the subject of our study (i.e., SNSs).

We retain the definition of SNSs as platforms or web services that allow individuals to build a public or semi-public profile within a system, to manage a list of contacts with whom they have developed a connection, and to see and navigate profiles of their social network and of other users within the system. (Boyd &Ellison, 2007). The main attractiveness of SNSs is based on these elements and not on a specific activity (Stenger & Coutant, 2009).

SNSs may also be termed "*community sites dedicated to networking*" (Mercier, 2008, p.22) or even "socio-digital networks" (Stenger & Coutant, 2009). In everyday discussions, they are usually referred to by name – Facebook, LinkedIn, Viadeo, MySpace, etc. – or generically as social networks. In this paper, we prefer the term *SNSs* as it retains the term *social networks*, as used by sociologists, while also taking into account the *digital* dimension of these platforms: the *real* network is differentiated from the *online* network, even though there may be some elements that are common to both.

SNSs differ from virtual communities (VCs) and communities of practice (CPs), but provide the opportunity for these to develop. VCs are defined by Lin (2007) as a group of individuals who communicate on an electronic platform and thus share their interests or specific practices. Typically, members share a set of explicit and implicit codes required for the functioning of the community. Relationships between members of a VC can grow very strong over time, depending on the type of community and whether they are based on relationship, interest, fantasy, and/or transaction (Armstrong & Hagel, 1996). In our reading, SNSs are tools that allow individuals to build VCs, more specifically by grouping together people who have common interests, which leads them to share content and to develop virtual ties. Individuals register on SNSs and join online communities in order to profit from knowledge-sharing (Phang *et al.,* 2009) and to enroll in social networking

(Valck *et al*., 2009). Despite the increasing popularity of these communities, few have succeeded in retaining members in the long term, and in ensuring the regular contribution of knowledge (Lai & Chen, 2014; Ma & Agarwal, 2007). However, we cannot consider that SNSs are developed only in order to help people manage virtual ties, because SNSs also help maintain *real-life* ties. In this paper, we study CMSTs – i.e., ties that include, and are a mix of, real and virtual ties. The two types of ties are distinct and may co-exist: one does not replace the other (Isaac *et al*., 2008, Kalika *et al*., 2007).

CPs are informal groups of individuals engaged around an expertise, passion, or common area of interest (Wenger, 1998; Wenger *et al*., 2002); they can be built and developed using IT (e.g., SNSs) or simply through meeting face-to-face. Individuals become members of these communities in order to be part of a collective learning process. Agterberg *et al*. (2010) investigated the management of intra-organizational networks of practice. The authors highlight the concept of social embeddedness that may be considered both as a process (dynamic characteristic of a network brought about by the accumulation of individuals who bring social capital) and a state (a network structure). These authors suggest four forms of embeddedness: organizational embeddedness, embeddedness in practice, relational embeddedness, and structural embeddedness. Organizational embeddedness illustrates the extent to which the shared knowledge is recognized and embedded in the formal organization: The sharing of knowledge is obvious when asking questions, responding to enquiries, posting information, and communicating with others. Embeddedness in practice is best described as "*the extent to which the shared knowledge is present and integrated in the dispersed, local practices of network members*" (Agterberg *et al*., 2010, p. 90). Relational embeddedness is the extent to which the network is defined by strong social ties, as developed by Granovetter (1973), and characterized by elements such as trust, mutual expectations, and identification (Nahapiet & Ghoshal, 1998). And structural embeddedness is "*the extent to which network members are connected to one another (Granovetter, 1973) and know who knows what and how to reach them (Nahapiet & Ghoshal, 1998)"* (Agterberg *et al*., 2010, p. 90). It could be interesting to identify which type of social embeddedness we may find in SNSs.

The research that has been developing around SNSs illustrates the growing interest among researchers in friendship ties between the members of these networks (Boyd & Ellison, 2007; Donath, 2007; Rosen, 2007; Zhao *et al*., 2008), in private-life and digital-identity issues (Cardon, 2008; Dwyer *et al*., *2007)*; Georges, 2009, Zhao *et al*., 2008), and in the concept of social capital (Magro *et al*., 2013; Pfeil *et al*., 2009; Steinfield *et al*., 2008). Authors such as Cooke & Buckley (2008), Ganesh & Padmanabhuni (2007), Girard *et al*., (2011), Karoui & Dudezert (2012), and Poynter (2008) have worked on the usage of SNSs in organizations. Some studies also attempt to model the explanatory variables of the intention to use (or not use) these communication platforms (Baker & White, 2007; Kwon & Wen, 2010; Rosen & Sherman, 2006; Sledgianowski & Kulviwat, 2009). Finally, there is a growing interest in SNSs post-adoption – and, more specifically, in their usage continuance (Al-Debei *et al*., 2013; Byoungsoo, 2011; Chang & Zhu, 2011; Hu & Kettinger, 2008; Kang *et al*., 2009; Kefi *et al*., 2010; Ku *et al*., 2013; McKnight *et al*., 2011; Wang *et al*., 2008). In the present work, we are more especially interested in the usage continuance/discontinuance of public SNSs by individuals who have, at some stage, chosen to register on one of

these sites and to socialize through this means.

In the next two sections, we investigate further the concepts of social capital and social ties in some depth.

2.2. Social capital

Social capital could be considered as one of the main benefits of SNSs if we refer to sociological and anthropological studies. Social capital exists when individuals are interconnected, and therefore are dependent on each other when interacting (Burt, 2005). Bourdieu sees social capital as a resource resulting from social structures, while Coleman (1988) considers that it is an input, since it is a particular form of capital that makes social actions possible. These are two different approaches: one that investigates social capital at the individual level and as a resource; and another that investigates social capital at the collective level and as an output of social activity. On the basis of these elements, the theory of social capital has been developed; this aims to analyze the behavior of individuals embedded in social networks that require trust and norms of reciprocity as key components in social interactions.

Reciprocity is defined by Chiu *et al.,* (2006) as an individual's perception of fairness in knowledge-exchange behavior. In Management Information Systems (MIS) literature, reciprocity has been mobilized in several studies in order to make sense of the participation of Internet users in building online communities, especially free software communities (Baytiyeh & Pfaffman, 2010; Hemetsberger & Reinhardt, 2006; Oliveri, 2011; Studer, 2004; Von Krogh *et al.,* 2012; Wu, Gerlach, & Young, 2007). These studies show that this participation or contribution may be explained by the desires to help others, to develop knowledge-sharing, and to help in solving specific problems. Improving the quality of the software is the responsibility of each member of the community, and benefits everyone. Thus, previous research suggests that people sharing online believe in reciprocity (Chai *et al.,* 2011; Chang & Chuang, 2011; Chiu *et al.,* 2006; Lai & Chen, 2014, Wasko & Faraj, 2005) and expect to receive in return for giving (Bock *et al.,* 2005).

Building social capital, which involves social ties, has been found to be one of the most important motivations of using an SNS (Gibson & McAllister, 2013; Magro *et al.,* 2013), potentially having a significant influence on usage continuance through recognizing the "social aspect" of such platforms (Pénard & Poussing, 2010). Chang & Zhu (2012) highlight that SNS users perceive both bonding and bridging social capitals: bonding social capital is a "glue" that binds groups of people together, and bridging social capital a "bridge" to reach different people and groups (Houard, 2005, p. 15). Both types of social capital positively influence SNS users' satisfaction. Bridging social capital appears to have a significant influence on the usage continuance of an SNS, while bonding social capital does not (Chang & Zhu, 2012). However, both bonding and bridging social capital have been found to be critical factors in motivating people to continue using an SNS (Ellison *et al.,* 2007).

Bonding social capital is related to the strong social ties that exist within homogeneous close social groups (family, friends, and the primary social group). It is characterized by a full connectedness between network members. Each person has a tie with each of the other members of the group and there is reciprocity, trust, and reduced opportunism in exchanges between members, implying strong social and emotional support (Putnam, 2000). The resulting ties allow each individual

to profit from an embedded and dense network. Bridging social capital, meanwhile, involves weaker ties between more-heterogeneous groups (simple acquaintances, for instance). It allows network members to receive diverse, relevant information through access to wider information sources (Burt, 1992; Granovetter, 1973). This leads us to investigate further the concept of social ties.

2.3. Social ties

Beyond the obvious differentiation between real-life and online ties (Daft & Lengel, 1986), Granovetter (1973) defines strong and weak social ties based on the combination of four factors: (1) quantity of time invested (strong ties being those to which we devote more time); (2) shared emotional intensity (emotion being present in strong ties, and rare in weak ones); (3) intimacy and trust (strong ties being characterized by a high degree of intimacy and trust, since the individuals confide in members of their close circle and communicate more with them); and (4) reciprocal services (which differ according to the type of tie, and vary in frequency depending on the strength of the tie).

According to Wellman & Gulia (1999), strong ties developed online have the same characteristics as those formed face-to-face. These ties encourage companionship and frequent exchanges. Weak ties connect individuals with their acquaintances, work colleagues, and the other individuals they know, without necessarily being close to any of them. They give access to relevant information coming from social networks that are different from the person's closest social network (Granovetter, 1973). IT enables the creation of "latent social ties" (Haythornthwaite, 2002), which may then be converted into weak or strong ties. Latent ties are those "*for which a connection is available and is technically possible but which have not yet been activated through social interaction*" (Haythornthwaite, 2002, p.389). For instance, a latent tie can develop through the use of email, an online discussion forum, or an SNS.

The social interaction that takes place within digital communities plays a clear and significant role in knowledge-sharing online, which in turn influences the survival of the community (Chai & Kim, 2012; Chiu *et al.,* 2006). From the same perspective, Chai *et al.,* (2011) noticed that the reciprocity and strength of social ties have a significant and positive effect on knowledge-sharing behavior within blogs. Furthermore, Suh *et al*. (2001) consider that computer-mediated communication significantly influences the strength of ties within and between social groups. Such ties may be strengthened (or weakened) over time, based on the length and frequency of bloggers' interactions, despite privacy concerns (Chai *et al.,* 2011). The latter authors argue that "*the need to establish relationships persists in online communities despite heightened concerns regarding online privacy and is an indicator of the strength of this intrinsic urge*" (Chai *et al.,* Rao, 2011, p.334). Strong ties provide individuals with emotional support, while weak ties provide only information (Helliwell & Putnam, 2004).

Thus, social ties emerge through sharing that is spontaneous and not mandatory, since the relationship is not contract-bound (as would be the case in market logic). Individuals share (information, knowledge, etc.) in order to be visible within the community, to be a part of it, and to create a tie with its members. This tie may be based on a "one-to-many" and/or on a "one-to-one" logic, and is developed based on a reciprocity cycle. The principle of reciprocity that is at the root of these interactions proves important because it implies a positive attitude toward information and

knowledge-sharing (Liao & Chou, 2012). The notion of sharing is very close to the notion of giving, because it responds to the same logic. It tends to create and maintain social ties between individuals. In fact, we are not "obliged" to give our time and our attention to react to someone else's publication by commenting, sharing, liking, etc.

Within the framework of this research, we use the term "CMSTs" to designate all social ties (strong, weak, or latent) that have been formed, maintained, and/or possibly strengthened through IT-mediated social interactions toward the building of bonding and/or bridging social capital. The interactions that take place within SNSs, and the social ties that result, appear to obey the same implicit rules as reciprocal giving (Casilli, 2010; Dal Zotto & De Vaujany, 2011; Mimeche *et al.,* 2013; Proulx & Goldenberg, 2010; Skågeby, 2008, 2010), except that they are computer-mediated (Qureshi *et al.,* 2009).

From the same perspective, Munier (2011) considers that there are similarities between the "kula ring" proposed by Malinowski (1922) and discussed by Mauss (1954) and the functioning of the SNS Facebook, since they both amplify individuals' social status: "the *Kula* and Facebook walls constitute a vast showcase where each member can expose his/her status and examine those of others" (p. 114). Munier (2011) states that there is a material dimension (giving information in the form of publishing Facebook posts, and giving a tangible object in the case of the kula ring) and a symbolic one. This is congruent with the Maussian vision that considers that when we give something, we inform the receiver of our social status and we seek to settle a power-based relationship. It is the same when we focus on information exchanges and regulation systems on an online social network such as Facebook. This approach enhances understanding of individuals' motivation to participate in SNSs and to continue doing so: we investigate it further in the next section.

2.4. Revisiting gift theory

Malinowski (1922) studied exchanges in primitive societies and inspired Mauss to extend this work to other fields. Mauss investigated trading exchanges between tribes in archaic societies; he found that these exchanges were based on a giving loop that contradicts all purely utilitarian conceptions of trade. These investigations and results led to the development of gift theory (Mauss, 1954) as a sociological concept. This has been extended and broadened by Alter (2009), but is still little used in IS research. This framework, based on the regulatory logic of reciprocal giving, appears to fit particularly well with our investigation. It is grounded in the give–receive–return triptych that is illustrated in Figure 1 and summarized below.

Within a relationship, Mauss showed that if a gift initiates the social tie, the receiver becomes dependent on the giver. The gift – which is free by nature – does not necessarily involve reciprocation, but it enables the social tie to start being woven. The reciprocal-giving logic stipulates that the individual, when accepting the gift, enters into a relationship with the giver. The social tie is thus created and reinforced through the process of reciprocal giving. The act of giving creates a credit balance for the giver and a debt for the receiver, who might give in return (thus offering a reciprocal gift). If the initial gift is accepted and a reciprocal gift follows, a balance is reached, and a loop is completed that will reinforce the social tie by reciprocal gifts as time passes. The giving loop comprises: (1) giving, as the first phase of the loop; (2) receiving, with acceptance of the gift implying the start of a relationship; and (3) reciprocal giving, which aims to return all or part of what

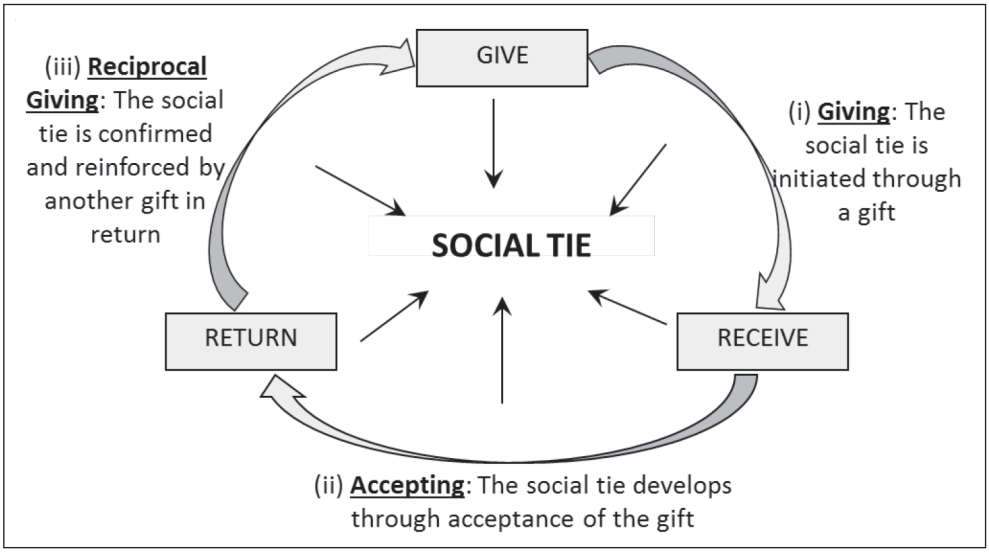

Figure 1. The giving loop in gift theory (inspired by Mauss, 1954)

has been given, and thus perpetuates and strengthens the social tie initially created.

Thus, the giving loop includes three processes – giving, receiving, and reciprocal giving – which are all necessary to strengthen and perpetuate social ties.

Alter (2009) revisited gift theory, taking a more modern approach. He broadens the definition of giving as applied to an organizational context. Within this broader context, he anchors the concept of giving to four key elements, the first being its structuring characteristics, which allow the giving to move from the individual to the collective level: we give not to one person but to a collective organizational being. For instance, when you hold the door open for somebody, you are not giving back to the person who held the door open for you, but to the next person, who is part of a collective. This leads to the concept of generalized reciprocity, which has been widely studied in sociology. The other three key elements of giving highlighted by Alter (2009) are its emotional and affective dimension (as giving allows us to exist and explains the pleasure of entering the reciprocal-giving dynamic); its utilitarian dimension (as we give to receive something in return); and the giver's access to valuable resources (as giving implies having access to something considered valuable by the giver and/or the receiver of the gift – for example, financial resources, material goods, or time). For Alter (2009), identifying an action as giving depends not on what is given but on the relationship between giver and receiver. An action may be considered as giving if it allows the emergence of a new social tie – or confirms, reinforces, or perpetuates an existing one. The dynamics of the give–receive–return triptych, the giving loop, ensure the development and durability of the initiated social tie (Mauss, 1954).

In this article, we use the gift-theory framework to help us make sense of our data, as sharing on an SNS may be understood as being very close to the concept of giving (Casilli, 2010; Skågeby, 2008). We share Alter's (2009) broad conceptualization of

providing a gift: giving part of oneself, of one's personal wealth, or of what is important for the self – or simply giving moral support in difficult times – constitutes a gift if we are investing in order to develop, strengthen, or perpetuate a social tie. We may give to a community because we need to be part of it, to be recognized, and to build social bonds.

3. RESEARCH DESIGN

Our research was conducted using an exploratory classic GT approach (Glaser, 1978; Glaser and Strauss, 1967) and respecting its three foundational pillars: emergence, theoretical sampling, and constant comparative analysis (Walsh *et al*., 2015). Our research design (see Figure 2) was not pre-determined at the outset of our research but emerged as we "theoretically sampled" different slices of data (Glaser, 1978; Glaser and Strauss, 1967). This design includes two phases: (1) a qualitative-GT design; and (2) an "embedded mixed-GT design" (Walsh, 2014), where all data slices (qualitative and quantitative) are constantly compared and analyzed as one set (each type being necessary to help the theory emerge).

The first phase enabled us to highlight a gift-triptych (give, receive, and return) and a giving loop that emerged from our qualitative data as the core category of our grounded theory. The components of the giving loop that had emerged during the first phase (giving and receiving information, giving and receiving attention, and giving and receiving support) were quantitatively modeled during the second phase, which used mixed qualitative and quantitative data and techniques. When we added the quantitative data slice, we retained an exploratory stance. Different tentative models were tested; even though some of these models were either qualitatively or quantitatively verified, they were rejected

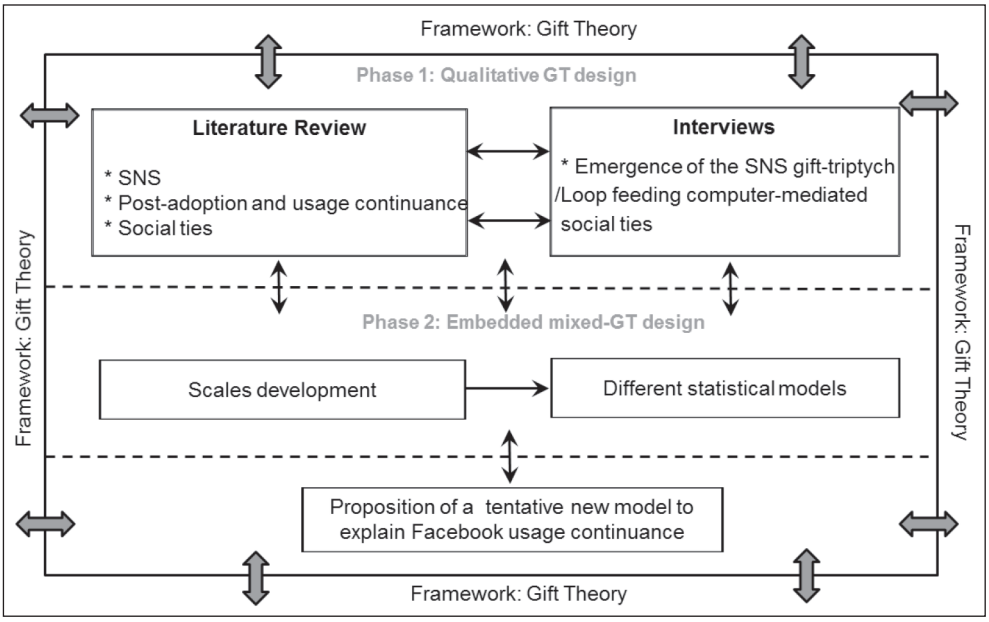

Figure 2. The research design

when all data (qualitative and quantitative) were analyzed together as one set (Holton & Walsh, 2017; Walsh, 2015). In particular, one component of the giving loop that had emerged during the first qualitative phase (receiving support) was eliminated as its items were found redundant: they cross-loaded on another construct (receiving attention). Finally, our full data set allowed us to propose a tentative research model with some new variables explaining Facebook usage continuance. Of course, such a model resulting from exploratory investigations would need to be verified in further research.

For both qualitative and quantitative data collection, we started our sampling using the researchers' own social networks (real-life and online networks) as a non-probability "convenience sample" (Wrenn *et al*., 2007); this is acceptable in an exploratory GT study (Glaser & Strauss, 1967). We then theoretically sampled within these networks. Analysis and coding were done as data were collected (*constant comparative analysis*: Glaser, 1978; Glaser & Strauss, 1967), with the help of NVivo 9.0 software (for the qualitative data – see Appendix B1) and SPSS 17 software (for the quantitative data).

The design of both phases of our research is further detailed below.

3.1. Phase 1: qualitative-GT design – emergence of the core category

Given our interest in the post-adoption use of SNSs, we identified users of public SNSs (those that are currently most valued and most used in both private and professional contexts) in the population of individuals who were part of our own networks. In order to be able eventually to formalize our findings (Glaser, 2007). We aimed to have as varied a sample as possible, in terms of gender, age, socio-economic category, and so on (*theoretical sampling*: Glaser & Strauss, 1967), although it was not possible to fully cover all age groups (see Appendix B2). These individuals directed us toward others to include in our investigations (*snowball effect*: Patton, 2002), and 21 semi-structured interviews were carried out. The interview guide was designed around open questions, which gave our respondents the opportunity of substantiating their answers, thus providing us with rich data; this allowed unanticipated elements to emerge from the data. This interview guide evolved throughout our research process and as the theory emerged; the final version of the interview guide is provided in Appendix B3.

The 21 interviews were recorded and transcribed *in extenso*. Data also included memos written by the researchers as the research was conducted. Initially, we open-coded the qualitative data without referring to a theoretical corpus, instead defining key concepts emerging from the collected data and evidencing interviewees' perceptions of SNSs. The codes identified were, for instance, "trust, "weak ties," "notoriety," "feeling to exist," "commenting," "posting," "interacting with others," "social ties," and "keeping in touch." Investigation of the literature from other fields of research enabled us to improve our theoretical sensitivity (Glaser, 1978) and to identify Mauss's gift theory (1954) as a suitable analytical framework to help us make sense of our data. Eventually, the SNS giving loop emerged as the core category of our GT (Glaser, 1978; Glaser & Strauss, 1967), through the dynamics of exchanges between SNS members. Using the gift-theory framework allowed us to identify the gift-tryptic in our data: give, receive, and return. Once the core category (the giving loop) had emerged, we then coded

selectively (giving, receiving, reciprocal giving, and CMSTs). However, we were unable to finalize the theoretical coding using only qualitative data. Therefore, we proceeded to collect quantitative data and decided to investigate usage continuance of Facebook in particular, as the mention of this SNS kept recurring in our qualitative data, and it is one of the most popular public SNSs, with the largest number of users.

3.2. Phase 2: embedded mixed-GT design – enabling theoretical coding

Various scales have been developed in recent literature with respect to the strong social dimension of some forms of IT (virtual worlds, online communities, SNSs, blogs, etc.). These scales investigate sociability (Kreijns *et al.,* 2007), social presence (Qiu & Benbasat, 2005), affective community commitment (Bateman *et al.,* 2011), bond- and identity-based attachment (Ren *et al.,* 2012), relational embeddedness (Van Den Hooff *et al.,* 2010), and social ties (Chai *et al.,* 2011). Although useful as a basis for our work, these scales are fairly remote from the components of the triptych that emerged from our qualitative data. We therefore developed – specifically for this research – measurement scales to assess the three components of our triptych. The items corresponding to each construct were grounded in verbatim reports collected during the initial qualitative phase. The items were measured using seven-point Likert scales from 1 ("disagree completely") to 7 ("agree completely").

Thus, we used qualitative data collected during the first phase but also extracted from informal interviews with some of the questionnaire respondents during the second phase pre-tests. During the process of revising the present article, we also conducted two further semi-structured interviews with new participants in order to saturate categories better, and to make full sense of our whole data set. Qualitative and quantitative data and analyses were embedded, each type of data providing complementary perspectives on the phenomenon under study.

Two pre-tests and one pilot test were carried out on the questionnaire developed for the present research. The pre-tests (with, respectively, 91 and 150 participants) helped us to ensure the quantitative validity and reliability of our scales (detailed in the results section), and their qualitative validity. This was because, in developing items, we could take into account what we heard and felt during the interviews with regard to users' experience of using SNSs, and (at a later stage) comments on the questionnaire. The questionnaire was made available on Google Drive. As we wished to investigate continuers and discontinuers, the link to the questionnaire was sent by email to targeted acquaintances, some of whom we knew had discontinued using Facebook (*theoretical sampling*: Glaser & Strauss, 1967); it was also put on Facebook.

Exploratory statistical analyses were performed while the quantitative data were being collected. Selective coding and some theoretical coding of quantitative data were done through exploratory factor analysis. The scales initially included four items for each construct that we aimed to assess. The pre-tests enabled us to identify the most relevant items to retain. We were then able to identify some strongly correlated items, as well as those that loaded on several constructs, which we eliminated.

During the first pre-test, we received returns from several respondents who indicated that they were unable to answer some questions as these were not relevant to them. Therefore, we decided to adapt the

questions in line with respondents' profiles, based on answers to the first question on the form. We used one of Google Drive's functionalities to set up, for the second pre-test, a system allowing the respondents to access a specific version of the questionnaire, depending on their answer to a first, preliminary question[2]; this question enabled us to identify each respondent as currently using, previously using, or never having used the social network. For those who had never had a Facebook account, all questions relating to the effective use of the social network were automatically deleted. With regard to those respondents who had stopped using the social network, all items relating to the use of Facebook were worded in the past tense. Finally, all those who were still using the social network had access to a third version of the questionnaire worded in the present tense. After the second pre-test, the formulation of some items was again adjusted in order to improve the reliability of our measurement scales, before launching the final questionnaire.

Although the questionnaire we developed relates to the use of Facebook only, we disseminated the final version on other SNSs too (LinkedIn, Viadeo, and Twitter); we also sent it by email to a circle of acquaintances that was as wide and diversified as possible in terms of age, training, occupation, etc. We systematically asked our respondents to disseminate the questionnaire to their own contacts using the digital medium of their choice; this enabled us to diversify our sample. Within two weeks, we had collected 452 responses. From our final sample, we eliminated 35 of our respondents, who indicated that they had never had a Facebook account; this left us with 417 responses that we could use to investigate usage continuance (see Appendix C1).

The explained variable (Facebook usage continuance) is categorical, and the distribution of our data is not normal; as a result, we were not able to apply conventional methods, such as structural equation modeling (SEM) or analysis of variance (ANOVA). We applied logistic regression, which is a statistical method that enables a categorical or dichotomic variable to be predicted with much less presupposition than the discriminant analysis method (Kinnear & Gray, 2005). All possible single and multiple logistic regressions were applied in an exploratory fashion, without any presupposition. Quantitative results of each regression were constantly compared to the qualitative data set, which was coded and recoded a number of times.

Mixing qualitative and quantitative data and techniques allowed us to finalize our theoretical coding.

4. RESULTS

Our results were obtained through constant iterations between the qualitative and quantitative data sets; quantitative and qualitative analyses were embedded. However, for the sake of parsimony, we present only the final results and not the successive iterations. Furthermore, we present the results of the two phases of our research separately and sequentially for the purpose of clarity.

[2] 1. Do you have a Facebook account? (Check one single answer)

a. I have one and I use it

b. I used to have one but I have deactivated it

c. I have one but I don't use it

d. I have never had a Facebook account

4.1. Phase 1: emergence of a giving loop on SNSs

During the first phase of our research, a giving loop emerged as the core category that feeds CMSTs, and as having components that might significantly explain Facebook usage continuance. In this section we present the main categories related to this core category. We then delve further into our data and propose some more-detailed components of the giving loop: giving information, giving attention, receiving information, receiving attention, and giving support. These components were those finally retained when all data were collected. Verbatim reports extracted from interviews are used as illustrations, and are shown in italics in the text. Elements between square brackets ([…]) are extracted from researchers' memos.

4.1.1. The giving loop

Within the context of SNS usage, some dynamics (giving, receiving, and reciprocal giving) emerged from our qualitative data as creating a giving loop and a gift-tryptic (give, receive, and return) that we identified as very close to those highlighted by Mauss (1954). Beyond the verbatim provided in the text below, we also provide in Table 1 some further quotations that illustrate the dynamics investigated.

Main categories	Illustrative examples of verbatim reports
Giving	"*When I publish on my page, I have the impression that I am sharing [that I give away] my everyday life, my state of mind ... sharing who I am*" (female, 29 years old, artist).
Receiving	*"[I log on] to examine what has been published, said ... to know what is happening around me" (female, 29 years old, assistant professor).* *"I am doing human-resource monitoring by following owners of interesting accounts and experts, even on specific topics such as HR 2.0, e-recruitment, social networking site users, etc. It allows me to always be on the lookout for relevant information in real time*" (male, 35 years old, CEO).
Reciprocal giving	"*I comment when it resonates with me … but mainly when the post is coming from a close friend … I mostly respond to close friends' posts" (female, 29 years old, artist).* *"When I see the status of a friend or a buddy who is not doing well, somehow it affects me … I try to help, provide support through comments*" (female, 38 years old, executive manager). "*When I saw posts of friends with photos of their family, I used to post in return some photos of my own family*" (female, 36 years old, skills assessment advisor).
CMSTs	"*A social network site is a platform that connects individuals through their computers ... at an international level*" (female, 26 years old, assistant professor). *"The social tie we may develop [through SNS usage] seems to be virtual and not real but, in fact, it is really there; we feel it. There are people behind the screen and, in a way, we really do meet*" (female, 29 years old, artist).

Table 1. The dynamics that feed CMSTs

We found that the notion of "posting" on an SNS is very close to the notion of giving, because it responds to the same logics. This idea was previously emphasized by Skågeby (2008) and Casilli (2010). The people interviewed consider their postings to be "gifts" and choose the individuals to whom they want to reveal themselves, and to "give"; they also choose what they want to give: "I have a private account and a public account. I do not like to give, or share, important moments in my life with people that I do not know, who are not my friends" (female, 29 years old, artist); and "When I first opened my account, I used to share family photos and moments. Now, I don't any more, and I instead give information that I have obtained and that I consider might be worth sharing with the people in my network" (female, 36 years old, skills assessment advisor).

Thus, these gifts are often considered to be something that one "shares." The great majority of our respondents (80%) expressed their wish to be on SNSs to share all types of content (text, videos, photographs, sound clips, etc.). For some of them, it is this basic functionality that makes them go there and stay there (usage continuance): "*You're there in any case mainly to share, to exchange … We're in the era of sharing, exchanging … Power belongs to those who share information!*" (male, 35 years old, CEO). In an environment characterized by being busy and having competing demands for our attention, we do not care for everyone, talk to everyone, and react to everyone's posts on SNSs. That means that even simply "liking" a picture or a status is considered a gift – a reciprocal gift – since we give it our attention, show that we have done so, and extend this by giving it our support.

The first phase of the giving loop involves the act of posting (giving) content on the social network; this may take the form of some text, an image, a video, etc. When the receiver of this post acknowledges it – i.e., reads the shared content – a type of debt is created; this depends on the status of the action within the giving loop. The debt is dissolved only if a reciprocal gift is made, thus completing the giving loop; this initiates or strengthens CMSTs while encouraging their durability. Completion of the loop is made possible by the receivers reacting in the form of commenting on or "liking" the posts of the giver and/or posting more content. If some form of this reciprocal giving does not occur, then the giving loop is not fully completed, and the CMST, if it already exists, is not strengthened. Instead, it might eventually fade out: "*When I log in, as I hardly ever comment, I feel that it's like voyeurism, that I am 'absorbing' people's lives without giving anything back in return … I don't really have the impression that I belong to this network*" (female, 56 years old, professor). The special feature of exchanges on SNSs is that individuals give not only to other specific individuals but also to a whole community (*generalized reciprocity*: Alter, 2009): "*There are many people who use these social networks [so that you eventually share with many] … In fact, they have somehow become a form of community … a community that is getting bigger day by day*" (female, 25 years old, assistant professor).

The act of giving is carried out in order to create or maintain a social tie. Individuals perceive the messages that they receive on the networking sites as "little gifts," which "touch" them and have an impact on the ties woven with those who post them. The concept of "tie" is critical in the process of giving, receiving, and reciprocal giving. This concept emerged again and again through the various definitions that our respondents proposed for SNSs: "[Exchanging with people on SMSs] *has enabled me to create or re-create ties with individuals*

whom I had lost sight of" (female, 27 years old, assistant professor).

Even though individuals do not clearly express an expectation to receive in return when they give, they do so implicitly, since some of our respondents mentioned that they expect reactions and comments from their contacts when they post content on their pages. In fact, members give to their communities in the hope of receiving in return: "*Of course, you expect something back when you share something on your page*" (female, 29 years old, artist). This feedback can come from any member of the community. Spontaneous reciprocation to – and exchange with – members of the network is made possible only through entering into a giving loop. One of our respondents confirmed that she waits for a response when sharing something on her SNS: "*Of course, we expect something in return when we share on our profile page. Yes, this return has an impact on the relationship we develop with people because ... Personally, I am sensitive to the loyalty*" (female, 29 years old, assistant professor). When this return occurs, people feel satisfied: "*It's nice when people comment on our photos. Of course, deep inside, I am waiting for these comments and when it happens, it makes me happy [and reinforces the social tie], regardless of the comment itself*" (female, 26 years old, assistant professor).

The dynamics of giving, receiving, and reciprocal giving lead to a giving loop, and reveal themselves as being at the heart of SNS functioning. Our qualitative data, interpreted and coded with the help of the gift-theory framework, highlight that these dynamics serve the CMSTs and ensure their durability: "*The most obvious reason why I use the SNS is to be in touch with my friends… Yes, yes… I will stay on Facebook because my friends are there*" (female, 26 years old, middle manager).

In the next section, we examine components of the giving loop in more detail.

4.1.2. The components of the giving loop that emerged from our data

- *Giving: to give information and attention*

SNSs facilitate the voluntary sharing of all sorts of content, whether impersonal (generalist and accessible on the web, with users not disclosing themselves) or personal (where users disclose what they are doing and feeling, and share photographs, usually filtering their list of contacts so that the information is accessible only to selected people). Giving information may seem common, but the information may be precious and/or personal, meaning that we do not want to share it with everyone. We then choose to whom we wish to convey it.

Giving on SNSs emerged from our data as including giving information and giving attention to explain SNS usage continuance: "*You give information, you try and change things, communicate, which can also allow your view of things to be disclosed*" (giving information – female, 26 years old, middle manager); and "*I am very active on Facebook, but I don't have enough time and/or energy to read all the posts published by my network. I am more concerned with what close family and friends are saying and sharing, then I read the posts with attention*" (giving attention – female, 31 years old, assistant professor).

- *Receiving: to receive information and attention*

If the giving process on SNSs involves two types of gifts (information and attention), our data indicate that the same applies to the receiving process, which

includes receiving information and receiving attention: "[Using the SNS] *brings me a kind of continuous flow of information"* (receiving information – male, 29 years old, middle manager); *"The closer you are, the more you're going to have access to a greater amount of information with photos, etc."* (receiving information – female, 27 years old, assistant professor); *"I like it when people tell me they saw and liked what I posted, whether they comment or not; this motivates me to post further"* (receiving attention – female, 31 years old, assistant professor); and *"I share only what I judge as being interesting for others but also for me socially. It is a kind of desire to get attention and make people say: 'Oh! She is interested by this subject!' So it is a desire to receive attention but also a desire to be coherent, based on what I share online"* (receiving attention – female, 36 years old, skills assessment advisor).

Within the context of SNSs, information can be received from the community as soon as you log in: *"I think that the main motivation for my presence on Facebook is obtaining information. When I am interested in a subject, I do research on the Internet and it is okay … I don't need any more information. But what is really interesting with SNSs is that there are many subjects that may interest me and that I don't know about … SNSs allow me to have access to this kind of information. It is more about serendipity and opportunities!"* (receiving information – female, 36 years old, skills assessment advisor).

From the same perspective, another interviewee told us: "*I use Facebook very often; I connect every day, several times per day, in order to 'sniff out' what is going on, what the trends are, the subjects that interest or concern my social network. I use it a lot in my job in order to be informed and also to contact people*" (receiving information, male, 37 years old, journalist).

- *Reciprocal giving: to return through the gift of support*

Giving support, as part of the reciprocal-giving process, emerged as another important category of the giving loop; it revealed itself as different from giving attention and information. Beyond giving information and attention in return, some SNS members also reciprocate in the form of support.

When we receive a "gift" from someone who is important to us (i.e., whom we care about and with whom we wish to nurture a social tie), we are more likely to give support through comments and further posting, in order to demonstrate that we value this connection. One of our respondents stated: "*When I connect to Facebook and I notice that some of my friends have posted something – information or a picture – and that it is important for them to share it … when I see that they only have a few 'likes', even if I am not really interested in what they have posted, I will 'like' it because I understand that if they share this information or picture, they have a need for recognition and this has not been fulfilled … So receiving just two 'likes' makes me sad for them so I 'like' it in order to please them and to tell them that they are not alone in this world seeking togetherness. I connect with and support them by 'liking'*" (giving support, female, 36 years old, skills assessment advisor). Another participant stated: "*I comment on the posts that I think are worth commenting on … But when it really matters to me, I share and I put a little comment*" (giving support, female, 26 years old, middle manager).

Giving support is part of the reciprocal dynamic to be fulfilled, in order to develop, nourish, or maintain CMSTs.

- *CMSTs and SNS usage continuance*

The great majority of our respondents continue to use an SNS because it enables them to create new social ties and/or to maintain and develop ties that they have previously developed: "*I continue to use SNSs because there are people whom I have been delighted to meet casually at some stage during my life, for example in Italy. Thanks to Facebook, I'm in contact with them, whereas otherwise, we'd never speak or see each other again*" (female, 28 years old, artist). Another interviewee commented similarly: "*I continue … to use the social network to stay in touch … There are friends who are in other countries, and I get regular news from them. I like to know what's happening with them*" (male, 29 years old, trader). We found through our data that SNSs allowed many people to turn some *a priori* "weak ties" into "strong ties" (Granovetter, 1973). The life expectancy of a weak tie is sometimes very limited, as it may quickly either die or lead to a strong tie: "*I now have a [new] friend. I have never met her, she lives in Lebanon. She writes to me from Lebanon almost every month and she has become a real friend that I have feelings for … It's real, the relationship exists and it's powerful*" (female, 28 years old, artist).

Sometimes, what is happening online deeply impacts what is happening in "real life." Nowadays, the dividing line between online and "real-life" activity may be very fine, as people are highly connected to each other via various technologies and tools: "*These people, I would never have met them without these websites. Thanks to networking sites, I have met them and we were able to initiate a relationship … and now I meet them in real life, so it is really great! Networking sites increase and speed up opportunities for face-to-face meetings, contrary to what some people may think*" (male, 35 years old, CEO).

The dynamics of reciprocal giving, which help to turn weak ties into strong ties (Granovetter, 1973), nourish the durability of social ties: "*I think that SNSs allow me to develop and reinforce social ties. If I stopped using these websites, I would have to give up some of these social ties and I don't want to. So I continue using SNSs because people who are important to me are connected to these platforms: I want to keep in touch with them and also be part of their 'virtual' life!*" (female, 31 years old, assistant professor).

If the reciprocal-giving stage is not reached, individuals register on the website but never come back, or they eventually stop using it because they are not driven by the same logic: "*Personally, I do not communicate on Facebook. That is … the friends that I do have, I contact them by phone. Facebook is just to see what people are doing or not doing, what they did yesterday … Generally speaking, I feel it's just like spying on my friends … Therefore, I don't have any interest in it; I think that it's a waste of time … Frankly, I'm going to stop using social networks!*" (female, 44 years old, executive manager).

The first qualitative phase of our research project allowed us to highlight two important phenomena related to SNSs: (1) the existence of dynamics leading to a giving loop that nourishes and maintains CMSTs; and (2) the link between CMSTs and SNS usage continuance. However, at the end of the first phase of our research project, the different components of the giving loop emerged as somewhat imbricated, and we had difficulty in finding (solely through our qualitative data) direct indicators of

the linkages between the giving loop and usage continuance. We therefore decided to develop scales for the categories that had emerged, and to collect slices of quantitative data that related more specifically to Facebook usage continuance.

4.2. Phase 2: the gift-triptych and Facebook usage continuance

We present in this section the quantitative results of our pilot test, which included 417 respondents (see Appendix C1).

During the second phase of our research, while remaining in an exploratory stance and aiming to understand and to explain better the phenomenon of Facebook usage continuance, we used mixed qualitative and quantitative data. Using the qualitative data collected during the first phase, we developed measurement scales for five constructs: to give information, to give attention, to receive information, to receive attention, and to give support. Originally, we had also included and developed items for the construct of "receiving support." However, these items cross-loaded heavily with the "receiving attention" construct and had to be eliminated. We investigated the impact of the remaining variables on Facebook usage continuance. The final scales to assess the new reflective constructs modeled for this research may be found in Appendix C2.

First, we focused on the validity of our measurement scales (see Appendix C3). Internal validity was assessed by using Cronbach's alpha, which is more than 0.83 for all of our measures. In order to assess discriminant validity, we conducted a *principal component analysis* in order to identify patterns in our data and to be able to define the main factors that we were dealing with. We used a varimax rotation, which helped us highlight the fact that we were indeed concerned with five independent variables, as detailed above (see Appendix C3).

We differentiated between two types of profile in our population: the *continuer* (someone who continues to use the social network) and the *discontinuer* (someone who stops using it, after registering on the platform and having used it at least once). The first question in our questionnaire enabled us to identify the profile of the respondents. Then, those who have never had a Facebook account (which was answer d) were eliminated from our sample; those who have an account but do not use it (answer c), and those who have removed or deactivated their Facebook account (answer b), are discontinuers; and, finally, those who have a Facebook account and do use it (answer a) are continuers. Our final sample included 30 discontinuers and 387 continuers.

We created a categorical variable, SNS usage continuance, with two positions: continuance (with a value of 1) and discontinuance (value 0). For respondents who checked responses b or c, we coded this variable as 0; and for respondents who checked response a, we coded this variable as 1. We neither had any preconceptions nor laid down any hypotheses. Therefore, we performed all possible single and multiple logistic regressions in an exploratory fashion between Facebook usage continuance/discontinuance and the newly defined variables. Then, we compared results in order to identify which model better explained Facebook usage continuance.

The results of the different exploratory logistic regressions, extracted from the software, are summarized in Table 2. The log likelihood (−2 LL) is the squared difference between the initial model without predictive variables and the model with predictive variables incorporated; it enables the value observed and the value predicted by each

model to be compared for each participant – and thus the degree of inaccuracy of each research model to be assessed. It has a high value when a model fits the data poorly, and a low value when it fits well. We notice that the last model (which includes the giving, receiving, and reciprocal-giving variables) is the one with the lowest value (−2LL = 76.434), and hence fits the best.

Cox and Snell's (1989) and Nagelkerke's (1991) R^2 measure the strength of the association between the dependent variable and the explanatory variables; they allow estimation of the variance explained by the model. We notice that the highest level for both are those related to the last model, which includes the three predictive variables (Cox and Snell's $R^2 = 0.284$; Nagelkerke's $R^2 = 0.703$).

The Hosmer and Lemeshow test (1989) represents a chi-square test to show the goodness-of-fit of the proposed models (initial model versus model with predicting variables). According to Hosmer and Lemeshow, a model is supposed to have a good fit with the data if $p > 5\%$. According to the results obtained, several configurations (models) fit the data; however, they do not all correctly explain the dependent-variable results (see the three right-hand columns in Table 2). For this reason, we had to consider other criteria, such as Nagelkerke's R^2 or the percentage of correctly classified observations. Table 2 provides the proportion of observations that have been correctly categorized due to the incorporation of newly defined variables, and enables us to evaluate the quality of adjustment of the model when comparing it with the percentage of correct observations at stage 0 (92.8%). Neither receiving nor reciprocal giving on their own (91.8% and 92.8% respectively) significantly explains Facebook usage continuance, while

Predictive variables	−2 Log likelihood	Cox and Snell's R^2	Nagelkerke's R^2	Correct classification percentage	Chi-square	Sig. (chi²)	Sig. model
None	215.701	–	–	92.8%	–	–	–
Giving	111.363	0.221	0.548	97.1%	106.758	0.00	No
Receiving	158.360	0.128	0.318	91.8%	13.322	0.101	Yes
Giving and receiving	84.430	0.270	0.669	97.6%	19.398	0.13	Yes
Reciprocal giving	207.982	0.018	0.045	92.8%	119.253	0.00	No
Receiving and reciprocal giving	148.649	0.149	0.368	90.4%	8.151	0.419	Yes
Giving, receiving, and reciprocal giving	**76.434**	**0.284**	**0.703**	**97.8%**	**11.629**	**0.169**	**Yes**

Table 2. Results of the exploratory logistic regressions

giving (97.1%) may partly explain it. Taking into account giving and receiving together improves the results (97.6%), but the best fit is highlighted when all three constructs – giving, receiving, and reciprocal giving – are involved (97.8%).

This result is confirmed with the values of −2LL (= 76.434), Cox and Snell's R^2 (= 0.284), and Nagelkerke's R^2 (= 0.703); this is highlighted using gray background cells in Table 2.

Our results are discussed in the next section.

5. PROPOSITION OF A NEW MODEL TO EXPLAIN SNS USAGE CONTINUANCE

In this section, as a result of our work, we propose a new model to explain SNS usage continuance, and discuss the various components of this model in relation to existing literature; we then discuss our results more broadly. We also highlight the limitations and the theoretical and practical contributions of our work.

5.1. A tentative model

We used Mauss's (1954) gift-theory framework to help us code and make sense of our data. The qualitative data collected during the first phase of our research showed that the giving-loop dynamics (giving, receiving, and reciprocal giving) that are created within SNSs serve CMSTs. Adding a quantitative slice of data during the second phase of our research allowed us to show that some components of the gift-triptych (to give information and attention, to receive information and attention, and to give support) on Facebook are important in motivating individuals to continue to use this SNS. Our mixed-data set leads us to theorize that the stronger the giving loop is – i.e., the more users give, receive, and reciprocate through support on Facebook – the stronger their CMSTs are, and the more these users are inclined to continue using Facebook. Our results highlight the following proposition: *giving (information and attention), receiving (information and attention), and returning (support) have a significant impact on Facebook usage continuance*. Our theoretical coding and the model we propose as a result of our work are summarized in Figure 3.

We found that giving and receiving involve two dimensions related to information and attention. To investigate the two constructs "to give information" and "to receive information," we extended the measurement scales developed by Ridings *et al.,* (2002), who worked on the role of trust in information exchange within VCs. We adapted these scales to the context of our research. However, we developed our own measurement scales for the other dimensions ("to give attention" and "to receive attention"), as well as for the reciprocal-giving construct ("to give support") (see Appendix C2). These new constructs may profitably serve to enrich existing continuance models in further research within the context of SNSs. Works that highlight the information/attention dichotomy are very scarce: this differentiation should be developed further in future research. Further work is needed using established models of post-adoption use, and incorporating the newly defined constructs when studying SNSs.

We saw in a previous section that VCs may emerge from SNSs. Work related to so-called VCs has drawn attention to the transmission of an informational flow and knowledge exchange between their members (Ridings *et al.,* 2002; Tsai & Ghoshal, 1998; Wellman & Gulia, 1999). Nevertheless, VCs can also incite an exchange of attention and support between those involved (Haythornthwaite,

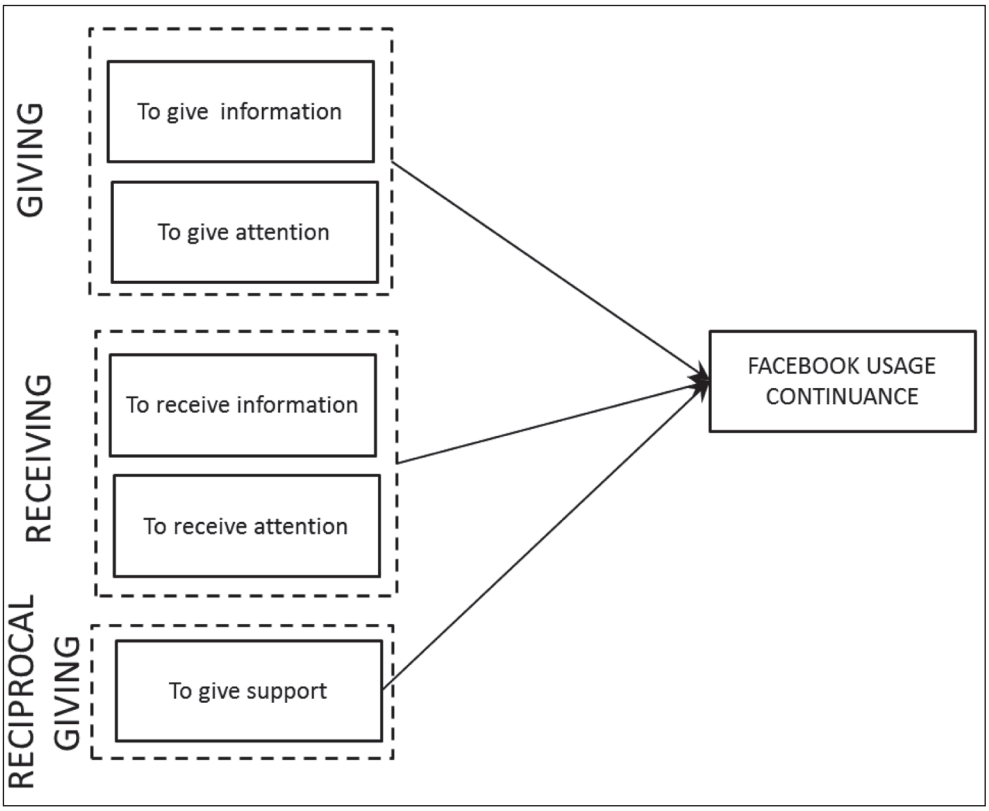

Figure 3: A giving loop as possible explanation of usage continuance

2002; Hiltz & Wellman, 1997; Ridings & Gefen, 2004; Wellman & Gulia, 1999). Taking the example of SNSs, Casilli (2010, p. 56) highlights that the other *"distinctive feature [of these sites] is the fact that in the majority of cases, support and mutual assistance are carried out in a visible way."* Similarly, Proulx & Latzko-Toth (2000, p. 117) assess that "*in the new forms of community, the shared resource is not only information but the very 'presence' of others*." This presence can be felt in symbolic gestures of attention and support (Lee *et al.,* 2014). Displays of interest and support enable the giving loop to be completed, and a social tie to be developed, maintained, and nurtured over time. Thus, our results concerning "giving support" as a possible significant explanatory variable for SNS usage continuance are supported by the literature, which highlights the influence of perceived/enacted social support on SNS usage (Li *et al.,* 2015). Social support is defined by Lin (1986) as "perceived or actual instrumental and/or expressive provisions supplied by the community, social networks, and confiding partners" (p. 18); it may be conceptualized through its functions (emotional, informational, instrumental, or appraisal-related) as a tangible and an intangible aid, which is obtained from one's social networks (House, 1981). Previous research found that using SNSs and instant messaging to communicate with others may allow people to feel supported and to perceive support when in need (Burke *et al.,* 2009, Ellison *et al.,* 2007; Lu & Hampton, 2016; Olson Liu & Shultz, 2012; Steinfield

et al., 2008; Swickert *et al.,* 2002; Vitak *et al.,* 2011).

The main limitation of our research project is the fact that our sample is not statistically significant, as we theoretically sampled from a convenience sample. Also, there appears to be a low percentage of discontinuers in our sample (8% of the total population investigated). However, this percentage might reflect the reality in an overall population with a normal distribution. Indeed, it would be important to verify the proposed explanatory model in future research within a statistically sampled, normally distributed, population. It would also be interesting to investigate a population theoretically sampled (Glaser, 1978; Glaser & Strauss, 1967) to include only discontinuers and investigate the reasons for discontinuance. Another limitation is that our quantitative data relate only to Facebook. It might be important to verify in further research whether the giving loop and the new proposed variables are still significant in explaining the usage continuance of other SNSs, such as Instagram. Future research could also investigate possible links between identity, personality, and types of SNS usage in order to build on the works of Boyd & Heer (2006), Twenge (2006), and Buffardi & Campbell (2008). Such elements would be interesting to study in depth and in relation to the diverse continuer profiles, particularly those who use SNSs to receive, but who refuse to give, thus highlighting an opportunistic type of social tie. Studying SNSs usage continuance without adopting a longitudinal approach may, indeed, be considered as a methodological limitation. Such an approach could be adopted in future research in order to verify and/or refine our results. However, the first preliminary question asked during our surveys (see Phase 2 of our research design and footnote 2 page 13) allowed us to adopt a retrospective view on usage and discontinuance to address at least partially this limitation. Furthermore, Mauss's triptych helps explain only partially the phenomenon we investigated (usage continuance of SNSs). Several rival explanations exist and are also relevant. SNSs may help some of their users to develop an online identity (Cardon, 2008; Georges, 2009; Granjon & Denouël, 2010; Lampe *et al.,* 2007; Zhao *et al.,* 2008), to promote themselves (Ploderer *et al.,* 2008; Richardson & Hessey, 2009), and to feed their narcissism (Twenge, 2006; Twenge & Campbell, 2009). The willingness to meet new friends and to reinforce existing friendships could also explain why and how people continue to use SNSs (Donath, 2007; Light *et al.,* 2008; Richardson & Hessey, 2009; Rosen, 2007).

5.2. Discussion

Our work highlights the process of giving while using SNSs at two levels: collective (one-to-many) and interpersonal (one-to-one). At the collective level, individuals share contents with the community. People who do not participate in the collective action ("clandestine passengers") are not automatically excluded, because the gift exists for its own sake (Alter, 2009). Individuals give for the sake of giving, but also in order to feel they exist and are part of a whole, of a community. Participating allows the individual to feel alive, recognized as a member of the group, and not an isolated human being: "*We do not give to another directly*. *We give in order to not interrupt the flow of exchanges*. *This logic is based on generalized reciprocity*" (Alter, 2009, p. 117). At the interpersonal level, we give to another specific person, whom we choose from our contact list. This may be a note left on their page, a comment in response to what they shared, a post, etc. These actions can be considered as gifts since individuals are not obliged to show interest

in what others share on their personal SNS pages, but sometimes they choose to do so in order to create and maintain social ties: this is entirely congruent with previous research (Alter, 2009). Thus, we see that individuals give to exist, to be visible within the community, and to be part of it – but also to create a relationship with the community and its members.

When individuals use SNSs, they appear to find themselves within a "*virtuous circle*": they receive and give in return, which tends to lead them to continue giving in order to continue receiving through a logic of digital reciprocity and co-creation of simultaneous relational value (Dal Zotto & De Vaujany, 2011). When one studies SNSs, the difficulty is that "the chain of gifts and counter-gifts being virtually infinite, it is impossible to distinguish a response from the original gift" (Babeau, 2016 p.9). We experienced this difficulty of separating gifts and counter-gifts when we coded our data; it made the investigated dynamics more complex and difficult to describe fully. Helped in our investigation by gift theory (Mauss, 1954), we were led to consider that these dynamics may be conceptualized as a loop, which best illustrates the deep relationship between gifts and counter-gifts. By definition, a gift is different from a contract, because when giving, there is always a risk of receiving nothing in return. The principle of reciprocity is at the heart of social interactions, and proves to be a key variable in the success of VCs (Powell, 2009; Putnam, 1995; Wasko & Faraj, 2005). When reciprocal giving involves the community, it brings us back to the concept of "*widened reciprocity*" or "*generalized reciprocity*" developed by anthropologists, a notion that explains well the functioning of these sharing sites (Alter, 2009). It appears that, within the context of SNSs, individuals often give to receive in return: "*On the web … the gift is not an act of unilateral charity, it is a reciprocal social obligation. To be rewarded, it must be perceptible, and provable – almost ostentatious. Communities in virtual worlds are not less 'felt' than those established in the physical world*" (Casilli, 2010, p. 57). Based on our work, we argue that a virtual form of reciprocity is shaping social exchanges within SNSs.

Several studies recognize the existence of two categories of community members: "posters" and "lurkers" (Lai & Chen, 2014; Marett & Joshi, 2009; Preece *et al.,* 2004; Petrovcic & Petric, 2014), but few investigate differences between these two groups in terms of knowledge-sharing behavior (Lai & Chen, 2014). Lurkers are those who visit a community without posting any message in order to read or learn from the collective knowledge, a sort of "*clandestine passenger*" (Marett & Joshi, 2009; Nonnecke *et al.,* 2004); they post fewer times per month than the community average, do not post, or post very infrequently (Ridings & Gefen, 2004). Several reasons explain the attitude of a lurker, who is not always a "*selfish free-rider*" but sometimes someone who considers that they do not have anything interesting to share with the community; then, they decide to "be silent" and use the community to be instructed (Nonnecke, 2000; Nonnecke *et al., 2004;* Preece *et al.,* 2004; Walker *et al.,* 2010). Our work shows that some of our respondents indicate they are continuing to use Facebook even though they are not willing to post information. Many people use Facebook to be informed (to get profit from the network – that is, taking a utilitarian approach) and to communicate with others in private to reinforce these social ties. It is because it would be visible on their personal page that they do not use the SNS for social interactions. We have to consider and take into account this kind of usage.

Rau *et al.,* (2008) have shown that the levels of verbal and affective intimacy

experienced by individuals when using SNSs differentiate users who post from those who lurk. Hence, using the giving loop could also be interesting to profile users. These ideas are emphasized by one of our respondents: "*I never share information on Facebook … I did at the beginning when I subscribed to this website and then stopped doing so, because I realized that there is an exhibitionist dimension, and I do not want my personal information and pictures to be available online. I look at what others post, but I personally never post on my page. I react very rarely to my friends' posts because my reaction is also public, so I refrain from reacting … I use Messenger a lot to communicate with people if I need information. It has happened that I used Facebook to initiate a contact with someone, then moved to Messenger in order to have a private exchange and to get the information I needed in my professional activity*" (giving information and receiving information – male, 37 years old, journalist).

Reciprocity has a greater influence on the knowledge-sharing intentions of lurkers than on those of posters (Lai & Chen, 2014; Sun *et al.,* 2014). Community developers or managers should recognize the importance of reciprocity and work on reinforcing it in order to stimulate lurkers' knowledge contribution. Reciprocity is deeply embedded in social interaction (Fehr & Gächter, 2000); hence, promoting this interaction and helping people to develop social ties may work to develop collective knowledge in a community. Offline activities encourage lurkers to participate in the community's knowledge-sharing (Lai & Chen, 2014). This means that individuals may be more likely to use an SNS and to develop social ties with those who share common interests through offline activities. Weak ties would most probably be developed in order to exchange information, while strong ones would be developed in order also to exchange attention and support, and to enhance companionship (Granovetter, 1973).

Our study contributes to the research on SNS usage continuance/discontinuance and also, more broadly, to that on the continuance and sustainability of online communities. Many works in the literature investigate usage continuance through intention as proxy (e.g., Hsieh *et al.,* 2011; Marett *et al.,* 2013; Sun, 2013); they do not investigate usage continuance itself, which is the phenomenon that we have studied in this research. Furthermore, the IS with which we are dealing in our work – i.e., SNSs, and in particular Facebook – has social aspects that are taken little account of in the literature covering the post-adoption phase and usage continuance (Magro *et al.,* 2013). CMSTs have scarcely been studied as such in the literature (Qureshi *et al.,* 2009). Our work proposes a new perspective to study the usage continuance of SNSs, and highlights new explanatory variables that are deeply associated with social ties. CMSTs do not shape reality as such: they are simply a part of it, since they do not reflect the intimacy or the quantity of time that may be involved in the building of social ties. However, CMSTs represent an increasingly important part of younger generations' reality. A study mobilizing the tools of social-network analysis might provide a much needed and refined analysis of these ties.

Our work highlights the presence in SNSs of two types of embeddedness proposed by Agterberg *et al.* (2010) to consider in intra-organizational networks of practice: structural embeddedness and relational embeddedness. The level of both appears to be related to the strength of social ties, and may help assess CMSTs in future research in order to investigate their role in the nomological framework we propose in the present article. Structural

embeddedness describes how network members are connected to each other; it can be assessed not only through the "paths" of contacts that allow you to access someone who is not part of your network, but also through the intensity of exchanges and interactions between network members, which are often revealing social ties woven between people. Relational embeddedness concerns the identification with the network and its members; the bonds of trust that can develop within the network; and the mutual expectations between members. In the context of online social networks, reciprocal expectations are set up between network members who are linked to each other. This need for reciprocity was not always clearly expressed, though some of our respondents mentioned it explicitly during interviews. The degree of confidence we can have toward members of the network – together with the means of display itself – is closely related to the willingness to share personal information about the self ("self-disclosure"). Beyond structural and relational embeddedness, we can also identify from our work two additional dimensions of embeddedness as relevant to SNSs, and which could be used toward the assessment of CMSTs: *"temporal embeddedness"* (based on repeated interactions between partners) and "*network embeddedness*" (relationships to third parties, such as other individuals) (Rooks *et al.,* 2000).

Finally, another contribution of the present work is our application of gift theory (Mauss, 1954), which is little used in IS research, and which we used as a guiding framework to help us make sense of our data, focusing on Alter's interpretation of this theory. Gift theories are legitimate to explain organizational reality (Alter, 2002, 2009, 2011; Dur, 2009; Masclef, 2013; Pihel, 2008). Pihel (2008) argues that, in order to establish a healthy and lasting relationship between employer and employees, they have to establish a giving loop, which may reinforce trust and motivation. Giving attention to employees allows employers to compensate for lower wages because of the quality of the relationship built (Dur, 2009). Entrepreneurs may be considered to have the status of "*homo donator*" rather than "*homo economicus*" because they build their own networks and develop social ties to launch their businesses; they cannot invest in relationships without taking risks, and sharing confidential information, documents, etc. In a way, they are "*placing a bet on gifts*" (Masclef, 2013).

Others consider that it is difficult to settle a gift dynamic within organizations in order to make people work together, because of self-interest and because individuals act strategically in order to achieve their own goals (Crozier & Friedberg, 1977). Furthermore, in firms, individuals who do need recognition might be less likely to give much to others, because giving is helping someone else to succeed, and to be visible and appreciated by top management. However, Alter (2009) shows that giving is something we may witness daily in organizations, even if we do not always pay attention to it. In effect, some individuals do give others their time, energy, skills, attention, and support. They give these assets to people to whom they are connected in order to help them evolve, and to maintain their social ties with them. Caillé & Grésy (2014) develop the idea that gift theory implies the rethinking of management; they propose another way of dealing with people in organizations. Our results tend to demonstrate that it might be important to nurture the dynamics involved in reciprocal giving within an organizational context: we would propose that a community manager who enters and complies with the "*game*" of reciprocal giving might better succeed in inspiring the

community and in increasing the degree of participation of its members. This is essential as communities – real communities, VCs, CPs, etc. – may be very influential and productive; they permit some collective learning, co-creation or co-innovation, and collective expression, which are much richer and create greater value than does individual thinking (Surowiecki, 2008). For future research, it would be interesting to investigate more specifically corporate SNSs, and to verify whether gift theory is a relevant framework with which to study their usage continuance.

This interpretation of gift theory could fruitfully be applied to studying the new emerging business models that are affecting some industries – e.g., the music industry, where artists create SNS online communities in order to promote their music (Beuscart, 2008; Beuscart & Couronné, 2009; Croissant & Touboul, 2011), and to facilitate self-production of this through crowdfunding. Artists who remain independent – i.e., not tied to an agent, company, etc. – may be considered to be entrepreneurs, since they have to manage their own projects, though they are perhaps not always equipped to do so; they have to develop specific skills in order to capture people's attention. Many artists use SNSs in order to be "*visible*", to communicate with their fans, and to promote their art. They appear to try to create and develop reciprocity in order to enlarge their audience and to share their art with others. Some of our interviewees were in this position, and told the stories of their SNS usage in terms of gifts, counter-gifts, and important encounters with people. It would be interesting to investigate what is currently happening within the music industry, and how artists are dealing with this change.

Gift-based regulation has also influenced the property industry with the development of "*couchsurfing*" (Geiger & Germelmann, 2015), home exchanges, and Airbnb (Babeau, 2016). Of course, it might be argued that there is a distinction to be made between sharing (giving) and collaborative economy. Babeau (2016) dealt with this question through investigating the case of Airbnb. By coding several interviews and commentaries posted online, he found out that people do cherish what they consider as being "the additional layer" of the service. They accept the fact that they exchange money for overnight accommodation, but they also meet new people, sometimes profit from a very warm welcome, etc. In other words, they share moments with those who host them. Babeau (2016) states that the term "sharing economy" could be relevant to use while talking about a certain kind of exchange developed through the digital economy, even if these exchanges imply monetary payment.

We may observe that there are two strong tendencies. The first aims to construct an imaginary social world in which the self is symbolically sublimated. The second, meanwhile, is oriented toward the instrumentality of human relationships and seeking any benefit from network connections; this is less consistent with the values of disinterested sharing and exchange that users are glad to represent (Lardellier & Bryon-Portet, 2010). Thus, there is an evolution from an identity-based to a utilitarian perspective. The boundary between the two is sometimes very thin. It would be interesting to understand how people position themselves with respect to these perspectives, because this is likely to influence their usage and usage continuance of SNSs.

We propose here that SNSs are communication tools that imply gift dynamics and shape social ties. In fact, social ties are nowadays evolving not only during coffee breaks and social activities, but also outside the organization and within socialization platforms, such as SNSs and microblogging

sites. Social ties are not broken when individuals leave the firm. They continue evolving and are nourished by face-to-face as well as mediated communication. SNSs may represent the new way to fight knowledge loss. This may explain why some firms are investing in establishing their own SNSs and in encouraging their employees to use them. One could ponder whether we are really able to manage additional communication tools, taking into account the multiplicity of ICTs to which we already have access (Kalika *et al.,* 2007). This question is particularly relevant because we are living in a world with multiple demands for our attention, since we face "overload" in terms of both information and our social lives. This "*social overload*" – exacerbated by SNSs – might then be considered by some only as an additional burden to deal with.

6. CONCLUSION

The post-adoption behavior of SNS users is an important topic. The success of an SNS depends not only on users' intention to adopt it, but also on their willingness to continue investing their time in this medium in the absence of a formal contract. In the present work, we have highlighted, defined, and modeled the components of an SNS gift-triptych, which forms the basis of a giving loop, and which significantly explains Facebook usage continuance. The more that the giving loop is completed through the give–receive–return triptych, the more that individuals develop CMSTs while on Facebook, and the more inclined they are to continue using this networking site. Those individuals who enter into reciprocal-giving dynamics and develop strong CMSTs are those who will be more likely to continue to use Facebook, while those who refuse to enter into these dynamics will most probably tend to abandon their usage – or at least to maintain limited usage. Through an embedded mixed-GT design, the present research has highlighted and modeled new variables that explain Facebook usage continuance; it enriches the literature about the post-adoption phase in the context of SNSs.

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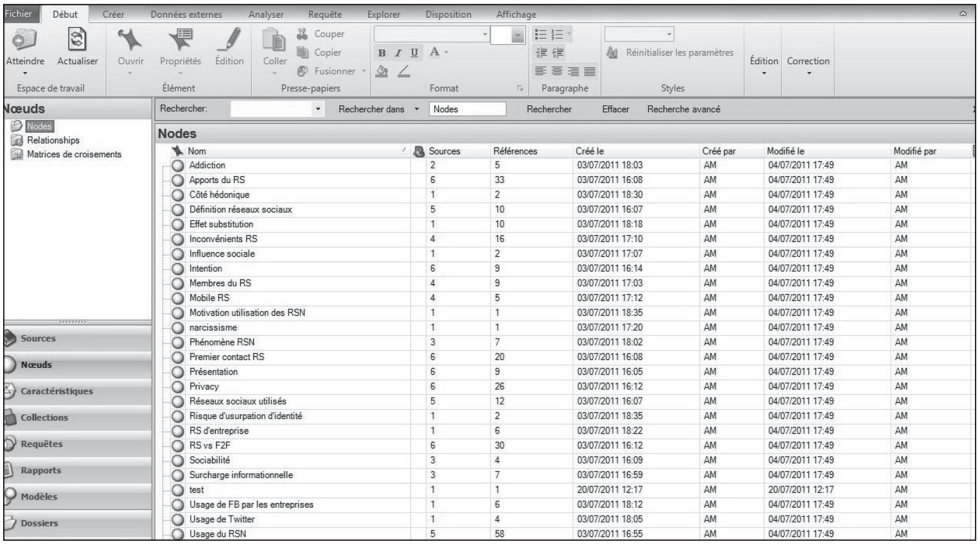
APPENDIX A. SUMMARY OF BROADER LITERATURE REVIEW ON SNSS

Key concepts	Citations
Social capital	Enders *et al*., 2008; Steinfield *et al*., 2008; Pfeil *et al*., 2009; Valensuela *et al*., 2009; Jin, 2013; Park *et al*., 2013; Yoon, 2014
Identity on SNS	Lampe *et al*., 2007; Cardon, 2008; Lewis *et al*., 2008; Zhao, *et al*., 2008; Ertzscheid, 2009; Georges, 2009; Pempek *et al*., 2009; Granjon & Denouël, 2010; Yoon, 2014
Personality traits	Twenge, 2006; Rosen & Kluemper, 2008; Ross *et al*., 2009; Twenge & Campbell, 2009 Amichai-Hamburger & Vinitzky, 2010; Kefi *et al*., 2010; Lu & Hsiao, 2010
SNS adoption and acceptance	Rosen & Sherman, 2006; Hargittai, 2007; Burke *et al*., 2009; Sledgianowski & Kulviwat, 2009; Kwon & Wen, 2010
Post-adoption and usage continuance of SNS	Hu & Kettinger, 2008; Baker & White, 2010; Shi *et al*., 2010; Chang & Zhu, 2011; Huang & Lin, 2011; Lin & Lu, 2011; McKnight *et al*., 2011; Mlaïki *et al*., 2011; Shin & Hall, 2011; Turel & Serenko, 2011; Mlaïki *et al*., 2012, Chang & Chou, 2013; Jin (2013)
Online communication versus offline communication	Donath, 2007; Geyer, 2007; Ploderer *et al*., 2008; Subrahmanyam *et al*., 2008; Richardson & Hessey, 2009; Farrow & Yuan, 2011;
Trust, disclosure, and SNS	Donath, 2007; Dwyer *et al*., 2007; Lankton & McKnight, 2008; Stenger & Coutant, 2010; Zhou & Li, 2014
SNS usage	Lewis *et al*., 2008; Rau *et al*., 2008; Stenger & Coutant, 2009; Roblyer *et al*., 2010; Kim *et al*., 2011;
SNS usage in organizations	Brown *et al*., 2007; Cooke & Buckley, 2008; Page, 2008; Poynter, 2008; Langheinrich & Karjith, 2010; Parveen, *et al*., 2015

APPENDIX B. QUALITATIVE DATA

Appendix B1. Screenshot of NVivo: nodes and codes (qualitative data)



Appendix B2. Interviewee profiles

Interviewee	Gender	Age	Occupation	SNS(s) concerned	Duration (mins.)
1	F	29	Artist	Facebook, MySpace	32
2	F	28	Artist	Facebook, MySpace	64
3	M	32	Actor	Facebook	11
4	M	29	Trader	Facebook, Viadeo, LinkedIn	12
5	F	27	Assistant professor	Facebook, Viadeo, Twitter, MySpace	16
6	F	29	Assistant professor	Facebook, Viadeo	28
7	F	25	Assistant professor	Facebook, Viadeo	20
8	F	26	Assistant professor	Facebook	23
9	F	25	Middle manager	Facebook, Viadeo	30
10	F	26	Middle manager	Facebook, Viadeo	32
11	F	38	Executive manager	Facebook, Viadeo, LinkedIn	23
12	M	44	Executive manager	Facebook, Viadeo, LinkedIn, Twitter	30
13	M	38	Executive manager	Viadeo, LinkedIn, Xing, Facebook	29
14	M	22	Trainee	Facebook, Twitter, Viadeo, LinkedIn	15
15	M	35	CEO	Facebook, Viadeo, LinkedIn, Twitter	33
16	M	21	Student	Facebook	27
17	M	29	Middle manager	Facebook	30
18	F	56	Professor	Facebook	54
19	F	31	Assistant professor	Facebook	30
20	F	36	Skills assessment advisor	Facebook	15
21	M	37	Journalist	Facebook	15

Appendix B3. Interview guide

Topic	Areas of interest
SNS definition	Understand the representations that individuals make of SNSs. What is their definition of SNSs? What does that mean for them? Why?
Motivation	Identify the motivations that lead individuals to connect with each other on SNSs. Understand their expectations regarding these platforms.
SNS usage	What are the various usages that individuals make of social networks? How do individuals use social networks? Assess the impact of the use of social networks on ties and human relationships (real versus virtual). What are the different functionalities used in SNSs? Why?
Advantages and disadvantages of SNSs	What are the advantages that individuals draw from their use of SNSs? What are the various disadvantages of the use of SNSs? How do individuals manage them? What is their position with regard to the controversy about SNSs and the issue of private life?
Future usage of SNSs	Do individuals intend using SNSs in the future? Why? How do they perceive such a future use?

APPENDIX C. QUANTITATIVE DATA

Appendix C1. Demographic statistics of the quantitative data set (final test)

Gender	Frequency	Percentage
Male	157	37.6%
Female	260	62.4%
Age	**Frequency**	**Percentage**
[18–25]	135	32.38%
[26–35]	193	46.28%
[36–45]	49	11.75%
[46–55]	27	6.48%
[56–65]	12	2.87%
Over 65	1	0.239 %
Level of education	**Frequency**	**Percentage**
No academic education	1	0.212%
High school or vocational school education	1	0.212%
High school diploma	26	6.32%
Vocational diploma	17	4.07%
Bachelor's degree	106	25.41%
Master's degree and higher	266	63.776%
Total	**417**	**100%**

Appendix C2. Questionnaire

Constructs		Items	Codes	Sources
Giving	To give information	– On Facebook, I share certain things that I have discovered with my friends. – I share information with my friends on Facebook. – On Facebook, I give information that I find interesting for my friends.	Giv_Inf1 Giv_Inf2 Giv_Inf3	Adapted from Ridings, Gefen, and Arinze, 2002
	To give attention	– I pay attention to funny messages posted by my friends on Facebook. – I pay attention to photos posted by my friends on Facebook. – I pay attention to items posted by my friends on Facebook.	Giv_Att1 Giv_Att2 Giv_Att3	Scale developed for this study
Receiving	To receive information	– I connect on Facebook to be up-to-date with events that might interest me. – I connect on Facebook to get information on subjects that interest me. – I connect on Facebook to be up-to-date with the news.	Rec_Inf1 Rec_Inf2 Rec_Inf3	Adapted from Ridings, Gefen, and Arinze, 2002
	To receive attention	– I appreciate the fact that my friends pay attention to the photos that I publish. – When I post funny messages (statuses) on my Facebook page, I am expecting reactions from my friends. – I connect on Facebook to feel that my friends pay attention to my posts.	Rec_Att1 Rec_Att2 Rec_Att3	Scale developed for this study
Reciprocal giving	To give support	– I connect on Facebook to support my friends when they need it. – I connect on Facebook to provide emotional support to my friends if needed. – I connect on Facebook to be there for my friends and react to their posts.	Rec_Giv1 Rec_Giv2 Rec_Giv3	Scale developed for this study

Appendix C3. Validity of the reflective scales used

Scales	*Rotated component matrix*					*Cronbach's alpha*
	Factor 1	**Factor 2**	**Factor 3**	**Factor 4**	**Factor 5**	
To give information 1	.779	.226	.222	.246	.231	0.843822
To give information 2	.630	.136	.181	.363	.347	
To give information 3	.819	.226	.159	.218	.138	
To give attention 1	.195	.724	.259	.233	.289	0.839720
To give attention 2	.220	.802	.006	.175	.276	
To give attention 3	.160	.740	.363	.165	.156	
To give support 1	.215	.163	.840	.191	.176	0.853400
To give support 2	.173	.334	.592	.150	.477	
To give support 3	.164	.171	.786	.281	.225	
To receive information 1	.262	.352	.209	.696	.071	0.872991
To receive information 2	.230	.144	.193	.859	.164	
To receive information 3	.199	.119	.170	.850	.157	
To receive attention1	.182	.133	.410	.122	.751	0.842870
To receive attention 2	.226	.392	.189	.129	.688	
To receive attention 3	.198	.234	.111	.168	.818	