

# **Knowledge Sharing using Social Media in the Workplace**

**A chance to expand the organizations memory,  
utilize weak ties, and share tacit information?**



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Master thesis

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## **ABSTRACT**

Knowledge sharing is of vital importance for the success of organizations. People are not always successful in locating information and experts, exchanging knowledge with others outside their close circle, and sharing information that is tacit and difficult to communicate. Organizations tried building IT-systems and offering rewards to improve knowledge sharing, which was mostly in vain. In this thesis it is proposed that social media use might provide answers. Research was done within an institute for higher education in the Netherlands. The participants filled in a survey electronically. The results have showed that people weigh out costs and benefits when they decide to engage in social media use or not. The contacts with co-workers and updates in their professional social network provided a bridge to find experts and information. Social media contacts with professionals outside the organization were useful when sharing knowledge with weak ties that can provide new ideas. Sharing professional content on social media turned out to be related to sharing tacit knowledge. This, in turn, related to a better performance as a knowledge worker; just like finding information and experts did. The “digital natives” were the better social media users, while the “Babyboomers” excelled as knowledge workers. In the practical implications it is advised that organizations let the generation groups learn from each other.

## **PREFACE**

Working on the topics of knowledge sharing and social media use has been very interesting to do. In my work as a communication teacher in an institute for higher education I deal with both topics daily, and I will definitely continue doing so within Inholland and beyond. I would like to thank my supporters that made it possible for me to finish this thesis. First of all I thank our government, which funded me through a Teachers Grant. Hogeschool Inholland provided me with the flexibility to work my study around my job-tasks. Dr. Sonja Utz, my academic supervisor, inspired me about the topic, pointed me to interesting sources, and supported me when I was confused about the next steps in my thesis project. Meanwhile my co-workers embraced the research, and not only participated in the survey but also shared their insights and new sources with me. Finally the personal support from friends and family greatly encouraged me. Especially my husband Harry Richards' support has meant a lot to me; he warmly welcomed me into the academic world. It is with great pleasure and pride that I present my master thesis, and I hope it provides interesting reading.

Nicolette Bakhuisen

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## INTRODUCTION

*This chapter introduces the concept of knowledge, and reveals why knowledge sharing within organizations is not an easy feat. It clarifies why the internet and the increasing use of social media might be opportunely for knowledge sharing. Finally, the scientific and societal relevance of this research is given.*

Knowledge has always been a precious commodity within organizations. Wiig (2000) called knowledge “the ability of people and organizations to understand and act effectively” while the Oxford English Dictionary speaks of “acknowledgement or recognition”. In commercial and competitive work-environments professionals build the best possible knowledge in order to achieve their objectives. Building knowledge is not just gathering information. Some consider knowledge and information the same, but this is a misconception. Where information consists of facts, knowledge is more than that. Fresh information is matched with existing knowledge, accepted inside our heads, and made into new knowledge. Having knowledge not only helps us to cope with routine situations, it also equips us to deal with new situations, anticipate outcomes, and improvise when needed (Wiig, 2000). Organizations that need to grow, compete, and function in an ever evolving environment, naturally don’t leave the development of precious knowledge within the organization to chance. The exchange of information and knowledge among employees is a vital part of the field known as knowledge management (Cabrera et al., 2002). To facilitate knowledge management the management of organizations will introduce incentives to promote innovation, learning, and effective knowledge sharing (Wiig, 2000).

Research on knowledge sharing within organizations has showed that 73% of people share their knowledge actively and regularly. Only 30% moves knowledge outside the small personal network (Intermediar, 2012). With two third of professionals keeping their knowledge close by, and a quarter not actively sharing any knowledge at all, the learning

organization seems a bit cripple. Lew Platt, former CEO of Hewlett Packard, once said: “If HP knew what HP knows, we would be three times as profitable.” The shared awareness among individuals about who knows what – that is lacking at HP and probably other organizations – is called transactive memory. Jackson and Klobas (2010) developed a set of questions that measure the transactive memory of an organization. Another dimension of knowledge sharing is about the people that do the sharing. With whom do professionals exchange information and knowledge? As mentioned before, 70% keeps knowledge within a small circle. This however leads to redundancy in ideas, for people that work closely together tend to think alike. Granovetter (1973) has argued that relationships between members of different groups bring forth a diversity of ideas, because people will connect different thoughts. He called this ‘the strength of weak ties’. The sort of knowledge shared can be explicit and transmittable in formal language (Lee, 2001). Especially operational or routine knowledge is concrete and can easily be communicated (Wiig, 2000). Tacit knowledge on the other hand is context-specific and personal, and therefore difficult to formalize and communicate (Lee, 2001).

So there we are, the scholars and professionals in the field of knowledge sharing are faced with the challenge to get people to share all kinds of knowledge with a wide circle and to find useful knowledge with the right people at the right place. The answers have often been found in using technology to build systems. Which poses a new challenge, namely to abate the resistance people have to using these systems. Gunther et al. (2009) rose to fame creating the Unified Theory of Acceptance and Use of Technology framework to address this problem. Information and communication technology can support knowledge sharing, but ICT alone is of limited value if human motivations to share are not taken into account (Hendriks, 1999). Receiving reciprocal benefits and gaining status were among the factors that are associated with positive attitudes and intentions towards knowledge sharing. However, organizational



rewards did not have a positive influence at all (Lin, 2007; Wiig, 2000). The management of organizations can build tools or offer rewards, promoting knowledge sharing remains a challenge that needs new answers.

A development that broke through about fifteen years ago might shed a new light on the topic. The internet made it possible for a wide audience to gather information, respond to others, pose questions, and discuss online. The power of communication shifted from traditional senders to the public, making unknown people experts in their field. Around 2005 the internet changed into a communication instrument for all. Blogs made dialogue possible, from, with, to, between everybody. With the appearance of social networks people shared their experiences live (Koeleman, 2009). Nowadays, people in the Netherlands spend a little more than 31 hours per month on the internet, which is over 25% above the European average (De Laat, 2011). The knowledge about social networks among the Dutch is high; of all Dutch people 96% knew Facebook and Hyves, while 65% knew LinkedIn (Newcom, 2010). 75% of the Dutch are a member of a social networking site (Lanting, 2010). Of all the internet users in the Netherlands in August 2010, 65,9% used Hyves (58,4% of the population); 39,3% used Facebook, 17,4% LinkedIn, and 17,2% Twitter (Marketing Facts, 2010). Research and consultancy firm Newcom has also researched the intentions for future use. 45% intended to use a personal network site like Hyves or Facebook; 19% a professional network site like LinkedIn; 12% a weblog; and 15% microblogs like Twitter. The aspirations might have been high; in 2010 most users displayed passive behavior on Social Media (Newcom, 2010). Users displaying different levels of activity can be found in different forms of Social Media. Besides the 33% of non-users, users can be divided into four groups. The *Inactives* have registered but hardly use the network (19%); the *Joiners* occasionally read and write a posts (14%); *Collectors* read many posts and respond now and then (31%); while the *Creators* initiate and engage in discussions often (3%). Mathioudakis and Koudas (2009) researched bloggers,

which one would expect to be active, for bloggers have to start a blog and generate posts to keep the blog alive. The researchers defined the more passive group as *Followers*; they created posts with comments on and links to posts from other users. The *Followers* did not generate much responds and links from other bloggers. *Starters* on the other hand generated posts that were linked by other bloggers, while they themselves seldom linked to other blogs or responded to them. A resemblance of *Followers* and *Starters* with the before mentioned *Collectors* and *Creators* cannot be overlooked.

Using social media anyone can share anything with anyone across the globe. With the increased use of social media, personal and work identities are blurred (Mostaghimi & Crotty, 2011). Savalle et al. (2010) argued that with the boundaries between private and business blurring, a new sort of organization emerges. The so called 'Enterprise 2.0' was defined by Andrew McAfee, Associate Professor Harvard Business School, as "the use of emergent social software platforms within companies, or between companies and their partners or customers". Professionals see the advantages of using social media in gathering information and increasing their network. For the organizations marketing, relationship building and knowledge sharing are advantages (De Lange-Ros, 2011). Only 17% of companies is not engaged in social media at all; three quarters expects the social media activities to grow in the coming years (Koster & Van Gaalen, 2010).

### **Problem and research question**

If social media is used by a large percentage of the population to increase networks and gather information, and is finding its way into the business world, and knowledge sharing is one of the major advantages of the use of social media, then it is most likely that the use of social media will be positively related to knowledge sharing. The following research question will be answered in this paper:

*What is the relation between the use of social media and knowledge sharing within an organization?*

Knowledge sharing will be divided into three dimensions, namely transactive memory (knowing who knows what and where information is), people (with whom does the sharing take place), and content (what sort of information is being shared). The following questions will provide outcomes to answer the research question with:

- What is the relation between the use of social media and the size of transactive memory?
- How does the use of social media relate to the distance between professionals and the people they exchange knowledge with?
- Are social media use in the workplace and the content of shared knowledge related?

### **Scientific relevance**

Extensive research has been done about knowledge sharing (Blackler, 1995; Bock et al., 2005; Ipe, 2003; Cabrera et al., 2002; Hansen et al., 2005, Quigley et al., 2007). All aspects of this part of the Knowledge Management field have been scrutinized by scholars. Social media is relatively new, and less theorizing has taken place in this field. What is available in abundance is fact finding research by professional parties, of which some evidence can be found in this paper. Scientific research has given attention to describing the different social media and their characteristics, and to personal motivations. Little research has been done about using social media in the workplace for sharing knowledge. The research that can be found is often devoted to information technology systems and the resistance professionals have to use these systems (Gunther et al., 2009). This research means to contribute to filling this void by connecting transactive memory theory with social media use, make a link with

the 'strength of weak ties' theory, and find the relation between having contacts outside the immediate circle and improvement of knowledge sharing.

### **Societal relevance**

The Dutch government invests in the 'knowledge economy' because knowledge brings forth economic growth. Applying knowledge can lead to innovation, which is a condition for new products and economic prosperity. Educational institutes are partners in the aspiration to become a 'knowledge economy'. This research took place in a large institute for higher education in the Netherlands. Knowledge and skills are what students learn in their studies. To improve knowledge sharing among the staff of an education institute does not only benefit the organization, but also the students of the institute. In turn our whole society benefits from knowledgeable young professionals.

### **Structure of the thesis**

The theory chapter of this thesis explores the concepts of knowledge sharing and focuses on transactive memory, the people to share with, and the sort of knowledge that is being shared in organizations. Furthermore, identification with the organization and the concept of strong and weak ties are being explained. Social media are explored, including the relation with the age of the users, and the social exchange theory. In the next chapter the method of this research is revealed. The staff of an institute of higher education received a survey and filled it in online. An overview shows the spread of the participants over the organization. The measures used in this research are laid out, and linked to established measures in the field of social sciences. The hypotheses are tested using statistics. Finally the results are clear, and discussed using the literature written about in the earlier chapters; limitations and recommendations conclude this thesis.

## **THEORY AND HYPOTHESES**

*The theory on knowledge sharing presented in this chapter focuses on three dimensions, namely knowing where knowledge can be found (transactive memory), with whom knowledge is shared (strong and weak ties), and the sort of knowledge that is being shared (explicit and implicit knowledge). The use of social media might alleviate the problem of a lack of knowledge sharing within organizations. The dimensions mentioned before will be linked to the theory on social media, after which hypotheses will be stated.*

### **Knowledge Sharing**

Sharing is a natural thing to do for everyone, but knowledge sharing within organizations is a complex matter. In order to advance the goals of an organization, individuals must move their knowledge to the level of groups or organization (Ipe, 2003). Knowledge exists at multiple levels, and even while individuals are only one level, their sharing is imperative to management and creation at all levels within the organization. Once knowledge has been moved to the organizational level it can be converted into economic value. The organization is not the only one to benefit, individuals sharing knowledge contributes to both individual and organizational learning. The most important support system for knowledge sharing between professionals is face to face meeting spaces (84%), half that number calls virtual meeting spaces important (43%), while social media platforms are important as knowledge sharing support for 18%. The traditional storage and management systems still offer this support to 70% of professionals (Krauthammer, 2012). Knowledge sharing relies on the willingness of individual professionals to share with others. Because people tend to hoard their knowledge, the transformation from individual to organizational knowledge is not easy. Organizations cannot force their employees to do so. The headquarters of an organization tried to control its subunits, but the more control it exercised, the less knowledge was being shared (Tsai, 2007). What organizations can do though is facilitate and encourage knowledge sharing. In order to do so, insight into what motivates professionals is needed (Bock et al., 2005).

Much research has been done into why people share knowledge. Ipe (2003) has found both internal factors, knowledge as power and reciprocity, and external factors like relationship with the recipient and receiving rewards for sharing. In addition, Lin (2007) found out that enjoyment in helping other people was significantly associated with knowledge sharing intentions and attitudes. In his study however, expecting a reward from the organization did not influence knowledge sharing of employees, both in behavior and intentions. People participating in blogs that were researched by Hsu and Lin (2007) wanted to increase other people's welfare and expected no direct rewards. This outcome was supported by Bock and Kim (2002) who had previously found out that expected rewards do not affect the attitude towards knowledge sharing. Results are not conclusive, for Quigley (2007) brought the concept of norms into the equation, effecting the motivation to share. The norms had a stronger effect when combined with incentives. For the altruistic bloggers from Hsu and Lin (2007) a want for reward emerged when they shared task-oriented knowledge, which is different from sharing their interests and daily life. They welcomed reciprocal benefits and relationships. Perceived benefits as career enhancement can entice people to share knowledge; while fear of criticism - experiencing evaluation apprehension – can attain the opposite. Social Exchange Theory (Blau, 1964) can be used to understand social exchange, by making a cost – benefit analysis of sharing knowledge. Costs can be time, mental effort, or loss of competitive advantage. Gains could be formal rewards, good reputation, or the creation of an obligation to reciprocate (Bordia et al., 2006). Newcomers in organizations displayed strategic behavior when it came to gaining information when they tried to maximize the advantages of receiving information while minimizing possible efforts or social costs (Morrison, 2002). Overall, professionals seek a balance between costs and benefits when sharing knowledge. Although rewards can contribute to knowledge sharing

attitude and behavior, they do not seem to be the main drivers behind knowledge sharing within organizations.

After seeing what knowledge sharing is, and why professionals within organizations do or do not engage in it, this chapter will further explore knowledge management and focus on three dimensions covering the findability of knowledge, the people involved in the sharing, and the sort of knowledge that is transferred. The first being transactive memory (in what place or with what expert can knowledge be found), the second being strong and weak ties (with whom is knowledge exchanged), and the third being explicit and implicit knowledge (the sort of knowledge).

#### **Where is the knowledge? Transactive memory**

An individual's memory works in three stages. Information enters the memory at the encoding stage, stays in the memory during the storage stage, and can be brought back in the retrieval stage. Not all information is stored inside the memory. Books, computer data, and writing pads are examples of external storage. These pieces of information that are externally stored can be found if we know what they are and where they are. Other people can be places of external storage for an individual too; they can be experts on a certain topic or topics. A transactive memory system (TMS) is a set of individual memory systems in combination with the communication that takes place between individuals. The idea makes us understand how people think together. TMS begins with learning about each other's domains of expertise. Expertise judgments based on stereotypes are prone to error. People that have been working together for a long time can make better judgments (Wegner, 1986). Transactive memory is a shared awareness among individuals about who knows what. If people succeed in sharing the conception of each other's expertise, a larger amount of knowledge is available to all members of an organization than could be managed by an individual professional (Bradon & Hollingshead, 2004). Teams with accurate who-knows-what knowledge were perceived to be

more effective (Child & Shumate, 2007). Technology is often deployed to facilitate transactive memory. Choi et al. (2010) studied the impact of IT and TMS on knowledge sharing. They have found that sharing alone does not enhance team performance; the knowledge has to be applied to improve performance. Organizations can improve team members' meta-knowledge of who knows what through careful investment in information technology. Organizations build expensive knowledge management systems so their professionals can store, distribute, and process information; and bridge distances for communication. Despite high expectations, many of these systems remain unused (Vaast, 2007). The effectiveness of technology is limited because people often resist using such technology. Moreland (2010) found that professionals preferred to share their knowledge interpersonally, rather than by using technology. We could say that a large transactive memory contributes to the effectiveness of organizations. The effort organizations have put in developing new systems is an indicator that their transactive memory needs to improve. However, the technologies they developed for locating knowledge and experts holding knowledge did not seem to be the answer, for people preferred personal sharing.

#### **With whom to share knowledge? Strong and weak ties**

Professionals name their direct peers as the most important group for knowledge sharing. 78% receives knowledge from their direct entourage, while 86% shares their knowledge with the close circle (Krauthammer, 2012). Scientific research explains the reasons for the preference to exchange knowledge within a team rather than with a wider circle, with in-group bias being the first reason. People tend to overvalue group members and undervalue members that are outside the group, also called the 'not-invented-here-syndrome'. A more positive reason could be that group members develop a capacity for mutual problem solving, building on a common knowledge base established by regular interaction and assimilation of each other's knowledge. Finally, regular interaction may strengthen the within-team relations which in turn



can lead to a focus on the team-member's body of knowledge, because being close makes people more aware of each other's knowledge (Hansen, 2005). Granovetter (1983) adds that peoples *strong ties* are more motivated to be of assistance and are usually more easily available.

Relations are not only built within teams by proximity. Experience with the Social Media Platform of a large Dutch organization called KPN has showed that professionals built relations on the platform by sharing a passion. The content that employees created did not always have a direct relevance for work, but co-workers that knew each other from a shared passion also found each other for business purposes. (Koning, 2011) Tsai (2002) found that in order to encourage internal knowledge flows managers should strive to increase inter-unit social interaction and reduce hierarchical constraints. Inter-unit interaction related to business also has consequences. A study among professionals working in an organization with subsidiaries showed that team members with more chances to interact with their colleagues in other subsidiaries were exposed to different skills and ideas, which lowered the sense of risk to exchange knowledge. Professionals that had a larger external network were more likely to seek knowledge outside (Hansen et al., 2005). In his paper "The Strength of Weak Ties" Granovetter (1973) argued that we all have strong ties with the ones closest to us, and weak ties with acquaintances. Individuals with hardly any weak ties operate in their own tightly knit group, are confined to the news and viewpoints within this group, and deprived of information from other parts of the social system. Having weak ties provides people with bridges to other groups, thus creating the opportunity for new ideas to spread. In a social network weak ties are more important for the spreading of information than strong ties. This theory has received a lot of praise, and many scholars have built on it. Van der Leij and Goyal of the University of Cambridge (2011) have applied it to knowledge sharing among co-authors in the field of economics. Their research rejected the hypothesis that weak ties are more crucial than strong

ties, the economists' networks showed a 'strength of strong ties' property. The removal of a weak tie caused less damage to the shortest path to knowledge than the removal of a strong tie did. The professionals in a large electronics company in a study by Hansen (1999) experienced different consequences of having weak ties with other units; it speeded up their project when knowledge was not complex. Only when obtaining complex knowledge weak inter-unit ties slowed them down, this required strong ties. The same pattern had been found earlier in a study by Brown and Reingen (1987) in which weak ties were important for the travelling of information from one subgroup to another when it concerned knowledge at macro level; while strong ties were activated when it came to information on micro level. More support for the strength of weak ties hypothesis was found by Weenig and Midden (1991) when awareness about a communication program turned out to be positively related to the number of weak ties, as opposed to the number of strong ties to which no positive relation was found. Even though strong ties are useful, especially for sharing detailed information, weak ties seem to be essential for the spreading of knowledge. With only 30% of all professionals moving knowledge outside the small personal network (Intermediar, 2012), the strength of weak ties appears not to be used sufficiently within organizations.

### **What kinds of knowledge? Sharing implicit and tacit information**

In order to function well within an organization people need different kinds of information.

The first one being task information about the tasks at hand, followed by information about the policy and plans of the organization. A large part of this information is exchanged vertically or top-down. Management information is about results, indicators, and monitors; leaders need to know how the organization is performing. These data are fed from the bottom up. Finally we have social information, often given by the human resources department and concerning topics like trainings, pension, and sick leave (Reijnders, 2010). All this information, matched with existing knowledge, provides people in organization with new

knowledge (Wiig, 2000). Knowledge in organizations is classified into two types, tacit and explicit. Explicit knowledge is transmittable in formal systematic language (Lee, 2001), stored in a single location, and transferred independent of individuals (Ipe, 2003). Tacit knowledge is hard to formalize and communicate because it is personal and specific for a certain context (Lee, 2001). Dhanaraj et al. (2004) called tacit knowledge the glue that brings together the building blocks of explicit knowledge. Seen in this way, tacit knowledge is necessary for interpreting explicit knowledge. The scholars confirm that transferring tacit knowledge is more complex than the transfer of explicit knowledge; it takes more time to send, and the receiver can only make sense of parts of knowledge with insight into the whole. Reber (1989) went as far as stating that it is best transferred unconsciously for implicit learning creates a tacit knowledge base. The acquired knowledge can then be used to implicitly make the right decisions and solve problems. Tacit knowledge is the know-how that is obtained through personal experience, and it is therefore hard to codify and the user is needed to communicate or use the knowledge (Ipe, 2003). We can conclude organizations need both explicit and tacit knowledge to transfer between their professionals; however, transferring tacit knowledge is a struggle, for it is difficult and complex.

In order to meet the challenges that organizations face with regards to knowledge sharing, new answers are needed for building systems and offering incentives did not offer enough solutions so far. In this paper we mean to prove that the use of social media can provide some of these answers. The remainder of this chapter will elucidate social media, and specifically explore theory about social media in regard to the three dimensions: transactive memory, strong and weak ties, and explicit and implicit knowledge.

## **Social Media**

The forms of social media users engage in have a large variety. *Social network sites* make it possible to connect with other people online, examples are Facebook, Hyves, and LinkedIn

(Koeleman, 2009). boyd and Ellison (2008) did not specifically see social media sites as active networking places, but more as sites where users display their network. *Wiki's* are platforms to share knowledge and ideas, Wikipedia for example. *Microblogs* are platforms to publish short messages on, like Twitter and Yammer. Twitter is an internet service where users can publish short messages (of maximum 140 characters); this combination of a weblog with Instant Messaging gave it the label microblog (Koeleman, 2009). People use the service to share their daily activities and find and share information (Java et al., 2007). Specific reasons users give to post messages in Twitter, so called 'tweets', are: "topics affect me (45%), "to emphasize certain topics" (32%), and "to return a favor to other users" (24%) (Newcom, 2010). Yammer is a likewise service, only to be used inside a company and not visible to the outside world. *Tags* are key words that can be added to a digital file so it can easily be found. *Blogs* can be seen as online columns with personal observations or opinions (Koeleman, 2009). Most blogs – or weblogs – are written by individuals to inform family, friends, or the public about observations and personal views. The average blogger is young and will most likely carry knowledge and skills about blogs into the workplace. Professionals can share ideas and work practices on a blog, and find and engage with others both inside and outside the organization (Efimova & Grudin, 2007). Social media sites have come into existence fairly recently (2003: LinkedIn; 2004: Facebook, Hyves; 2006: Twitter) but none the less have gained a large number of users in a short period of time (Social-Media, 2012).

Increased use of social media combined with ease of finding information online, can cause personal and work identities to blur (Mostaghimi & Crotty, 2011). With the boundaries between private and business blurring, "Enterprise 2.0" emerged, the 'new' organization (Savalle et al, 2010). The fact that one in five tweets is about work, product or service (Kerkhof, 2011) is an indication of the shift from personal use of social media to professional use. The professionals in a study by DiMicco et al. (2009) worked with a newly introduced

internal social network site which encouraged them to share a mixture of personal and work-related information. They so learned about people they did not know, creating the opportunity for future connections. Research by McCarthy et al. (2008) also showed that online sharing of personal information created stronger relations in the workplace. This relationship improvement had an indirect benefit to professional relationships. Professionals generally like to use Social Media to share information and knowledge, pose questions and give answers. It positions them as experts and gives their network a boost (Viadesk B.V., 2011). The social media people use for internal communication are: weblog (45,9%), Twitter/ Yammer (56,6%), social network/digital face book (54,1%), wiki (32%), different (20,5%) (Volkers, 2010). Jackson & Klobas (2010) added more tools, which could elucidate the “different” part: rss, resource sharing service, social tagging, mashup, forum/im/chat, semantic web. Organizations recognize the potential and have started deploying platforms and social network sites to improve collaboration and performance of their professionals. Users from a study by Ferron et al. (2010) significantly expanded their social capital by using social media, thus benefiting from the corporation with other individuals and groups. So the forms of social media professionals can engage in are numerous, and because personal and work-related uses are blending social media find their way to organizational use. The mere fact that facilities are present does not mean that professionals will automatically use them. People have to be motivated to do so. We will now explore the reasons people engage in social media.

The virtual communities people create using social media are of limited value in the workplace without rich knowledge (Chiu et al., 2006). Communication professionals consider the increase of sharing experiences, knowledge, and information through social media the most important trend to anticipate (Sabel Online, 2011). 30% of organizations expects social media to play an increasingly important role in information gathering in the future (Newcom, 2010). Companies therefore facilitate internal communication with information technology;

intranets more and more have a core that is social media (Muis, 2010). But “It’s easier to give communities tools, than tools communities”. In the end only when people are driven and motivated to participate, networks work. Next to logistic advantages like flexibility and speed, and a business advantage like agenda-setting, it is the personal side of the network that is appealing: Connecting to shared personal interests and topics; sharing knowledge and thoughts; inspirational contact with co-workers (Van der Laan, 2010). Wasko & Faraj (2005) did research into the reason why people share in electronic networks when free-riders can acquire the same knowledge as everyone else. They found that people contribute when they perceive that it is good for their professional reputation, when they have the experience to apply expertise and share, and when they are central to the network. Only a very weak influence of intrinsic motivation was found, possibly because of non-anonymity and professional implications of participating (evaluation apprehension). Contributions were not influenced by the expected reciprocation, which is contrary to other studies (Ipe eg). The scholars suggested that in contrast to personal exchanges between individuals, reciprocity in electronic networks may be generalized with third parties reciprocating. A study of knowledge sharing in blogs confirmed the motivational effect of reputation and adds altruism (Hsu & Lin, 2008). Users of social media seem to be motivated by sharing inspiration and improving their reputation; they have mixed expectations regarding reciprocation, some expect none while others do, either directly or from third parties in the network.

The motivational approach focuses on the gains users expect to have by using a medium. Naturally, transactions come with costs as well, whether it being time, effort, or inconveniences of any kind. The economic principles of a cost and benefits analysis are used to understand social exchange in the Social exchange theory. People display certain behavior after they make an estimation of the potential gain from it, make a comparison between alternatives, and then select the behavior that they think will bring them the best returns

(Bordia et al, 2006). The principle of cost and benefits analysis to understand workplace behavior goes back a century ago and has been used in disciplines like anthropology, social psychology, and sociology. It has been considered to be one of the most influential concepts for understanding workplace behavior (Cropanzano & Mitchell, 2005). In a study by Morrison and Vancouver (2000) it was applied to information seeking, which was then conceptualized as a process of uncertainty reduction. Individual professionals expected certain benefits from acquiring information, and also expected costs of gaining that information. Based on these benefits and costs the person would decide to spend energy on the search, or not. How often the professionals engaged in seeking information was positively related to the expected benefits and negatively related to the expected costs. People are sensitive to costs; they can perceive costs as higher and benefits as smaller than objective reality shows. High costs diminished the contributions users made in experimental gaming (Cress et al., 2006). Social media users also perceive costs and benefits of their behavior. As shown in this paper, there has been extensive research about motivators and de-motivators for social media use. Until now the approach of the costs and benefits analysis – bringing both together in one model – has not been applied to the use of social media. We argue that Social exchange theory can be applied to social media use, for the ingredients costs and benefits are present, and other workplace practices have been receptive to the theory. Media have always been used in the workplace; just social media are a fairly new phenomenon. A costs and benefits analysis of social media use influences peoples behavior; we expect more social media use, measured in activity and number of contacts, when benefits outweigh costs.

**H1:** The more benefits outweigh costs, the more people use social media actively

Not all users of social media have been born into the digital age. The generation that is, is born between 1980 and 2000, and called the “digital natives”, or “nexters”, “generation Y”, “net generation”, “digital generation” or “Millennials (Zemke et al., 2000). In 2010 the young generation, till 35 years of age, used more and more social networks to communicate. The older generation, 35 years plus, tried social media more, but is still fan of the traditional e-mail (De Laat, 2011). This older generation can be divided into Veterans (1922-1943), Baby Boomers (1943 – 1960) and Generation X (1960 – 1980) (Zemke et al., 2000). Differences by generations in online activities are shifting. Research by the Pew Research Center in 2009 and 2010 shows that Millennials remain more likely to access the internet wirelessly with a laptop or mobile. Also they surpass their elders online in many fields, of which using social networking sites is one. However, users from Generation X and up are more likely to use other online sources like governmental and financial information. The biggest online trend is that key internet activities like e-mail, web browsing, buying products, and getting news, are becoming more uniformly popular across all age groups (Zickuhr, 2010). These activities can be applied to finding information or the experts that hold information, which is the next topic of this chapter.

### **Social media and transactive memory**

Social network sites are appropriate locations for knowledge sharing and advise seeking. Ever since the emergence of internet and social media traditional senders do no longer hold the power of communication. Formerly unknown people have been made experts in their field (Koeleman, 2009). The largest search engine of the World Wide Web, Google, has competition from the social networks that users participate in. Twitter for example has an ever extending archive of links, and offers answers that are more personally tailored for the searcher (Johnson, 2009). Adamic et al. (2008) researched the range of knowledge being shared by users of question answer community Yahoo Answers and found that users that



focused most on the topic they were specialized in, more often had the best answers according to their fellow users. Professionals like using social media for knowledge sharing, besides it giving their network a boost, it positions them as experts (Viadesk, 2011). The social media that are being used for internal communication by more than half of all people are: Twitter/Yammer (56,6%), and social network/digital face book (54,1%) (Volkers, 2010); with LinkedIn as the major professional social network site (Newcom, 2010). Information systems that are being used inside organizations in order to store information in the right place and retrieving it when needed, have limited effect because people resist using such technology (Jackson and Klobas, 2010). Professionals prefer to share their knowledge interpersonally (Moreland, 2010), which might explain the preference to use social media which are highly personal. Social media are used by a large percentage of the population to increase networks and gather information. Jackson and Klobas (2010) have designed a conceptual model of how web 2.0 tools can support human transactive memory system and act as a digital transactive memory system. Web 2.0 technologies can be combined to deliver a suite of open-ended services to an individual knowledge worker. The individual knowledge worker maintains knowledge (eg wiki, blog, sns), gets given knowledge (eg rss, forum), and retrieves knowledge when it is required (all sources). The web 2.0 tools act as digital TMS where information is stored and can be accessed.

Information that is being sought after by professionals is about decisions that were made and problems that were solved, which Walsh and Ungson (1991) called “the core of an organization’s memory over time”. People use this information to help them make present decisions, for, as George Santayana once said: “Those who cannot remember the past are condemned to repeat it!”. Before accessing it, professionals must first locate the information, either aiming directly at the required information, or – when the individual does not know where the information is – through the strong and weak ties this person has (Anand et al.,

1998). For directly finding information social media are very appropriate as professionals like to use social media for knowledge sharing, and social media tools act as digital transactive memory system. Therefore we hypothesize that active social media use, measured by activity and number of contacts, is positively related to finding information.

**H2a:** The more people use social media, measured by the activity and number of contacts, the more often people find information

As said, professionals do not always know where needed information is, in which case they have to find the expert who does. People rely on a network of friends and colleagues to find information they trust, and get introduced to new people. But, as Erhlich et al. (2007) pointed out, searching for people is not the same as searching for documents. The scholars emphasized the importance of incorporating social network data in the systems organizations, because social networks include data about “who knows what” and – more importantly – about “who knows who” which is critical for knowledge sharing. In this way the systems can be used as expert location systems. Erhlich and her fellow researchers studied the use of an expertise search system and found that a large number of employees had used the system to find people, improve awareness of others, and contact new people. The people found were often the once with small but important knowledge. This was regarded as positive for they were harder to find than the people who are regarded as experts by all and who were usually easier to locate. Professionals in other organizations also increasingly interact with people, known or unknown, in a technology-mediated environment (Shami et al., 2009). The rising popularity of social media gives us a large awareness and knowledge of other people we can interact with. Tools like blogs, bookmarking, and social network sites, offer an easy way for self-expression, by which means experts can be located by other users. That is why we expect that active use of social media, measured by activity and number of contacts, is positively related to finding experts.

**H2b:** The more people use social media, measured by the activity and number of contacts, the more often people find experts

### **Social media and the strength of weak ties**

With social media anyone can share anything with anyone across the globe; dialogues take place from, with, to, between everybody (Koeleman, 2009). So this dialogue is not constricted to ones friends or direct co-workers, it stretches to acquaintances as well. Having these so-called weak ties provide people with bridges to other groups, this creates the opportunity for new ideas to spread. In a social network weak ties are more important for the spreading of information than strong ties (Granovetter, 1973). Gilbert and Kalaharios (2009) applied the theory of weak ties to social media developing a predictive model for tie strength, while Ellison et al. (2007) found a connection between intensive Facebook usage and bridging to valuable contacts for social capital. The internet alone was not enough to predict the accumulation of social capital; it was the social medium that made the difference. Social media build bridges and forge weak ties. A study by DiMicco et al. (2008) confirmed this; employees of a large company used their internal social network to build stronger relations with their weak ties and to get in contact with co-workers they did not know. The attribute that makes social network sites give this support is not that they let users meet strangers, but more that they make it possible for users to express themselves and show their social networks. This could lead to relations between individuals that would otherwise not have arised (boyd & Ellison, 2008). Users of social network sites have larger networks of heterogeneous relations. And not just that, more intense use of these social media are related to bonding with contacts, interest in global connections, and accessibility of new people and expertise (Steinfeld et al., 2009). This is in line with the outcome of a study by Hansen et al. (2005) who found that professionals that have a larger external network were more likely to seek knowledge outside. Social media, measured by the intensity of the respondents' social

media contacts, can contribute greatly to knowledge sharing with valuable weak ties, measured as professionals outside the organization. This leads to the following hypothesis:

**H3:** The more people use social media, measured by the contact intensity, the more knowledge is being shared with weak ties

A large percentage of people in organizations share their knowledge primarily with strong ties, the individuals close by that are part of their in-group. The not-invented-here-syndrome with which people overvalue group members and undervalue outsiders could be a cause for this behavior (Hansen, 2005). Regular interaction with group-members not only contributes to a shared knowledge base, but also to shared beliefs and values. Professionals that strongly identify with their in-group, share beliefs with the in-group, and might be less inclined to engage with out-group members. It is therefore hypothesized that a higher identification with the organization people work in is related to less knowledge sharing with weak ties.

**H4:** The higher the identification with the organization, the less knowledge is being shared with weak ties

### **Social media and sharing tacit knowledge**

Kaplan and Haenlein (2010) classified Social Media by media richness and self-presentation. They included virtual social and game worlds in their model, which are highly rich media displaying high social presence. In this research we largely focus on social network sites and microblogs. Social network sites have medium media richness because they enable both text-based communication and the sharing of videos, pictures and other forms of media. Social network sites provide a high platform for self-presentation and self-disclosure. Blogs and microblogs like Twitter and Yammer are classified as having low media richness, but – like social network sites – score high on self-presentation.

**Table 1. Classification of Social Media by social presence/media richness and self-presentation/self-disclosure**

		Social presence/ Media richness		
		Low	Medium	High
Self-presentation/ Self-disclosure	High	Blogs	Social networking sites (e.g., Facebook)	Virtual social worlds (e.g., Second Life)
	Low	Collaborative projects (e.g., Wikipedia)	Content communities (e.g., YouTube)	Virtual game worlds (e.g., World of Warcraft)

De Choudhury et al. (2009) considered social networks as rich media that encourage creation and consumption of media. Besides that, these media promote communication about the created items. A conversation in online social media could be defined as a sequence of comments posted by the participants. A conversation is interesting for participants when they find the theme interesting, when they see comments from familiar people, when they encounter an engaging dialogue with an exchange of comments between two or more people, and when the conversation has impact on the network itself. Other scholars have proposed media cannot be ranked in absolute terms, for they have different capabilities and can score low on the one and high on the other. Besides, the same medium can be low in media richness one time (for example a text only blog post) and high another time (with photo's, images, video) (Dennis & Valacich, 1999). Although different opinions exist about media richness, scholars are more like-minded about social media and self-presentation. Ramirez et al. (2002) proposed that new media offer several mechanisms for obtaining social information about others, both by communicating directly or finding it via systems or others.

Contrary to explicit knowledge which is concrete and easily communicated (Ipe, 2003), tacit knowledge is context-specific and personal, and therefore difficult to formalize and communicate. Tacit knowledge is hard to formalize and communicate because it is personal en specific for a certain context. (Lee, 2001) It is the know-how that is obtained through personal experience, and it is therefore difficult to codify and the user is needed to

communicate or use the knowledge. Social network sites and (micro) blogs provide a high platform for self-presentation and self-disclosure. (Kaplan & Haenlein, 2010) Therefore social networking sites are well fit to share tacit knowledge on. An increase of social media use, measured by the content that is being created, is therefore expected to be positively related to sharing tacit knowledge. This leads to the following hypothesis:

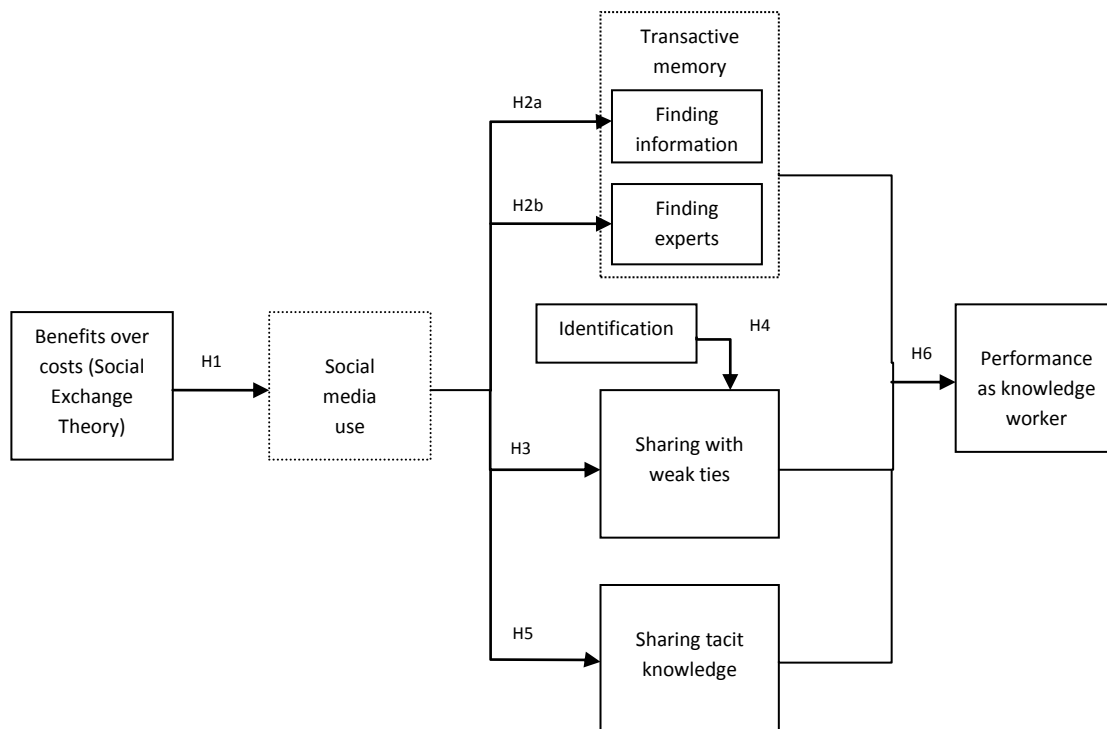
**H5:** The more people use social media, measured by content creation, the more tacit knowledge people share

### **Performance as knowledge worker**

Making the effort to easier find experts and information, share more with weak ties, and share more tacit knowledge cannot be seen separate. These transactions serve one goal, and that is better knowledge sharing. Knowledge sharing is not important as a concept alone; it involves the professionals in the organization and their performance. Improving knowledge sharing within the organization, measured by transactive memory, sharing with weak ties, and sharing tacit knowledge, is expected to lead to a better performance as a knowledge worker.

**H6:** Improving transactive memory, sharing with weak ties, and sharing tacit knowledge, is positively related to performance as knowledge worker

## Conceptual Model



- H1:** The more benefits outweigh the costs of social media use, the more people use social media actively
- H2a:** The more people use social media, measured by the activity and number of contacts, the more often people find information
- H2b:** The more people use social media, measured by the activity and number of contacts, the more often people find experts
- H3:** The more people use social media, measured by the contact intensity, the more knowledge is being shared with weak ties
- H4:** The higher the identification with the organization, the less knowledge is being shared with weak ties
- H5:** The more people use social media, measured by content creation, the more tacit knowledge people share
- H6:** Improving transactive memory, sharing with weak ties, and sharing tacit knowledge, is positively related to performance as knowledge worker

## METHOD

### Participants and design

Participants were employees of Hogeschool Inholland, University of Applied Sciences, in Dutch called “hoger beroeps onderwijs”. All employees, both teaching and non-teaching staff, received an e-mail requesting their participation in an online survey about ‘Social Media and knowledge sharing within Inholland’. The request was also distributed through Yammer, the internal micro-blogging service. A total number of 412 people responded, which is 13,6% of the total number of 3.026 employees, who form a workforce of 2.415,5 full time equivalents (Inholland, 2011). Out of the 412, 69% completed the survey; these 284 participants made up 9,4% of all employees. 45,8% of the participants were male, and 54,2% female; which came close to the actual gender distribution among the employees: 44,0% male and 56,0% female.

Most participants have studied at university (49,3%), while 44,4% have studied at a technical college (“hbo” in Dutch). A small number of participants had lower education, 4,2% trade school (“mbo”) and 2,1% secondary school (“vo”). Employment years ranged from less than 1 to 40, with an average of 9,4, *SD* 8,0 years. In July 2011 staff at Inholland was divided in 56% teaching staff, and 44% non-teaching staff. Among the participants the division was 52,5% teaching and 47,5% non-teaching staff, so the non-teaching staff is slightly over-represented. The institute had 8 locations, Alkmaar (10,2% of the participants), Amsterdam/Diemen (35,6%), Delft (4,6%), Den Haag (10,9%), Dordrecht (1,1%), Haarlem (19,4%), Hoofddorp (4,9%), and Rotterdam (13,4%). The education of Inholland was organized in 7 domains, while staff like board members and policy makers was not assigned to a specific domain. By large, the participants followed the same division as the entire staff of Inholland. The largest over-representation of participants was in the domain Marketing, Tourism, Leisure Management (+ 3,1%), and the largest under-representation was in the domain Health, Sports, and Wellbeing (- 4,2%).



Domain	Participants	Inholland
Communication, Media, and Music	16,5% (+ 2,4%)	14,1%
Health, Sports, and Social Work	14,4% (- 4,2%)	18,6%
Management, Finance, and Law	11,3% (- 3,5%)	14,9%
Marketing, Tourism, Leisure Management	13,7% (+ 3,1%)	10,6%
Education, Philosophy of Life	11,6% (- 0,9%)	12,5%
Technique, Design and Information Technology	7,4% (+ 1,5%)	5,9%
Unit Agriculture	2,1% (- 0,1%)	2,2%
Inholland Main organization	22,9% (+1,6%)	21,3%

The employees participated voluntarily and were not rewarded for filling in the survey.

No sample was made, all employees were invited to participate. This study has a cross-sectional design.

## Procedure

In order to reach over 3.000 employees in 8 locations, an online survey was developed. The program used to design the intranet of Inholland is Microsoft SharePoint. The survey was made in SharePoint to show the research is an “Inholland project”, professional and endorsed by the school. The Survey Name was ‘Social Media and knowledge sharing at Inholland’. In the short description it was stressed that the answers would be anonymous, and only used for this study. Respondents could leave their e-mail address in order to be informed about the results later (which 51,8% did). All three thousand employees received an e-mail requesting 10 minutes of their time to fill in a questionnaire about social media and knowledge sharing at Inholland. The message contained a link to the SharePoint survey. The information and questions were divided over 15 screens. The first screen contained a short introduction, and technical instructions; the following screens contained the questions (124 items). To encourage participants to continue, texts about the progress were included at three points (for example “You’ve already finished one third of the questionnaire” at the top of screen 5). The

invitation was sent at July 6, 2011, two weeks before many employees start their summer vacation. Most answers were received in the first two weeks, the survey was closed a month later at August 8, 2011. The data were exported from SharePoint to an Excel file; and this file was exported to an SPSS file – SPSS is the program all data were analyzed in.

## Measures

### Social Exchange Theory

The items measuring Social Exchange were based on Bordia et al. (2006). The items were adjusted to measure the benefits and costs of using social media. The answers were a 7-point scale, ranging from 1 = ‘never’ to 7 = ‘always’. The items measuring the benefits of social media use were about career opportunities, reputation, and gaining knowledge. The items were compiled into a mean index. The reliability was high (Cronbach’s  $\alpha = .86$ ). The participants showed an average benefits score ( $M = 3.58$ ;  $SD = 1.62$ ). To measure the costs of social media use items were made about time, trouble, and criticism. The reliability turned out to be low (Cronbach’s  $\alpha = .57$ ) and was raised by deleting the item “I’d rather not share knowledge using social media, because I expect to be criticized” (Cronbach’s  $\alpha = .67$ ). The costs score was average as well ( $M = 3.73$ ;  $SD = 1.74$ ). In order to measure the economic balance that the respondents made, a score was created that shows the difference between the benefits minus the costs using the indexes just created. In average the benefits of using social media did not outweigh the costs, although large differences exist between the respondents for the standard deviation is high ( $M = -.15$ ;  $SD = 2.62$ ).

<Table 2. Social exchange theory and social media use: benefits>

<Table 3. Social exchange theory and social media use: costs>

### Social Media use

To measure the social media use of the respondents, all aspects of social media use were used to phrase questions, namely initiative (“I read”, “I respond”, “I post”), contacts (“friends”,

“co-workers”, “professionals outside the organization”), and content (“private”, “work-related”, “profession”). The possible answers on a 7-point scale ranged from 1 “never” till 7 “always”. Also the number of contacts, number of hours spent on the medium per week, and number of posts per week were items. The items were made for the social media networks that are often used by professionals: Facebook, Hyves, LinkedIn, Twitter, and Yammer. The less used social media each had one item: blog, discussion forum, social bookmarking, sms, intranet, wiki, and rss. The same 7-point scale applied, from 1 “never” till 7 “always”. Some social media are specific for a certain environment, for example Yammer that can only be used inside an organization. In that case the items about contacts with friends were left out (not possible) and items about work contacts were left out (redundant, all contacts are from work). Other social media offer more options; for Twitter and Yammer there is a distinction between following and being followed. While Facebook, Hyves, and LinkedIn only allow connections with mutual consent, Twitter and Yammer have separate list for the contacts that are followed, and the contacts that follow the user. These social media had an extra item. In the survey it was indicated that respondents could skip questions if they did not use the social media. Therefore the missing items were coded as “never” or “0”. The reliability of all items measuring social media use was sufficient (Cronbach’s  $\alpha = .68$ ).

<Table 4. Social media use Facebook, Hyves, LinkedIn, Twitter, Yammer>

<Table 5. Social media use other media>

In order to measure social media activity the items “I read posts of people I follow”, “I respond to posts of others”, and “I post messages myself” were analyzed. The answers on a 7-point scale ranged from 1 “never” till 7 “always”. For measuring the number of contacts one item per network was sufficient: “Number of contacts”. Since the focus of our research question was on the user knowing where and with whom to find information, for Twitter and

Yammer the item “Number of people I follow” was chosen. The reliability was quite low for all items: “I read posts of people I follow” (Cronbach’s  $\alpha = .54$ ), “I respond to posts of others” (Cronbach’s  $\alpha = .50$ ), “I post messages myself” (Cronbach’s  $\alpha = .51$ ), and “Number of contacts” (Cronbach’s  $\alpha = .49$ ), but removing one or more social media would not have improved the reliability. The media have different uses; some are more personal (like Facebook and Hyves), some more professional (like LinkedIn and Yammer). Theory has taught us that personal and work identities are intertwined, building personal relationships and sharing personal matters has a positive effect on professional relations and knowledge sharing. In order not to lose this spill-over effect, the social networks from all sides of the personal – professional spectrum were taken into account. In order to test H2a and H2b per item a mean index was created to cover the social media Facebook, Hyves, LinkedIn, Twitter, and Yammer: “I read posts of people I follow “ ( $M = 2.09$ ;  $SD = 0.99$ ), “I respond to posts of others” ( $M = 1.80$ ;  $SD = 0.81$ ), “I post messages myself ( $M = 1.68$ ;  $SD = 0.79$ ). For the number of contacts the mean was 43.19 ( $SD 51.43$ ). One overall standardized index was computed to test H1.

<Table 6. Activity on social media and the number of contacts>

The measures for social media contact intensity are three items: “I’m in contact with friends” ( $M = 1.92$ ;  $SD = 0.93$ ), “I’m in contact with co-workers” ( $M = 1.80$ ;  $SD = 0.80$ ), and “I’m in contact with professionals outside the organization” ( $M = 2.04$ ;  $SD = 1.13$ ). Yammer can only be used for internal communication, it does not have the variety in contacts that Facebook, Hyves, LinkedIn, and Twitter have, and is therefore not included. The possible answers on a 7-point scale ranged from 1 “never” till 7 “always”. Again, the reliability was low for all items: “I’m in contact with friends” (Cronbach’s  $\alpha = .48$ ), “I’m in contact with co-workers” (Cronbach’s  $\alpha = .35$ ), and “I’m in contact with professionals outside the organizations” (Cronbach’s  $\alpha = .41$ ). The reliability of the item about contacts with outside

professionals could be raised by deleting the social network Hyves (Cronbach's  $\alpha = .44$ ). A mean index was created per item to test H3.

<Table 7. Social media contact intensity>

The regularity of creating content on social media was measured with three items. The answers ranged from 1 "never" till 7 "always" on a 7-point scale. The reliability was low once again: "I write about private matters" (Cronbach's  $\alpha = .47$ ), "I write about work-related matters" (Cronbach's  $\alpha = .47$ ), "I write about my profession" (Cronbach's  $\alpha = .51$ ). Removing different networks for different items could have improved reliability with .02 per item, too little for the loss of data, so all networks remained. A mean index was created per item to test H5: "I write about private matters" ( $M = 1.46$ ,  $SD = 0.65$ ), "I write about work-related matters" ( $M = 1.58$ ;  $SD = 0.78$ ), "I write about my profession" ( $M = 1.50$ ;  $SD = 0.74$ ).

<Table 8. Regularity of creating content on social media>

### **Transactive memory**

Two items measured the transactive memory of the respondents; one about being able to find information, and one about being able to find the right person to ask a question. These questions were based on Wegner's theory on Transactive Memory Systems (1986), about a shared awareness where or from whom to retrieve information. Information can be stored in a physical external storage, but an expert can also be a location of external storage. The answers on a 7-point scale ranged from 1 "never" till 7 "always". The means for transactive memory were quite high: "I can find information when I need it later" ( $M = 5.37$ ;  $SD 1.19$ ) and "I know who to ask certain questions" ( $M = 5.16$ ;  $SD 1.27$ ). With these items H2a and H2b were tested. The items were compiled into a mean index (Cronbach's  $\alpha = .60$ ) to test H6.

<Table 9. Transactive memory>

### **With whom to share knowledge**

The range of people's knowledge sharing partners was measured with items based on the theory of the Strength of Weak Ties in which Granovetter (1983) argues that the strength of a tie is determined by proximity. In-group contact leave a person deprived of information present in other groups, while a tie with an acquaintance makes it possible for ideas to flow. Therefore three items were constructed to measure with whom the respondents share knowledge based on proximity: "my own department", "other departments", and "external professionals". The test was reliable (Cronbach's  $\alpha = .82$ ). The answers on a 7-point scale ranged from 1 "never" till 7 "always". The item "I exchange information with external professionals" ( $M = 3.61$ ;  $SD = 1.94$ ) were used to test sharing with weak ties in H3 and H4.

<Table 10. With whom to share knowledge>

### **Identification with the organization**

To measure identification with the organization four items from Chiu et al. (2006) were taken: "I feel at home at Inholland", "I experience a 'together' feeling at Inholland", "I have a strong positive feeling about Inholland", and "I am proud to work at Inholland". The 7-point scale ran from 1 "totally disagree" till 7 "totally agree". The reliability was high (Cronbach's  $\alpha = .90$ ). An index was constructed ( $M = 4.70$ ;  $SD = 1.38$ ) to test H4.

<Table 11. Identification>

### **What kinds of knowledge**

In 2001 Lee developed items measuring explicit and implicit knowledge sharing. The items were adjusted to fit a non-profit educational institute rather than a business; "business proposals" became "student manuals". The possible answers were given in a 7-point scale, ranging from 1 "never" till 7 "always". Items were compiled into a mean index for explicit knowledge (Cronbach's  $\alpha = .89$ ) and implicit knowledge (Cronbach's  $\alpha = .90$ ). The latter is the measure that was used for testing our hypotheses about tacit knowledge. It contained the

items “I share personal job experiences” ( $M = 4.08$ ;  $SD = 1.93$ ), “I inform others on who can find what information where” ( $M = 4.30$ ;  $SD = 1.92$ ), and “I share what I’ve learned in training and education” ( $M = 4.07$ ;  $SD = 1.98$ ). An index ( $M = 4.15$ ;  $SD = 1.78$ ) was constructed to test H5.

<Table 12. Sharing explicit knowledge>

<Table 13. Sharing implicit knowledge>

### **Job assessment**

The human resources files were confidential, so it was not possible to retrieve data about job assessments. It was possible though to ask the respondents for a self evaluation. This was done in three items, one grade for the job in general ( $M = 7.81$ ;  $SD = 0.80$ ), one grade for oneself as knowledge sharer ( $M = 7.25$ ;  $SD = 1.32$ ), and one grade for oneself as social media user ( $M = 5.25$ ;  $SD = 6.42$ ). The answer range ran from 0 (lowest) till 10 (highest). The item “Grading myself as a knowledge worker” was used to test H6.

<Table 14. Self assessment>

### **Control variables**

#### **Age**

The average birth year of the respondents was 1965, which brings the average age to 47. Zemke et al. (2000) explained about four generations. The oldest group ‘the veterans’ do not work anymore. The remaining three groups were represented among the respondents. 38.0% of all respondents was a babyboomer (1943 – 1959), 49.9% was from Generation X (1960 – 1979), and 13.0% was from Generation Y (1980 – present).

<Table 15. Generations>

<Figure 1. Generation groups>

### **Motivation to share**

Quigley et al. (2007) developed items to measure norms for motivation to share. The items are adapted for an educational institute, so no question about ‘market share’. Added were two items from Chiu et al. (2006) that specifically address norms of reciprocity. The answers were a 7-point scale, ranging from 1 = ‘totally disagree’ till 7 = ‘totally agree’. The test was reliable (Cronbach’s  $\alpha = .80$ ) and an index was constructed ( $M = 5.35$ ;  $SD = 0.86$ ). A median split (median = 5.44) made a divide between higher and lower knowledge sharing motivation.

<Table 16. Motivation to share knowledge>



## RESULTS

*In this chapter the results from the research are presented, starting with descriptive statistics and followed by hypothesis testing.*

### Descriptive statistics

Looking at the data regarding social media use, the very low reliability was striking. While for the entire collection of items the reliability was reasonable (Cronbach's  $\alpha = .68$ ), for the sub collections of items the reliability was alarmingly low: ranging from .49 till .54 for social media activity; from .35 till .48 for social media contact intensity; and from .47 till .51 for the regularity of creating contact. This was a severe matter, for social media use is at the heart of the study. There are three reasons that could explain the low reliability. The first is that respondents deliberately gave wrong answers. This is very unlikely because it took time and effort to complete the survey, which consisted of 124 items on 15 screens. Only participants that completed the survey are in the data, many of which left their e-mail address to be informed about the outcome. These were indicators that the respondents were serious about filling in the survey. Which left the second possible reason: participants gave incorrect data un-deliberately. They could have made estimations that were not always congruent with facts; or skipped questions indicating that they did not use the specific network, while in reality they did. A third possible reason was that the statistics could not make correct assumptions; not because the statistics were wrong but because social media use is a fairly new phenomenon and has not yet established itself. Participants' answers could have been wide apart and hard to make sense of. A combination of the last two reasons was very well possible. We have to treat the outcomes of this research with caution, knowing that the reliability of social media use items is low. Future research can address this matter.

Social network sites have different uses, personal or business use. Theory predicts that personal and business use are merging more and more, that personal relations can debouch into professional relations, and that sharing about personal matters can pave the road for

professional exchanges. This is the reason that for the hypotheses no distinction was made between the networks. The descriptive statistics showed that respondents use the personal networks for personal exchange and business-like networks for professional exchange. For example: private matters were most often shared on Facebook ( $M = 2.24$ ;  $SD = 1.85$ ) and least often on Yammer ( $M = 1.07$ ;  $SD = 0.39$ ), while professional matters were most often shared on LinkedIn ( $M = 1.99$ ;  $SD = 0.31$ ) and least often on Hyves ( $M = 1.06$ ;  $SD = 0.31$ ), all on a scale from 1 “never” till 7 “always”. This told us that the conscious use of the media stay close to the original purpose, if the overspill-effect of personal use to professional gains exists we would know after the hypotheses had been tested.

Another striking statistic concerned the sharing of explicit and implicit (tacit) knowledge. While theory explains why sharing of tacit knowledge is more difficult than sharing explicit knowledge, and this study hypothesized that social media is needed to improve tacit knowledge sharing, the respondents actually shared tacit knowledge (mean index 4.15 on a scale from 1 till 7) more often than explicit knowledge (mean index 3.80). This unexpected outcome might have been related to the fact that the organization in this study was an institute of higher education in which knowledge exchange is a ‘core business’. The employees may have been more skilled in knowledge transfer than employees in different organizations and therefore did not shy away of knowledge sharing when it is more difficult, especially the teaching staff (56% of the respondents). There is another outcome where the education background of the respondents might have shed a light on notable results. Next to the items about finding information and finding experts (used for hypothesis testing) the respondents also answered questions about what sort of media they used to find information. The two questions testing retrieval using traditional media were “To find information I use traditional media” ( $M = 4.3$ ;  $SD = 1.405$ ) and “Looking for an expert, I ask around personally” ( $M = 5.13$ ;  $SD = 1.355$ ), using a 7-point scale ranging from 1 = ‘never’ till 7 =

'always'. To test retrieval using social media two items were put forth, namely "To find information I use social media" ( $M = 3.31$ ;  $SD = 1.854$ ) and "Looking for an expert, I search social media" ( $M = 2.75$ ;  $SD = 1.740$ ), using the same 7-point scale. An inter-item correlation analysis showed that using traditional media correlated higher with finding an expert (people ask around personally); while using social media correlated higher with being able to find information. With social media being personal, one would expect that social media and finding experts would give the higher correlation. Working in a knowledge institute might have accounted for the facts that participants were used to face-to-face conversations, and in possession of a large network.

### Hypothesis testing

The first hypothesis predicted a positive correlation between the surplus of benefits over costs, and active use of social media. Regression analysis was used to test this. The result of the regression indicated that the predictor 'benefits outweigh costs' explained 37,3% of the variance in social media use activity ( $F(1,283) = 167.63$ ;  $p < .001$ ). Participants that experienced a surplus of benefits over costs made use of social media more actively,  $t(282) = 12.95$ ,  $p < .001$ ,  $b(SE_b) = 0.21 (0.02)$ ,  $\beta = .61$ . This result confirmed hypothesis 1, a costs and benefits analysis in which the benefits outweigh the costs is a significant positive predictor of social media use, so hypothesis 1 was accepted.

Hypothesis 2a predicted that active use of social media, measured by both activity on the media and the number of contacts, was positively related to finding information. A multiple regression analysis was performed, and the model predicted hardly any of the variance in finding information ( $R^2 = .03$ ;  $F(4,283) = 1.82$ ;  $p > .05$ ). Not main effects were found, actively reading, responding, and writing on social media, as well as having many contacts did not predict finding information more often. The 2b hypothesis used the same predictors to predict finding of experts. Again the data were analyzed using multiple

regression, and the model predicted hardly any of the variance, this time in finding experts ( $R^2 = .02$ ;  $F(4,283) = 1.00$ ;  $p > .05$ ). Actively reading, responding, and writing on social media, as well as having many contacts did not predict finding experts more often. Both hypothesis 2a and 2b were rejected. Additional analyses with the items about business social network site LinkedIn were performed. The overall use of LinkedIn did not explain variance in finding information or experts. Performing a backward multiple regression excluded most variables and left only a few that explained main effects. The item “on LinkedIn I read the updates of people I follow” had a main effect on finding information ( $t(195) = 2.63$ ,  $p < .01$ ,  $b(SE_b) = 0.12 (0.05)$ ,  $\beta = .19$ ). Together with “number of co-workers in my LinkedIn contacts” which was not significant but showed a trend, the model explained 6% of variance in information finding ( $R^2 = .06$ ;  $F(1,192) = 7.37$ ;  $p < .01$ ). The item “number of co-workers in my LinkedIn contacts” had a main effect on finding experts ( $t(195) = 2.29$ ,  $p < .05$ ,  $b(SE_b) = 0.004 (0.002)$ ,  $\beta = .16$ ). The model explained a modest percentage of 3% of the variance in finding experts ( $R^2 = .03$ ;  $F(1,193) = 5.24$ ;  $p < .05$ ).

After testing the effect of social media use on the transactive memory of the organization by looking into finding information and experts, the following hypothesis H3 predicted that more knowledge was being shared with weak ties, if people use social media more, measured by contact intensity. The hypothesis found support for the model predicted 11% of the variance in sharing knowledge with weak ties ( $R^2 = .11$ ;  $F(3,283) = 11.53$ ;  $p < .001$ ). Two of the predictors, contact intensity with friends and co-workers, did not show a main effect, contact intensity with professionals outside the organization did ( $t(283) = 4.90$ ,  $p < .001$ ,  $b(SE_b) = 0.78 (0.16)$ ,  $\beta = .45$ ). The respondents with intense social media contact with professionals outside the organization exchanged knowledge with weak ties more often. The degree of identification with the organization was expected to be negatively related with knowledge sharing with weak ties in H4. A regression analysis showed that identification

only explained 0,2% of the variance in knowledge sharing with weak ties, the model has no significance what so ever, and no effect was found. Therefore hypothesis 4 was rejected.

Hypothesis 5 predicted that the more people use social media, measured by content creation, the more tacit knowledge people share. A multiple regression was performed and the model was significant and explained 4% of the variance in sharing tacit knowledge ( $R^2 = .04$ ;  $F(3,283) = 3.96$ ;  $p < .01$ ). Not all items caused a main effect, creating private content and work-related content did not; only creating professional content had a main effect on sharing tacit knowledge ( $t(283) = 2.41$ ,  $p < .05$ ,  $b(SE_b) = 0.86 (0.36)$ ,  $\beta = .36$ ). H5 was accepted.

In the final hypothesis, H6, it was expected that improving transactive memory, sharing with weak ties, and sharing tacit knowledge, is positively related to performance as a knowledge worker. It was the proof in the pudding; do all the effects this study hypothesizes lead to better performance as a knowledge worker in the workplace? The data were analyzed using multiple regression; the model explained a large part of the variance in knowledge worker performance, namely 25% ( $R^2 = .25$ ;  $F(3,280) = 31.58$ ;  $p < .001$ ) so H6 is accepted. Two main effects were found: transactive memory (finding information and experts) ( $t(283) = 5.06$ ,  $p < .001$ ,  $b(SE_b) = 0.34 (0.07)$ ,  $\beta = .27$ ) and sharing tacit knowledge ( $t(283) = 4.95$ ,  $p < .001$ ,  $b(SE_b) = 0.23 (0.05)$ ,  $\beta = .31$ ). Exchanging information with weak ties did not have this effect.

### **Control variables**

Theory has taught us that different generations have a very different relation with social media use. A scatter plot showing the social exchange effect on social media activity and number of contacts, grouped by generation, gave us a first visual indication. It seemed that the younger the generation, the more sensitive respondents were to the social exchange effect of benefits outweighing costs. A regression analysis confirmed this image, for adding “generation” to the model, the second model improved the explained variance of social media

activity and contacts from 37% to 39%, a moderate improvement (both models and variables are significant). To find out the influence of the separate generation groups a regression analysis was performed in which the file was split per generation group. For generation Babyboomers, born between 1943 and 1959, the model explained 29% of the variance of social media activity and contacts; for generation X, born between 1960 and 1979, this was 35%; for generation Y, born between 1980 and present, it was 38%. All models were significant, in every generation group social exchange (benefits outweighing costs) had effect on social media activity and contacts. And that effect increased when the groups got younger (Babyboomers:  $\beta = .54$ ; Generation X:  $\beta = .59$ ; Generation Y:  $\beta = .62$ ).

<Figure 2. Social exchange effect on social media activity and number of contacts, grouped by generation>

<Table 17. Results of a regression analysis of the influence of social exchange on social media activity and number of contacts, split by generation group >

Additional analysis of social media activity and number of contacts, split per generation group, showed that social media activity – measured by reading, responding, and posting – and number of contacts overall increased when respondents were younger. Especially striking was the difference in number of contacts: Babyboomers ( $M = 26.34$ ;  $SD = 45.90$ ), Generation X ( $M = 46.29$ ;  $SD = 49.21$ ), Generation Y ( $M = 80.72$ ;  $SD = 53.95$ ). The so called “digital natives” had over three times as many contacts as the Babyboomers. Did this lead to better performance as a knowledge worker? An analysis of the self evaluation, split per generation groups, showed that Generation Y is the only generation that gave itself a sufficient grade for performance as a social media user ( $M = 7.69$ ;  $SD = 11.58$ ). Both Generation X ( $M = 4.94$ ;  $SD = 2.56$ ) and the Babyboomers ( $M = 4.81$ ;  $SD = 7.28$ ) thought they fail as a social media user. Performance as a knowledge worker had opposite results, the

Babyboomers scored highest ( $M = 7.51$ ;  $SD = 1.04$ ), Generation X was next ( $M = 7.29$ ;  $SD = 1.27$ ), and Generation Y had the lowest self evaluation grade ( $M = 6.30$ ;  $SD = 1.80$ ). Overall job performance did not show large grade differences, all generations scored between a 7 and a 8 average with Generation X in a modest lead.

<Table 18. Social media activity and number of contacts, split per generation group>

< Table 19. Self evaluation, split per generation groups>

Motivation is a factor not to be overlooked when it comes to knowledge sharing. Theory dictates that it influences social media use. In order to find out what effect is had on the social media use of the respondents leading to a certain performance as a knowledge worker, a file split was performed, dividing the data into ‘low motivation’ and ‘high motivation’ (based on a median split of the motivation index). A multiple regression analysis was done with transactive memory, sharing with weak ties, and sharing tacit knowledge predicting the performance as a knowledge worker. Both the models had predictive powers: for low motivation it was 18% ( $R^2 = .18$ ;  $F(3,141) = 10.22$ ;  $p < .001$ ); for high motivation the model predicted 27% of the variance in performance as a knowledge worker ( $R^2 = .27$ ;  $F(3,141) = 16.64$ ;  $p < .001$ ). Not all aspects of social media use took an equal share in the prediction. Sharing with weak ties was not a predictor for both the low and high motivation model. For the group with the lower motivation only transactive memory (finding information and experts) turned out to be a significant predictor ( $t(141) = 2.61$ ,  $p < .05$ ,  $b(SE_b) = 0.28$  (0.11),  $\beta = .21$ ). For the group with higher motivation both transactive memory ( $t(141) = 4.08$ ,  $p < .001$ ,  $b(SE_b) = 0.38$  (0.09),  $\beta = .30$ ) and sharing tacit knowledge ( $t(141) = 4.43$ ,  $p < .001$ ,  $b(SE_b) = 0.27$  (0.06),  $\beta = .39$ ) were significant predictors.

<Table 20. Results of a regression analysis of the influence of knowledge sharing on performance as a knowledge worker, split by level of motivation >

<b>Hypothesis</b>	<b>Test</b>	<b>Comments</b>
<b>H1:</b> The more benefits outweigh the costs of social media use, the more people use social media actively	Accepted	
<b>H2a:</b> The more people use social media, measured by the activity and number of contacts, the more often people find information	Rejected	Additional analysis showed ‘reading LinkedIn updates’ and ‘having co-worker contacts on LinkedIn’ had predictive power
<b>H2b:</b> The more people use social media, measured by the activity and number of contacts, the more often people find experts	Rejected	Additional analysis found that ‘having co-worker contacts on LinkedIn’ had predictive power
<b>H3:</b> The more people use social media, measured by contact intensity, the more knowledge is being shared with weak ties	Accepted	Only main effect of ‘contacts with professionals outside the organization’
<b>H4:</b> The higher the identification with the organization, the less knowledge is being shared with weak ties	Rejected	
<b>H5:</b> The more people use social media, measured by content creation, the more tacit knowledge people share	Accepted	Only main effect of ‘creating professional content’
<b>H6:</b> Improving transactive memory, sharing with weak ties, and sharing tacit knowledge, is positively related to performance as knowledge worker	Accepted	Main effects of ‘transactive memory’ and ‘sharing tacit knowledge’



## CONCLUSION

*The results of this study can be found in this chapter. It looks back on the theory and discusses the results that are consistent with it, and the ones that are not. After the theoretical implications, the practical implications are revealed.*

This research meant to find out more about the relation between social media use and knowledge sharing within organizations. Even though respondents seemed serious about filling in the survey, the data about social media use had low statistical reliability. Maybe people made rough estimations about their use and number of contacts or skipped questions indicated they did not use the specific network while in reality they did, maybe the fairly young phenomenon of social media is not established enough to show consistency across the population. It did become clear that the professional network LinkedIn had the highest number of contacts among the respondents, and that Facebook was double as large, measured in number of contacts, as Hyves. Theory suggested that personal and business use of social media merge, sharing passions and connecting with people over personal matters could lead to business benefits like knowledge exchange and relationship building (Mostaghimi & Crotty, 2011; Savalle et al., 2010; DiMicco et al., 2009; McCarthy et al., 2008). This study found no support for that; the business-like social media were used for professional reasons; personal use of social media did not contribute to knowledge sharing. Before using any social media users made an economic balance between benefits and costs. Overall, the costs outweighed the benefits of social media among the participants, indicating that people felt social media costs them more in time and trouble, than they get back from it in career opportunities, reputation, and knowledge gain. Of course, the balance is different for all individuals. Benefits outweighing costs proved to be a predictor of social media use, supporting the Social Exchange Theory. Generation was a mediator: the younger the people, the more sensitive they were to the effect of social exchange. Belonging to a generation group

had more consequences. The ‘digital natives’, aka Generation Y, had over 80 contacts on social media on average; while ‘non natives’ had much less: Babyboomers 26 and Generation X 46.

The number of social media contacts did not have an effect on finding information or experts; contrary to the expectations that active social media use and number of contacts would be positively related to transactive memory. Additional analyses using items about LinkedIn use as predictors did show effects; people reading the updates on LinkedIn of contacts they follow, could find information more often. This interestingly suggested that the respondents found information by letting their contacts inform them out of their initiative. Finding experts turned out to be predicted by the number of co-workers people have in their LinkedIn network. Again an interesting find, because it seemed that the respondents found experts among their colleagues, or through their colleagues. This could be explained by the fact that the study was done in an institute for higher education. Especially the teaching staff, accounting for over half of the respondents, consisted of experts in one field or more. Sharing knowledge with weak ties – the people outside one’s own circle that can provide innovation, fresh ideas and new contacts – could be predicted by social media contact intensity. More contact with professionals outside the organization was positively related with sharing with weak ties. Being in contact with friends and co-workers did not have this effect; more proof that the merging of personal and business use of social media has not happened (yet?) among the respondents. The overall identification with the organization was quite high, people feel at home at Inholland. However, this did not negatively influence sharing with weak ties. It seemed the respondents did not suffer from the not-invented-here syndrome and shared with people outside the in-group in spite of a high feeling of identification. The third dimension of knowledge sharing that was tested in this study, next to transactive memory and sharing with weak ties, was sharing tacit knowledge. Theory explains why tacit, implicit, knowledge is

much harder to share than explicit knowledge. Strangely enough, the respondents shares more tacit knowledge than explicit knowledge in general. This unusual distribution may have been explained by the sort of organization this study took place in. For educators knowledge transfer is a main part of their work, and ‘practice makes perfect’; so the respondents may find transferring tacit knowledge not so difficult. A further increase in sharing tacit knowledge was predicted by social media use, measured in content creation. Creating private and work-related content had no effect, but creating professional content did. Seeing that writing about ones profession often requires a higher abstraction level than private talk and work facts, it seemed logical that creating professional content and sharing tacit knowledge were related.

After studying social media use and knowledge sharing the big question was: do all the efforts people put into transactive memory, sharing with weak ties, and sharing tacit information, lead to a better performance as a knowledge worker? Since there was no access to human resources files, we had to settle for self evaluations. Analysis showed a very strong result: 25% of the variance in the knowledge worker grade was explained by the dimensions mentioned. The exchange with weak ties did not predict anything, but transactive memory (finding information and experts) and sharing tacit knowledge predicted performance as a knowledge worker. Splitting this outcome in two, for people with high and low motivation to share knowledge, gave us more information. For respondents that were highly motivated, transactive memory and sharing tacit knowledge had predictive power. People with a lower motivation to share knowledge showed a smaller predictive power, and only for transactive memory. The Babyboomers scored highest on the knowledge worker grade (average of 7,5), with runner op Generation X (7,3), the lowest average grade of 6,3 was from Generation Y. For performance as social media users the outcome was opposite; Generation Y was the only one grading itself with a sufficient grade, namely 7,7; while Generation X and the Babyboomers overall marked themselves with an insufficient grade.

Having done research we could now answer the research questions. The findings of this study have indeed showed a relation between social media use and knowledge sharing. Linking with co-workers and reading updates on a professional social media network were positively related to transactive memory; while social media contact intensity with professionals outside the organization predicted sharing with precious weak ties. Creating professional content on social media was positively related to sharing tacit knowledge.

### **Theoretical implications**

Social Exchange Theory (Blau, 1964) has been applied in many disciplines, but never before on social media, as far as we could find. This study showed positive results, the respondents for who the benefits outweighed the costs made more active use of social media and had more contacts, thus supported the theory and adding a discipline in which Social Exchange Theory could be applied. In this study, participants with better transactive memory scored higher in knowledge worker performance, which was consistent with Child and Shumate (2007) stating that teams that with good who-knows-what knowledge are perceived to be more effective.

A Transactive Memory System is a set of individual memory systems that, if people succeed in sharing awareness about who knows what, makes a larger amount of knowledge available for all in the organization (Wegner, 1986; Bradon & Hollingshead, 2004). Contrary to expectations, overall social media use did not approve transactive memory, but linking with co-workers on a professional social network did as a predictor for finding experts, and reading updates from people followed on a professional social network predicted finding information. This creates interesting research questions in the field of transactive memory, like: In what way does reading other people's updates create a knowledge base that makes finding information when needed easier?

Theory suggests that personal and business use of social media merge, sharing passions and connecting with people over personal matters could lead to business benefits like

knowledge exchange and relationship building (Mostaghimi & Crotty, 2011; Savalle et al., 2010; DiMicco et al., 2009; McCarthy et al., 2008). This study found no support for that; the business-like social media were used for professional reasons; personal use of social media did not contribute to knowledge sharing. Scholars might be cautious to apply what might be a starting trend, to all users of social media, especially non-native users like the majority of the respondents in this study.

The theory on the strength of weak ties (Granovetter, 1973) found no support, sharing with weak ties did not improve – nor damage – performance as a knowledge sharer. Like Van de Leij and Goyal did in 2011, the participants showed a ‘strength of strong ties’ effect for contact with co-workers connected people with information and others. We suggest a re-appreciation of the strength of strong ties, and more research to find a better balance in theorizing both strong and weak ties. Also not supported by this study, is the not-invented-here syndrome accounting for keeping knowledge sharing close to home (Hansen, 2005). Even though the respondents perceived a high identification with the organization, it did not stop them from sharing with weak ties. This proposes to take a different look at in-group and out-group behavior, as feeling a strong connection with the in-group does not need to stop connecting with out-group members.

Partial support has been found for the notion that social media being high on self-presentation and self-disclosure (Kaplan & Haenlein, 2010) are therefore well fit to share tacit knowledge, which is hard to communicate because it is personal and context specific. This study did not find an effect of social media use in general, but did find an effect of creating professional content on social media. Scholars might therefore refine the theories on media richness and self-disclosure, which idea would be consistent with Dennis and Valacich (1999) who state that media cannot be ranked in absolute terms.

## Practical implications

For organizations that grant great value to knowledge sharing, social media cannot be overlooked. Building specific knowledge-systems and applications while ignoring the media that people use every day would be an expensive and non-effective thing to do. Especially the social media networks that are build for professional use, like LinkedIn, have proven to be useful for finding information and experts. It is helpful to know that the use of social media is driven by making up a balance between benefits and costs. Decreasing time and trouble – perceived as the costs – will encourage social media use. This could be done by integrating the social media on the platform of the organization and so making them easily available; and offering trainings to inexperienced users. This study has taught us that people with many co-workers in their social media contact can more easily find experts. Organizations do well to cherish the expertise they have among their staff and not first look to outside professionals when it comes to bringing knowledge to the workplace. Creating professional content on social media is a predictor for sharing tacit knowledge; so stimulating people to share their professional knowledge, for example through (micro-)blogs, will improve the sharing of tacit knowledge which provides “the cement” for explicit knowledge. Finally, it is wise to take the differences between the generation groups into account. The “digital natives” of Generation Y are the only ones grading themselves with a sufficient grade as a social media user, while the older generations feel they fail at this point. The grades for performance as knowledge worker show the opposite, Generation Y barely makes it and the Babyboomers score highest. This offers the opportunity for organizations to value all its members and let the different generations learn from each other. A future in which knowledge is being shared actively, making use of social media when possible and useful, is within reach.

## DISCUSSION

*In this final section of the thesis the limitations of this study are discussed, as well as the opportunity for further research.*

### Limitations

Because of the cross-sectional design of this study, no causes and effects could be established.

While outcomes are of value to the field of social media and knowledge sharing studies, some assumptions about effects could be clarified when studied in an experiment for example. It is hard to generalize the results of this study, for all respondents were from one organization.

This organization was an institute in higher education, which probably had consequences when it comes to measuring aspects of knowledge sharing. Since sharing knowledge is a 'core business' in education, performing the same study in a different, non-educational, organization might give other results. When it came to measuring social media use, the reliability turned out to be low (as discussed in the Conclusion chapter). The results of this study must therefore be interpreted with caution; as must the measure of performance as knowledge worker and social media user. Since they were based on self evaluations, the grades could be influenced by social desirability. Most theory and research in this study were about social network sites and (micro-)blogs. The role of other media like tagging and bookmarking needs to be studied further. People outside the organization were considered weak ties in out-groups; when this research is replicated in larger organizations like multinationals, weak ties might have to be measured differently, for co-workers in other countries would probably be considered out-group. Since personal and work related world were expected to blend together when it came to social media use, which was expected to be positive for business-matters, social media use was measured using both the personal and professional media. Therefore we have not gained much insight in the different social media. Research into social media is young and part of the studies that are used as sources for this study were presented at conferences and have not been published yet. In order to use

extensive and recent data, it was chosen to use them not the less. Of course they were accompanied by many articles which have been published in esteemed journals.

### **Future research**

Performing experiments with social media and knowledge sharing could give more insight in cause and effects. Since the respondents were largely educators and experienced knowledge sharers, it would be interesting to replicate this study in a different organization. When doing so, it is important to have a reliable measure of social media use. Maybe technical aids can be of service here. Research into the separate social media, can reveal more about the roles these separate media play. A content analysis of the information that is being shared might provide more information than respondents filling in a survey. Future research would be served by a more objective measure of performance as knowledge worker and social media user than self evaluation. The possibilities of confidential use of human resources files or peer-feedback could be explored for this purpose. Continuing research on these topics is needed, for as Generation Y will become a bigger part of the working population, this will cause a large shift in work practices like social media use. Also, more research will be published in peer-reviewed journals, which might provide new building blocks for research. Finally, organizations are slowly developing into network-organizations where people work in a new way (“the new world of work”); people not being confined to one organization can detach from the bond with the in-group. This will probably have consequences for knowledge sharing, which could be taken into consideration when designing new research. Hopefully the results of this study offer a contribution for building theory about social media use and knowledge sharing.



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## APPENDIX A: TABLES AND FIGURES

**Table 2.** Social exchange theory and social media use: benefits

<i>Item</i>	<i>M</i>	<i>SD</i>
Social media help my career	3.39	1.85
Social media use is good for my reputation	3.48	1.78
Social media use brings me much valuable knowledge	3.88	1.85
Index	3.58	1.62

*Note.* 7-point scale, 1 = 'never', 7 = 'always'

**Table 3.** Social exchange theory and social media use: costs

<i>Item</i>	<i>M</i>	<i>SD</i>
Social media cost me too much time	3.95	1.99
Social media cost me too much trouble	3.51	2.02
Index	3.73	1.74

*Note.* 7-point scale, 1 = 'never', 7 = 'always'

**Table 4.** Social media use Facebook, Hyves, LinkedIn, Twitter, Yammer

<i>Item</i>	Facebook	Hyves	LinkedIn	Twitter	Yammer
Read posts people I follow	2.76 (2.08)	1.39 (0.98)	2.70 (1.84)	2.06 (1.86)	1.53 (1.33)
I respond to posts of others	2.46 (1.89)	1.34 (0.90)	2.24 (1.61)	1.68 (1.48)	1.27 (0.83)
I post messages myself	2.23 (1.78)	1.28 (0.79)	1.81 (1.32)	1.80 (1.68)	1.27 (0.91)
I'm in contact with friends	2.69 (1.99)	1.42 (1.00)	1.95 (1.37)	1.61 (1.41)	
In contact with co-workers	1.75 (1.38)	1.14 (0.52)	2.63 (1.82)	1.67 (1.48)	
Contact with prof. outside	1.57 (1.24)	1.07 (0.32)	2.83 (2.00)	1.70 (1.59)	
I write about private matters	2.24 (1.85)	1.27 (0.84)	1.19 (0.63)	1.55 (1.36)	1.07 (0.39)
I write work-related matters	1.56 (1.12)	1.08 (0.36)	2.17 (1.80)	1.76 (1.68)	1.35 (1.16)
I write about my profession	1.43 (1.02)	1.06 (0.31)	1.99 (1.60)	1.70 (1.63)	1.30 (1.02)
Number of contacts	59 (96)	30 (70)	90 (129)		
Number of followers				23 (75)	6 (27)
Number of people I follow				28 (85)	9 (45)
Number of co-workers	4 (10)	1 (5)	24 (42)	4 (12)	
Number of hours per week	2,2 (5,2)	0,3 (1,7)	1,2 (3,3)	0,9 (2,4)	0,3 (1,2)
Number of posts per week	2 (4)	0,2 (0,8)	0,4 (1,1)	2,3 (15,7)	0,3 (1,7)

*Note.* Mean (SD); 7-point scale, 1 = 'never', 7 = 'always' (except for the numbers)

**Table 5.** Social media use other media

<i>Item</i>	Blog	Forum	Bookm	Sms	Intra	Wiki	Rss
Other media use	1.62 (1.25)	1.83 (1.29)	1.21 (0.86)	4.54 (1.87)	4.57 (2.11)	2.32 (1.80)	1.56 (1.27)

*Note.* Mean (SD); 7-point scale, 1 = 'never', 7 = 'always'

**Table 6.** Activity on social media and the number of contacts

<i>Item</i>	Facebook	Hyves	LinkedIn	Twitter	Yammer	<i>Index</i>
Read posts people I follow	2.76 (2.08)	1.39 (0.98)	2.70 (1.84)	2.06 (1.86)	1.53 (1.33)	2.09 (0.99)
I respond to posts of others	2.46 (1.89)	1.34 (0.90)	2.24 (1.61)	1.68 (1.48)	1.27 (0.83)	1.80 (0.81)
I post messages myself	2.23 (1.78)	1.28 (0.79)	1.81 (1.32)	1.80 (1.68)	1.27 (0.91)	1.68 (0.79)
Number contacts / I follow	59 (96)	30 (70)	90 (129)	28 (85)	9 (45)	43.19 (51.43)

*Note.* Mean (SD); 7-point scale, 1 = 'never', 7 = 'always' (except for the numbers)

**Table 7.** Social media contact intensity

<i>Item</i>	Facebook	Hyves	LinkedIn	Twitter	<i>Index</i>
I'm in contact with friends	2.69 (1.99)	1.42 (1.00)	1.95 (1.37)	1.61 (1.41)	1.92 (0.93)
In contact with co-workers	1.75 (1.38)	1.14 (0.52)	2.63 (1.82)	1.67 (1.48)	1.80 (0.80)
Contact with prof. outside	1.57 (1.24)		2.83 (2.00)	1.70 (1.59)	2.04 (1.13)

*Note.* Mean (SD); 7-point scale, 1 = 'never', 7 = 'always'

**Table 8.** Regularity of creating content on social media

<i>Item</i>	Facebook	Hyves	LinkedIn	Twitter	Yammer	<i>Index</i>
I write about private matters	2.24 (1.85)	1.27 (0.84)	1.19 (0.63)	1.55 (1.36)	1.07 (0.39)	1.46 (0.65)
I write work-related matters	1.56 (1.12)	1.08 (0.36)	2.17 (1.80)	1.76 (1.68)	1.35 (1.16)	1.58 (0.78)
I write about my profession	1.43 (1.02)	1.06 (0.31)	1.99 (1.60)	1.70 (1.63)	1.30 (1.02)	1.50 (0.74)

*Note.* Mean (SD); 7-point scale, 1 = 'never', 7 = 'always'

**Table 9.** Transactive memory

<i>Item</i>	<i>M</i>	<i>SD</i>
I can find information when I need it later	5.37	1.19
I know who to ask certain questions	5.16	1.27
Index	5.27	1.04

*Note.* 7-point scale, 1 = 'never', 7 = 'always'

**Table 10.** With whom to share knowledge

<i>Item</i>	<i>M</i>	<i>SD</i>
I share information with co-workers from my own department / studies	4.81	1.85
I exchange information with co-workers from other departments	3.68	1.81
I exchange information with external professionals	3.61	1.94

*Note.* 7-point scale, 1 = 'never', 7 = 'always'

**Table 11.** Identification

<i>Item</i>	<i>M</i>	<i>SD</i>
I feel at home at Inholland	5.36	1.35
I experience a "together" feeling at Inholland	4.56	1.59
I have a strong positive feeling about Inholland	4.42	1.62
I am proud to work at Inholland	4.47	1.71
Index	4.70	1.38

*Note.* 7-point scale, 1 = 'totally disagree', 7 = 'totally agree'

**Table 12.** Sharing explicit knowledge

<i>Item</i>	<i>M</i>	<i>SD</i>
I share manuals and other information about my job	3.85	2.19
I share professional information from newspapers, magazines, and television	3.93	1.92
I share successes and failures about education	3.61	2.03
Index	3.80	1.85

*Note.* 7-point scale, 1 = 'never', 7 = 'always'

**Table 13.** Sharing implicit knowledge

<i>Item</i>	<i>M</i>	<i>SD</i>
I share personal job experiences	4.08	1.93
I inform others on who can find what information where	4.30	1.92
I share what I've learned in training and education	4.07	1.98
Index	4.15	1.78

*Note.* 7-point scale, 1 = 'never', 7 = 'always'

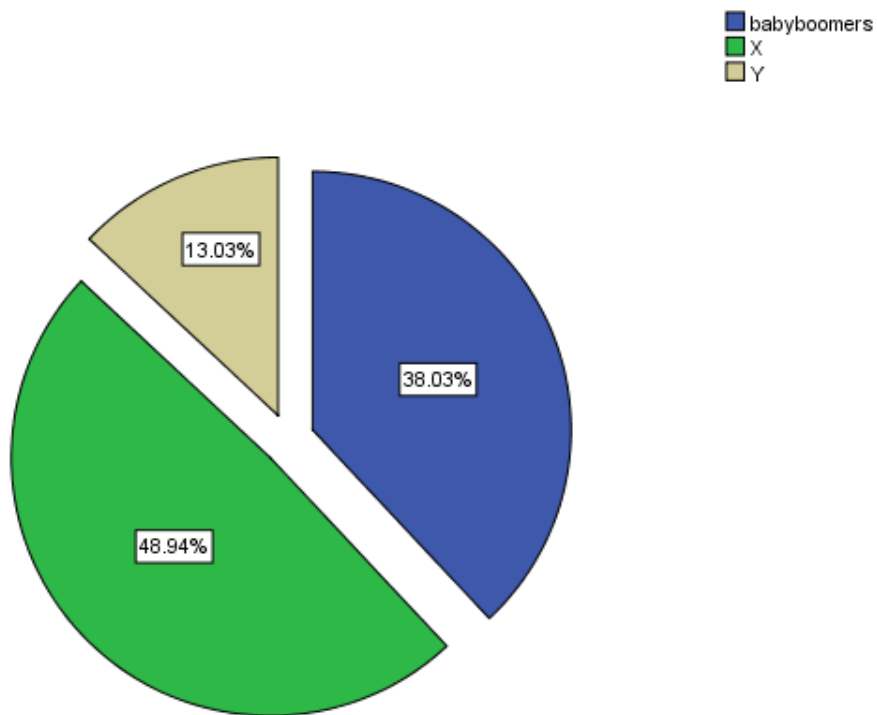
**Table 14.** Self assessment

<i>Item</i>	<i>M</i>	<i>SD</i>
Grading myself as a social media user	5.25	6.42
Grading myself in my job	7.81	0.80
Grading myself as a knowledge worker	7.25	1.32

**Table 15.** Generations

<i>Item</i>	<i>Percent</i>	<i>Cumulative</i>
Babyboomers (1943 – 1959)	38.0	38.0
Generation X (1960 – 1979)	48.9	87.0
Generation Y (1980 – present)	13.0	100.0

**Figure 1.** Generation groups



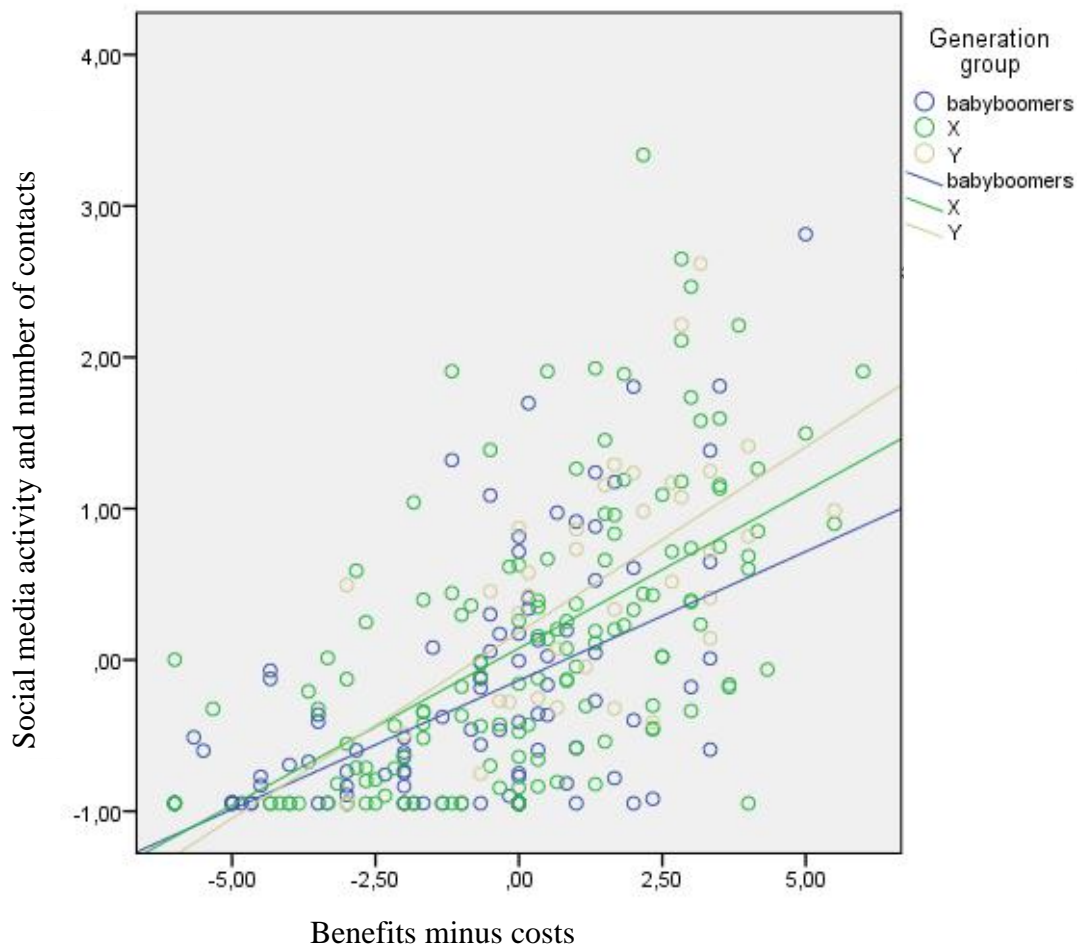


**Table 16.** Motivation to share knowledge

<i>Item</i>	<i>M</i>	<i>SD</i>
I naturally share information on strategy and methods	5.31	1.52
I share information on strategies that did not work well	5.13	1.56
I go out of my way to help others with a problem or question	5.56	1.35
I help without being asked	4.91	1.39
I respond quickly to co-workers e-mails	5.89	1.20
I send detailed e-mails to co-workers	5.05	1.41
I know my co-workers will help me, so it's only fair to help others	5.10	1.29
I believe my co-workers would help me if I need it	5.82	1.14
Index	5.35	0.86

*Note.* 7-point scale, 1 = 'totally disagree', 7 = 'totally agree'

**Figure 2.** Social exchange effect on social media activity and number of contacts, grouped by generation



**Table 17.** Results of a regression analysis of the influence of social exchange on social media activity and number of contacts, split by generation group

<i>Predictor for</i> <i>social media use</i>	Babyboomers			X			Y		
	<i>t</i>	<i>p</i>	$\beta$	<i>t</i>	<i>p</i>	$\beta$	<i>t</i>	<i>p</i>	$\beta$
Benefits over costs	6.62	<.001	.54	8.52	<.001	.59	4.67	<.001	.62

**Table 18.** Social media activity and number of contacts, split per generation group

<i>Generation group</i>	Read	Respond	Post	Contacts
Babyboomers	1.77 (0.82)	1.58 (0.74)	1.45 (0.67)	26.34 (45.90)
Generation X	2.23 (1.06)	1.90 (0.86)	1.76 (0.82)	46.29 (49.21)
Generation Y	2.52 (0.91)	2.08 (0.66)	2.04 (0.80)	80.72 (53.95)

*Note.* Mean (SD); 7-point scale, 1 = 'never', 7 = 'always' (except Contacts: numbers)

**Table 19.** Self evaluation, split per generation groups

<i>Generation group</i>	Social media user	Job performance	Knowledge worker
Babyboomers	4.81 (7.28)	7.80 (0.71)	7.51 (1.04)
Generation X	4.94 (2.56)	7.89 (0.70)	7.29 (1.27)
Generation Y	7.69 (11.58)	7.54 (1.26)	6.30 (1.80)

*Note.* Mean (SD); range from 1 (lowest) till 10 (highest)

**Table 20.** Results of a regression analysis of the influence of knowledge sharing on performance as a knowledge worker, split by level of motivation

<i>Aspects of</i> <i>knowledge sharing</i>	Low motivation			High motivation		
	<i>t</i>	<i>p</i>	$\beta$	<i>t</i>	<i>p</i>	$\beta$
Transactive memory	2.61	<.05	.21	4.08	<.001	.30
Share with weak ties	1.78	.08	.18	0.77	.44	.07
Share tacit knowledge	1.84	.07	.17	4.43	<.001	.39

## APPENDIX B: SURVEY QUESTIONS

### [Scherm 1] [introductie]

Social Media en kennis delen binnen Inholland

Beste collega, fijn dat je mee wilt werken aan dit onderzoek naar Social Media-gebruik en kennis delen binnen onze hogeschool. Je antwoorden blijven anoniem, en zullen alleen worden gebruikt voor dit onderzoek. Als je de resultaten van het onderzoek wilt ontvangen, kan je aan het eind je e-mailadres achterlaten. Druk na het invullen van de vragen op 'Next' om naar het volgende scherm te gaan. Succes!

### [Scherm 2] [persoonlijke achtergrond]

Als eerste zijn hier algemene vragen over jezelf.

- GEND            Wat is je geslacht? (maak een keuze: man, vrouw)
- GENE            Wat is je geboortjaar? (vul een jaartal in)
- EDUC            Wat is je hoogst genoten opleiding? (maak een keuze: BO, VO, (V)MBO, HBO, WO)
- POSI            Wat voor functie heb je? (maak een keuze: onderwijzend personeel, staf-ondersteuning)
- YEAR            Hoe lang werk je voor de hogeschool? (vul het aantal jaren in)
- DOMA            Binnen welk domein ben je werkzaam? (maak een keuze:
- Marketing, Toerisme en Vrijtijdsmanagement
  - Management, Finance en Recht
  - Communicatie, Media en Muziek
  - Gezondheid, Sport en Welzijn
  - Onderwijs, Leren en Levensbeschouwing
  - Techniek, Ontwerpen en Informatica
  - Unit Agriculture
  - Domeinoverstijgend / centrale organisatie Inholland)
- LOCA            Bij welke vestiging werk je (het meest)? (maak een keuze:
- Alkmaar
  - Amsterdam/Diemen
  - Delft
  - Den Haag
  - Dordrecht
  - Haarlem

- Hoofddorp
- Oegstgeest
- Rotterdam)

**[Scherm 3] [social media gebruik – privé en zakelijk]**

De volgende vragen gaan over jouw gebruik van Social Media: Facebook, Hyves, LinkedIn, Twitter, en Yammer.

Als eerste vragen over Facebook (als je Facebook niet gebruikt => ga door naar het volgende scherm)

(1 = nooit, 2 = zelden, 3 = soms, 4 = regelmatig, 5 = vaak, 6 = heel vaak, 7 = altijd)

- FB01            Op Facebook lees ik posts van mensen die ik volg
- FB02            Op Facebook reageer ik op berichten van anderen
- FB03            Op Facebook post ik zelf
- FB04            Op Facebook ben ik in contact met vrienden
- FB05            Op Facebook ben ik in contact met collega's
- FB06            Op Facebook ben ik in contact met vakgenoten buiten de hogeschool
- FB07            Op Facebook schrijf ik over privé zaken
- FB08            Op Facebook schrijf ik over werkzaken
- FB09            Op Facebook schrijf ik over mijn vak
- FB10            Ik heb op Facebook ongeveer zoveel vrienden (vul een aantal in)
- FB11            In mijn Facebook-contacten zijn ongeveer zoveel collega's (vul een aantal in)
- FB12            Per week besteed ik ongeveer zoveel uur aan Facebook (vul een aantal in)
- FB13            Per week plaats ik ongeveer zoveel berichten op Facebook (vul een aantal in)

**[Scherm 4]**

Vragen over Hyves (als je Hyves niet gebruikt => ga naar het volgende scherm)

(1 = nooit, 2 = zelden, 3 = soms, 4 = regelmatig, 5 = vaak, 6 = heel vaak, 7 = altijd)

- HY01            Op Hyves lees ik krabbels van mensen die ik volg

- HY02 Op Hyves reageer ik op krabbels van anderen
- HY03 Ik post op Hyves zelf krabbels
- HY04 Op Hyves ben ik in contact met vrienden
- HY05 Op Hyves ben ik in contact met collega's
- HY06 Op Hyves ben ik in contact met vakgenoten buiten de hogeschool
- HY07 Op Hyves schrijf ik over privé zaken
- HY08 Op Hyves schrijf ik over werkzaken
- HY09 Op Hyves schrijf ik over mijn vak
- HY10 Op Hyves heb ik ongeveer zoveel vrienden (vul een aantal in)
- HY11 Van mijn Hyves vrienden zijn ongeveer zoveel collega's (vul een aantal in)
- HY12 Per week besteed ik ongeveer zoveel uur aan Hyves (vul een aantal in)
- HY13 Per week plaats ik op Hyves ongeveer zoveel krabbels (vul een aantal in)

#### [Scherm 5]

Je bent al op eenderde van de vragenlijst!

Vragen over LinkedIn (als je LinkedIn niet gebruikt => ga door naar het volgende scherm)

(1 = nooit, 2 = zelden, 3 = soms, 4 = regelmatig, 5 = vaak, 6 = heel vaak, 7 = altijd)

- LI01 Op LinkedIn lees ik updates van mensen die ik volg
- LI02 Op LinkedIn reageer ik op berichten van anderen
- LI03 Ik post zelf berichten op LinkedIn
- LI04 Op LinkedIn ben ik in contact met vrienden
- LI05 Op LinkedIn ben ik in contact met collega's
- LI06 Op LinkedIn ben ik in contact met vakgenoten buiten de hogeschool
- LI07 Ik schrijf op LinkedIn over privezaken
- LI08 Ik schrijf op LinkedIn over werkzaken
- LI09 Ik schrijf op LinkedIn over mijn vak

- LI10 Op LinkedIn heb ik ongeveer zoveel connections (vul een aantal in)
- LI11 Van mijn LinkedIn-contacten zijn ongeveer zoveel collega's (vul een aantal in)
- LI12 Per week besteed ik ongeveer zoveel uur aan LinkedIn (vul een aantal in)
- LI13 Per week plaats ik op LinkedIn ongeveer zoveel berichten (vul een aantal in)

#### **[Scherm 6]**

Hier volgen vragen over je gebruik van Twitter (als je Twitter niet gebruikt => ga naar het volgende scherm)

(1 = nooit, 2 = zelden, 3 = soms, 4 = regelmatig, 5 = vaak, 6 = heel vaak, 7 = altijd)

- TW01 Op Twitter lees ik tweets van mensen die ik volg
- TW02 Op Twitter reageer ik op berichten van anderen
- TW03 Ik plaats zelf tweets
- TW04 Via Twitter ben ik in contact met vrienden
- TW05 Via Twitter ben ik in contact met collega's
- TW06 Via Twitter ben ik in contact met vakgenoten buiten de hogeschool
- TW07 Ik tweet over privezaken
- TW08 Ik tweet over wer kzaken
- TW09 Ik tweet over mijn vak
- TW10a Op Twitter heb ik ongeveer zoveel volgers (vul een aantal in)
- TW10b Op Twitter volg ik ongeveer zoveel mensen (vul een aantal in)
- TW11 Van de mensen die ik op Twitter volg zijn ongeveer zoveel collega's (vul een aantal in)
- TW12 Per week besteed ik ongeveer zoveel uur aan Twitter (vul een aantal in)
- TW13 Per week plaats ik ongeveer zoveel berichten op Twitter (vul een aantal in)

#### **[Scherm 7]**

Op dit scherm vragen over je gebruik van Yammer (gebruik je Yammer niet => ga naar het volgende scherm)

(1 = nooit, 2 = zelden, 3 = soms, 4 = regelmatig, 5 = vaak, 6 = heel vaak, 7 = altijd)

- YA01 Op Yammer lees ik feeds van mensen die ik volg
- YA02 Op Yammer reageer ik op de feeds van anderen
- YA03 Ik post zelf berichten op Yammer
- YA07 Ik schrijf op Yammer over privezaken
- YA08 Ik schrijf op Yammer over werkzaken
- YA09 Ik schrijf op Yammer over mijn vak
- YA10a Op Yammer heb ik ongeveer zoveel volgers (vul een aantal in)
- YA10b Op Yammer volg ik ongeveer zoveel collega's (vul een aantal in)
- YA12 Per week besteed ik ongeveer zoveel uur aan dit netwerk (vul een aantal in)
- YA13 Per week plaats ik ongeveer zoveel berichten op Yammer (vul een aantal in)

#### [Scherm 8]

Van welke media maak je nog meer gebruik?

(1 = nooit, 2 = zelden, 3 = soms, 4 = regelmatig, 5 = vaak, 6 = heel vaak, 7 = altijd)

- MED1 Blog
- MED2 Discussieforum
- MED3 Social Bookmarking
- MED4 SMS
- MED5 Intranet
- MED6 Wiki
- MED7 RSS

#### [Scherm 9] [meningen Social Media & Social Exchange Theory]

Wat is jouw mening over het gebruik van Social Media? Geef aan in welke mate je het (on)eens bent met onderstaande stellingen.

(1 = helemaal mee oneens, 2 = mee oneens, 3 = beetje mee oneens, 4 = neutraal, 5 = beetje mee eens, 6 = mee eens, 7 = helemaal mee eens)

- OSM1 Social Media helpen mij om mijn werk beter te doen
- SET1 Social Media helpen mij met mijn loopbaan
- OSM2 Social Media helpen mij om te communiceren met vakgenoten buiten de hogeschool
- SET2 Het gebruik van Social Media kost mij te veel tijd [REVERSED]
- SET3 Het gebruik van Social Media kost me te veel moeite [REVERSED]
- SET4 Gebruiken van Social Media is goed voor mijn reputatie
- SET5 Het gebruik van Social Media levert mij veel waardevolle kennis op
- SET6 Ik deel liever geen kennis via Social Media want dat kan bekritiseerd worden [REVERSED]

#### **[Scherm 10] [kennis delen algemeen]**

Je bent al op tweederde van de vragenlijst!

Onderstaande vragen gaan over het delen van kennis en informatie in het algemeen, ongeacht welke media je daarbij gebruikt. Geef aan hoe vaak je deelt:

(1 = nooit, 2 = zelden, 3 = soms, 4 = regelmatig, 5 = vaak, 6 = heel vaak, 7 = altijd)

- KSE1 Ik deel handleidingen en andere stukken van de vakken die ik geef
- KSE2 Ik deel informatie over het vak uit kranten, tijdschriften en televisie
- KSE3 Ik deel succesverhalen en mislukkingen over het onderwijs
- KSI1 Ik deel persoonlijke werkervaringen
- KSI2 Ik laat weten wie waar welke informatie kan vinden
- KSI3 Ik deel wat ik geleerd heb in trainingen en opleidingen



- KSW1 Ik wissel informatie uit met collega's van mijn eigen afdeling/opleiding
- KSW2 Ik wissel informatie uit met collega's van andere afdelingen/opleidingen
- KSW3 Ik wissel informatie uit met vakgenoten buiten de hogeschool

**[Scherm 11] [motivatie om kennis te delen]**

De volgende vragen gaan over jouw samenwerking met collega's van de hogeschool. Geef aan in welke mate je het (on)eens bent:

(1 = helemaal mee oneens, 2 = mee oneens, 3 = beetje mee oneens, 4 = neutraal, 5 = beetje mee eens, 6 = mee eens, 7 = helemaal mee eens)

- MOT1 Ik vind het vanzelfsprekend dat ik informatie deel over strategie en werkwijze
- MOT2 Ik laat weten wat voor werkwijze niet goed werkt
- MOT3 Ik doe heel erg mijn best om met een probleem of vraag te helpen
- MOT4 Ik help zonder dat het gevraagd wordt
- MOT5 Ik reageer snel op e-mails van collega's
- MOT6 Mijn collega's ontvangen gedetailleerde mails van mij
- MOT7 Ik weet dat collega's mij willen helpen, dus het is alleen maar eerlijk om andere te helpen
- MOT8 Ik geloof dat mijn collega's mij zouden helpen als ik hulp nodig heb

**[Scherm 12] [vakkennis bijhouden & transactive memory]**

Hieronder staan vragen over het zoeken, bijhouden, en vinden van informatie. Geef aan hoe vaak de stellingen voor je opgaan:

(1 = nooit, 2 = zelden, 3 = soms, 4 = regelmatig, 5 = vaak, 6 = heel vaak, 7 = altijd)

- PROF Ik houd mijn vakkennis bij
- TM01 Ik kan informatie makkelijk vinden als ik die later nodig heb
- TMT1 Om informatie te vinden gebruik ik traditionele media
- TMS1 Om informatie te vinden gebruik ik Social Media

- TM02 Ik weet wie ik moet hebben om bepaalde vragen aan te stellen
- TMS2 Als ik een expert zoek, zoek ik via Social Media
- TMT2 Als ik een expert zoek, vraag ik persoonlijk rond

### **[Scherm 13] [kennis delen via Social Media]**

Hier volgen vragen over kennis delen via Social Media. Geef aan in welke mate je het (on)eens bent:

(1 = helemaal mee oneens, 2 = mee oneens, 3 = beetje mee oneens, 4 = neutraal, 5 = beetje mee eens, 6 = mee eens, 7 = helemaal mee eens)

- KSS1 Ik deel regelmatig kennis via de Social Media die ik gebruik
- KSS2 Ik besteed doorgaans veel tijd aan het delen van informatie via Social Media
- KSS3 Na een discussie in Social Media ben ik meestal betrokken bij de vervolgacties
- KSS4 Ik meng me gebruikelijk in Social Media-discussies over uiteenlopende onderwerpen (en niet in die over specifieke onderwerpen)

### **[Scherm 14] [identificatie & zelf-evaluatie]**

We zijn bijna aan het eind. Hier enkele vragen over jouw band met Hogeschool Inholland. Geef aan in hoeverre je het (on)eens bent:

(1 = helemaal mee oneens, 2 = mee oneens, 3 = beetje mee oneens, 4 = neutraal, 5 = beetje mee eens, 6 = mee eens, 7 = helemaal mee eens)

- IDE1 Ik voel me thuis bij Inholland
- IDE2 Ik ervaar een "samen"-gevoel binnen Inholland
- IDE3 Ik heb een sterk positief gevoel over Inholland

IDE4 Ik ben er trots op bij Inholland te werken

CRIT Ben je door de recente ontwikkelingen en kritiek anders over Inholland gaan denken? (Maak een keuze: positiever, zelfde gebleven, negatiever)

Nog enkele slotvragen. Ga na het beantwoorden naar het volgende scherm voor het einde van de vragenlijst.

SEV1 Wat voor rapportcijfer geef jij jezelf als Social Media-gebruiker? (Geef een cijfer, van 1 t/m 10)

SEV2 Wat voor rapportcijfer geef jij je eigen functioneren? (Geef een cijfer, van 1 t/m 10)

SEV3 Wat voor rapportcijfer geef jij jezelf als kennisdeler? (Geef een cijfer, van 1 t/m 10)

#### **[Scherm 15] [afsluiting]**

Hartelijk dank voor je medewerking!! Wil de uitkomsten van het onderzoek weten en mijn scriptie ontvangen?

Laat je e-mail achter en ik houd je op de hoogte.

<<<< ruimte voor e-mailadres >>>>

Druk op Finish om de vragenlijst in te leveren. Als je nog opmerkingen hebt, kan je die hieronder achterlaten.

<<<< ruimte voor opmerkingen >>>>

Een fijne vakantie en tot mails/ziens op Twitter (@misscomm) of Yammer (Nicolette Bakhuisen)