

Healthcare Workers Sharing Knowledge Online: Intrinsic Motivations and Well-Being Consequences of Participating in Social Technologies at Work

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Abstract

To increase efficiency, knowledge sharing behaviour, and collaboration at work, social technologies are being rapidly implemented within organizations. However, there is a lack of studies showing how these new communication technologies affect employees. The goal of the current study was to indicate intrinsic motivations for online knowledge sharing behaviour and to find out if employees actually experience improvements in terms of well-being at work due to online participation. A survey study among 260 employees of a healthcare organization showed that feelings of competence in using the internal social media platform to share knowledge were positively related to online knowledge sharing behaviour. Moreover, employees who shared their knowledge more actively online also claimed that the platform made them more competent at work, autonomous at work, and improved their relationship with co-workers. Furthermore, a relationship between online knowledge sharing behaviour and job satisfaction was found, mediated by feelings of competence at work.

Keywords: internal social media, online knowledge sharing, self-determination theory, intrinsic motivations, well-being at work

1. Introduction

With the objective of increasing knowledge sharing, collaboration, innovation, efficiency and flexibility at work, internal social media platforms are rapidly being implemented within organizations (e.g., Putnam, Myers, Gailliard, 2014; Treem, Leonardi, 2012). Employees use these platforms merely to accomplish work-related goals, for example by knowledge sharing and maintaining connections with other professionals (Ellison, Gibbs, Weber, 2015). These new communication technologies are changing the organizational structure of work (Grant, Parker, 2009). For example, they provide the opportunity to work from different locations with flexible hours, and allow employees to share work-related information with colleagues on different hierarchical levels (Ten Brummelhuis et al., 2012). Within the literature, these social technologies are often referred to as online knowledge-sharing platforms, virtual communities of practice, social media for internal communication, and enterprise social network sites. These platforms were first implemented by large international organizations such as Caterpillar (Powers, 2004), Chevron, Ford, Xerox, Raytheon, IBM (Ellis, 2001), and Shell (Haimila, 2001), but today national and smaller organizations also use platforms such as Yammer to improve their workflow. Research among McKinsey clients shows that corporate use of blogs and social networks for internal communication grew from 10% in 2006 to 65% in 2015 (Bughin, 2015). Especially around 2010, a more collaborative approach emerged: more advanced companies adopted internal platforms to connect their employees (Harrysson, Schoder, Tavakoli, 2016).

Perhaps because the value and viability of an online platform depends on member-generated content, most scientific studies covering online knowledge sharing platforms are focused on the factors that motivate or hinder online participation. Previous studies looking into motivators and barriers to share information within such communities rely, for example, on social capital theory (Wasko, Faraj, 2005; Chow, Chang, 2008), social exchange theory (Bock, Zmud, Kim, 2005; Lin, Hung, Chen, 2009; Jin, Park, Kim, 2010), social cognitive theory (Lin et al., 2009; Yang, Farn, 2009), and theory of reasoned action (Hsu, Lin, 2008; Gagné, 2009).

Despite the rapid changes in the organizational context, there is a lack of studies showing how these new communication technologies actually affect employees. Online platforms are assumed to help employees to connect with experts (e.g., Pipek, Hinrichs, Wulf, 2003), maintain relationships (e.g. Lee, DeWester, Park, 2008), learn from the knowledge of others

by expressing tacit knowledge (e.g. Huh et al., 2007), and to make work more flexible (e.g. Ten Brummelhuis et al., 2012): all factors that have the potential to improve working conditions. However, if employees actually experience improvements in terms of work-related well-being it lacks empirical attention. Because networking and content creation via online sharing platforms are expected to be part of the foundations of any future work and communication environment (Bucher, 2012), it is important to fill this knowledge gap. Hence, the main goal of this study is not only to identify motivations to share knowledge online, but also to reveal how online participation relates to well-being at work. This study relies on theories and previous results from (organizational) psychology, knowledge management, and social media. Therefore, study results might provide insights relevant for disciplines related to online communication, knowledge sharing, and HRM. For HR professionals, information about the potential effectiveness of internal social media platforms are important for the decision on whether and how to implement such platforms in their organization.

1.1. The Self-Determination Theory

The current study relies on the Self-Determination Theory (SDT; Deci, Ryan, 1985) for two reasons. First, the SDT has not been actively used as a theoretical framework in this research area, while this theory is one of the most influential theories of human motivation developed in the last couple of decades (Hagger, Chatzisarantis, 2007). Second, because the SDT concerns both motivations of behaviour and well-being, this is a suitable macro theory to investigate motivations and potential well-being consequences of online knowledge sharing behaviour among employees as well.

The SDT concerns three psychological needs that are the basis of self-motivation: autonomy, relatedness and competence (Deci, Ryan, 1985; 2000). According to this theory, individuals are intrinsically motivated to show behaviour that will satisfy these needs. By satisfying these three needs, the individual finds the activity itself interesting, enjoying, and stimulating. The need for autonomy refers to the need to feel volitional and responsible for one's own behaviour (de Charms, 1968). The need for competence concerns the extent to which one interacts effectively with the environment (White, 1959), and is also referred to as the concept of "self-efficacy" (Bandura, 1982). For human beings it is important to feel effective in performing certain behaviour to accomplish their goals. Relatedness concerns the degree to which individuals

feel connected and accepted by others (Baumeister, Leary 1995), also referred to as “the sense of belonging”. According to Deci and Ryan (2000) satisfying these three needs are “essential for on-going psychological growth, integrity and well-being” (p. 229).

The SDT has been applied extensively in several contexts, including the work setting (for example job demands, e.g., Fernet, Guay, Senecal, 2004; parenting, e.g., Soenens et al., 2007; teaching, e.g., Roth, Assor, Kanat-Maymon, Kaplan, 2007; health, e.g., Kennedy, Gogin, Nollen, 2004; and sports, e.g., Fortier et al., 2007). Research among employees has shown that satisfaction of these needs at work was positively associated with indicators for intrinsic motivation and well-being (e.g. Gagné, Deci, 2005; Van den Broeck et al., 2008). Because this theory has been proven in several other contexts, we propose that this theory is also suitable to explain motivations and consequences of participating in online knowledge sharing platforms, set-up within organizations.

1.2. Intrinsic Motivation to Share Knowledge Online

In the literature on **online** knowledge sharing, some studies already hint at the importance of intrinsic motivation (e.g. Osterloh, Frey, 2000), and to our knowledge only one study on online communities used the SDT to explain knowledge sharing behaviour (Yoon, Rolland, 2012). This study showed that especially feelings of competence and relatedness while participating in a virtual community enhanced sharing behaviour. One important remark is that this study concerns online communities set-up voluntarily online, i.e., it does not concern knowledge-sharing platforms established *within organizations*. As a result, visiting such a virtual community is a pure voluntary decision, while the use of platforms established within organizations can be optional, encouraged or mandated by management (Ellison, Gibbs, Weber, 2015).

Studies on **offline** knowledge sharing behaviour within organizations also showed the importance of competence, autonomy and relatedness. For example, studies showed the role of self-efficacy (i.e., competence) in knowledge sharing behaviour (Hsu, Ju, Yen, 2007; Lin, Huang, 2008). Furthermore, evidence exists on the relationship between work environments stimulating autonomy and higher levels of knowledge sharing behaviour (e.g., Thompson, Heron, 2002). Moreover, previous studies showed that identification and feeling connected to

a group enhances knowledge sharing behaviour in an offline setting (e.g. Yu, Lu, Liu, 2010).

Because of these findings on offline knowledge sharing behaviour within organizations and the scarce findings on online platforms, we expect that relatedness, competence and autonomy are also important when it comes to online knowledge sharing behaviour on platforms that are set-up within organizations. Thus, when employees feel competent in sharing their knowledge online, feel autonomous in how to use the platform, and feel related to others who use the platform, they might also be more willing to share their knowledge on the platform. To test these expectations the following hypotheses were formulated.

H1: The more employees experience feelings of autonomy, relatedness and competence while using the online platform, the more they share their knowledge online.

1.3. Online Knowledge Sharing Behaviour and Need Satisfaction at Work

In the current study the SDT will also be applied to explain if online communication platforms benefit employees at work. According to the SDT the experience of autonomy, relatedness and competence are necessary to experience psychological growth, integrity and well-being in general (Deci, Ryan, 2000). Previous studies showed that satisfaction of these needs are also important in the work-setting: feelings of competence, relatedness and autonomy at work were positively associated with well-being, better performance, and a positive attitude towards work among employees (e.g., Baard, Deci, Ryan, 2004; Gagné, Deci, 2005; Schultz et al., 2015; Van den Broeck et al., 2008).

In the current study we expect that internal social media platforms facilitate the experience of autonomy, relatedness and competence at work, because these platforms provide the opportunity to share information, ideas and opinions on work policies and practices. By doing so, it provides the opportunity to find experts (Pipek, Hinrichs, Wulf, 2003), learn from others (Huh et al., 2007) and discuss struggles and ideas, which makes one feel more competent in performing the job. In addition, because work will be discussed, employees might feel they have a say in how to perform their job, i.e., they become more autonomous. Furthermore, because these platforms allow employees to connect and communicate with other co-workers (Lee,

DeWester, Park, 2008), even from different locations and on flexible hours (Ten Brummelhuis et al., 2012), employees might also feel more connected to their colleagues. Thus, because internal social media platforms facilitate information sharing possibilities, connections with others, and the possibility to discuss work issues, it is expected that they increase feelings of autonomy, relatedness and competence at work.

H2: The more employees share their knowledge online, the more they feel that the online platform increases their experience of competence, autonomy, and relatedness at work.

Because the experience of autonomy, relatedness and competence are necessary to experience psychological growth, integrity and well-being (Deci, Ryan, 2000), it is expected that when online social media platforms help to satisfy these needs *at work* that also has a positive influence on job satisfaction. In previous studies, job satisfaction has been operationalized as a general concept of overall satisfaction and specialized into different facets of work, such as pay, supervision, or workload (Cook et al., 1981). Because a knowledge-sharing platform is not expected to alter payment or directly change the relationship with one's supervisor, this study has a focus on the overall feeling of satisfaction, i.e., a positive feeling about the job in general (Curry et al., 1986).

Thus, because previous research already has shown that the experience of autonomy, relatedness and competence at work were positively associated with well-being, engagement and performance (e.g. Baard et al., 2004; Gagné, Deci, 2005; Van den Broeck et al., 2008), it is expected that when the platform helps employees to feel more competent, autonomous and related at work, they also are more satisfied with their job.

H3: The more employees feel that the online platform increases their experience of competence, autonomy, and relatedness at work, the more they feel satisfied with their job.

Furthermore, when we combine hypothesis 2 and 3, it can be expected that there is a direct relationship between online knowledge sharing behaviour and job satisfaction, and that this relation is mediated by the feelings of autonomy, relatedness and competence at work facilitated by the online platform.

H4: The relationship between online knowledge sharing behaviour and job satisfaction is mediated by autonomy, relatedness and competence at work.

2. Method

2.1. Procedure and Sample Characteristics

To test relationships between online knowledge sharing behaviour and work related well-being, we approached a Dutch healthcare organization (Zorggroep Sint Maarten) that has implemented an internal social media platform to encourage knowledge sharing behaviour. This healthcare organization has 2500 employees and provides maternity care and elderly care at home, and rehabilitation and daytime activities at their treatment centres. The organization has 18 different locations mostly across the east and north part of the Netherlands. On the online platform employees have their own profile that can be searched by others, they can post messages (they can post a-synchronic messages shown to all users and chat privately), share documents, and make separate team sites. All employees have access to the platform.

A survey was sent to all employees. The introduction page of the survey included the length and goal of the survey and contact information of the investigators, and ensured anonymity. All procedures adhered to all the APA ethical guidelines (American Psychological Association, 2010), complied with EU legislation (EU legislation on data protection, n.d.) and the Dutch legislation (Dutch legislation on data protection, n.d.) on data protection. All participants were asked for informed consent before participation. 381 employees followed the link to the survey. Six participants did not agree with the informed consent and 97 respondents did not complete the survey. Consequently, they were deleted from the dataset. In total 278 employees completed the survey. However, 18 employees stated that they never used the online platform, which resulted in a sample of 260 platform participants suitable for analysis.

The age of respondents ranged from 19 to 63 years old ($M=44.68$, $SD=11.50$)¹. More women (86%) than men (14%) participated. Most respondents (72%) had a lower to middle level of education, 28% was highly educated. A small group of employees worked for the organisation less than a year (9.3%), 21% worked 1 to 3 years for the organisation, 17.1% 4 to 6 years, 18.7% 7 to 10 years, 13.2% 11 to 15 years, 5.4% 16 to 20 years, and 15.2% more than 20 years. Employees participating in the online platform worked from all 18 different locations.

1 Three of the 260 participants did not fill-out demographics and job characteristics.

2.2. Instruments

All scale items are provided in Appendix A.

2.2.1. Need Satisfaction on the Online Platform

Perceived competence, relatedness and autonomy while using the online platform were measured on a scale developed by Yoon and Rolland (2012; item example: “*I have been able to provide useful knowledge on [platform]”*). All statements were rated on a 7-point scale (from ‘totally disagree’ to ‘totally agree’). Perceived relatedness (Cronbach’s $\alpha = .82$) and competence (Cronbach’s $\alpha = .84$) were both measured with four items. The three items assessing autonomy showed a low level of consistency (Cronbach’s $\alpha = .64$). Therefore, one item (“I feel pressured on [platform]” - reversed) was deleted, which resulted in a Cronbach’s α of .85.

2.2.2. Online Knowledge Sharing Behaviour

The intensity of online knowledge behaviour on the platform was measured with a scale from Yoon and Rolland (2012, based on Lin et al., 2009). The scale consisted of 4 items. Participants rated on a 7-point scale if the statements applied to them, from ‘totally disagree’ to ‘totally agree’ (Cronbach’s $\alpha = .90$).

2.2.3. Satisfaction of Work Needs by the Platform

To measure if the platform contributed to perceived competence, relatedness and autonomy at work, scale items were based on the “Work-related Basic Need Satisfaction scale” (Deci, Ryan, 2001; Van den Broeck et al., 2010; item example “*Due to [platform] I have been able to learn interesting new skills on my job”*). Perceived relatedness was measured with four items (Cronbach’s $\alpha = .86$), competence with three items (Cronbach’s $\alpha = .76$), and autonomy with three items (Cronbach’s $\alpha = .84$), all on a 7-point scale (from “totally disagree” to “totally agree”).

2.2.4. Job Satisfaction

The scale from Brayfield and Rothe (1951 in: Curry et al., 1986) measured participants' job satisfaction. Participants rated on a 7-point scale if the six statements applied to them (from "totally disagree" to "totally agree") (Cronbach's $\alpha = .81$).

3. Results

We first conducted a pairwise correlation matrix in SPSS to reveal the relationships between all variables (see Table 1). We then performed multiple regression analyses to test the expected relationships as presented in hypotheses 1, 2 and 3. For hypothesis 4 a mediation analysis (Preacher, Hayes, 2008) was performed.

Table 1. Mean, standard deviation, and intercorrelations of variables (n = 260)

	M	SD	1	2	3	4	5	6	7
1. Online Knowledge sharing behaviour	3.34	1.45	-						
2. Autonomy on platform	4.40	1.19	.501**	-					
3. Relatedness on platform	4.53	0.95	.415**	.726**	-				
4. Competence on platform	4.15	1.07	.678**	.645**	.557**	-			
5. Autonomy at work	3.56	1.13	.339**	.488**	.407**	.429**	-		
6. Relatedness at work	3.47	1.10	.312**	.350**	.297**	.398**	.784**	-	
7. Competence at work	3.68	1.10	.382**	.458**	.400**	.477**	.829**	.805**	-
8. Job satisfaction	5.77	0.95	.255**	.253**	.219**	.213**	.180**	.125*	.216**

Note. ** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

3.1. Intrinsic Motivation and Online Knowledge Sharing Behaviour

For hypothesis 1 it was expected that there was a positive relationship between feelings of autonomy, relatedness and competence on the online platform, and online knowledge sharing behaviour. A multiple regression analysis showed that the variables autonomy, relatedness and competence on the platform explained 46% of the variance in online knowledge sharing behaviour ($F(3, 256) = 74.70, p < .001$). Perceived competence on the online platform was shown to be a significant predictor of online knowledge sharing behaviour ($\beta = .61, p < .001$). Autonomy on the platform was a marginally significant predictor ($\beta = .11, p = .058$), but relatedness was not ($\beta = -.01, p = .923$). Thus, hypothesis 1 is partly confirmed: only ‘feelings of competence in sharing knowledge online’ was related to the intensity of online knowledge sharing behaviour². Results are presented in Table 2.

Table 2. Multiple Regression Results for the influence of need satisfaction on the online platform on online knowledge sharing behaviour (N= 260)

Predictors	<i>b</i> (<i>SE</i>)	β	<i>p</i>
Autonomy on the platform	.14 (.09)	.11	.058
Relatedness on the platform	-.01 (.10)	-.01	.923
Competence on the platform	.82 (.08)	.61	<.001
<i>F</i>	74.70		<.001
<i>R</i>²	.47		
Adjusted <i>R</i>²	.46		

² Since feelings of autonomy, relatedness and competence on the platform were significantly correlated according the correlation matrix (Table 1), multicollinearity tests were performed. Autonomy (VIF=2.57), relatedness (VIF=2.18) and competence (VIF=1.76) on the platform as predictors for online knowledge sharing behaviour showed no multicollinearity symptoms.

3.2. Online Knowledge Sharing Behaviour and Need Satisfaction at Work

According to hypothesis 2 there should be a positive relationship between online knowledge sharing behaviour and the feeling that the platform facilitates autonomy, relatedness and competence at work. A first simple regression analysis showed that the variable online knowledge sharing behaviour explained 11% of the variance in autonomy at work ($F(1, 258) = 33.49, p < .001$), as hypothesized a positive relationship was found ($\beta = .34, p < .001$). A second simple regression analysis showed that online knowledge sharing behaviour explained 9% of the variance in competence at work ($F(1, 258) = 44.18, p < .001$), again a positive relation was found ($\beta = .31, p < .001$). The third simple regression analysis showed that relatedness at work was also predicted by online knowledge sharing behaviour ($\beta = .38, p < .001$) and explained 14% of the variance ($F(1, 258) = 27.78, p < .001$). Results are displayed in Table 3. Hence, hypothesis 2 can be confirmed.

Table 3. Simple Regression Results for the Influence of online knowledge sharing behaviour (KSB) on the three perceived sdt needs at work (N= 260)

Predictor	Dependent Variable	<i>b</i> (SE)	β	<i>p</i>	<i>F</i>	<i>p</i>	<i>R</i> ²	Adj. <i>R</i> ²
Online KSB	Autonomy at work	.26 (.05)	.34	<.001	33.49	<.001	.12	.11
	Relatedness at work	.24 (.05)	.31	<.001	27.78	<.001	.10	.09
	Competence at work	.29 (.04)	.38	<.001	44.18	<.001	.15	.14

3.3. Online Knowledge Sharing Behaviour, Need Satisfaction at Work and Job Satisfaction

Since online knowledge sharing behaviour was a positive predictor for the experience of autonomy, relatedness and competence at work (hypothesis 2), and previous studies have shown that need satisfaction at work is related to well-being at work (e.g. Gagné, Deci, 2005; Baard et al., 2004, Van den Broeck et al., 2008; hypothesis 3), it was expected that the

relationship between knowledge sharing behaviour and job satisfaction is mediated by need satisfaction at work (hypothesis 4).

A multiple regression analysis showed that autonomy, relatedness and competence at work facilitated by the online platform explained 4% of the variance in job satisfaction ($F(3, 256) = 4.90, p=.002$). Only competence at work was positively related to job satisfaction ($\beta = .29, p = .018$). Relatedness and autonomy at work showed no significant relationship (see Table 4)³. Based on these results, hypothesis 3 can be partly confirmed; only competence at work facilitated by the platform was related to job satisfaction.

Table 4. Multiple Regression Results for the influence of need satisfaction at work (due to the platform) on job satisfaction (N= 260)

Predictors	<i>b</i> (<i>SE</i>)	β	<i>p</i>
Autonomy at work	.06 (.10)	.07	.572
Relatedness at work	-.14 (.10)	-.16	.146
Competence at work	.25 (.11)	.29	.018
<i>F</i>	4.90		.002
<i>R</i>²	.05		
Adjusted <i>R</i>²	.04		

Because only competence at work showed a significant relationship with job satisfaction, we examined if competence at work mediated the effect of online knowledge sharing behaviour on job satisfaction (see Baron, Kenney, 1986). Results partly confirmed hypothesis 4. The relationship between online knowledge sharing behaviour and job satisfaction was partially mediated by competence at work, $F(2, 257)=11.39, p<.001$, adjusted $R^2 = .074$. As can be seen in Figure 1, online knowledge sharing behaviour was positively related to the extent to which

³ Since the 'need satisfaction at work' variables correlated (see correlation matrix), multicollinearity tests were performed. Autonomy (VIF=3.64), relatedness (VIF=3.24) and competence (VIF=3.98) at work as predictors for job satisfaction showed no multicollinearity symptoms.

the platform increased competence at work, which was, in turn, positively related to job satisfaction. The effect of online knowledge sharing behaviour on job satisfaction became less strong after including competence at work in the model. The indirect effect of online knowledge sharing behaviour on job satisfaction was significant using the bootstrap procedure (5000 resamples; Preacher, Hayes, 2008). The 95% confidence interval ranged from 0.005 to 0.075, which excluded the value zero.



Figure 1. Mediating effect of Competence at work on the relationship between Online knowledge sharing behaviour and Job satisfaction (* $p < .05$). The value in parentheses is the effect of Online knowledge sharing behaviour on Job satisfaction when competence is included in the model.

4. Conclusion & Discussion

4.1. Conclusion

The aim of the current study was to extend previous research on the use of internal social media, implemented to stimulate online knowledge sharing within organizations. To look at both motivations and consequences of online knowledge sharing behaviour, this study relied

on the Self-Determination Theory (Deci, Ryan, 1985): a well-established macro theory that concerns intrinsic motivation and well-being, but which is hardly applied in the context of online knowledge sharing platforms.

Findings showed that when users felt competent in sharing knowledge online, they also shared more knowledge on the online platform. Feelings of autonomy and relatedness were not related to online knowledge sharing behaviour (hypotheses 1). To explain potential well-being consequences of online participation, we asked employees if the online platform made them feel more competent, autonomous, and related *at work*. Results showed that the more employees actively participated on the platform, the more they felt the platform made them feel competent, autonomous and related at work (hypothesis 2). Furthermore, we investigated if employees who felt that the platform made them more competent, autonomous and related at work were also more satisfied with their job (hypothesis 3). Only feelings of competence at work were related to job satisfaction. Relatedness and autonomy at work were not. Furthermore, the results showed that competence at work mediated the relationship between online knowledge sharing behaviour and job satisfaction (hypothesis 4).

4.2. Discussion

To our knowledge this is the first study that used the SDT to explain both motivations and potential well-being consequences among employees using internal social media to stimulate knowledge sharing. This study showed that especially feelings of competence are of importance: when employees felt competent in using the platform, they also shared their knowledge more actively online, and when they felt that the platform made them more competent in performing their job, they also reported higher levels of job satisfaction. The importance of competence, i.e., self-efficacy, in using the platform is in line with previous research: it has been identified as an important factor for off- and online knowledge sharing behaviour before (Hsu et al., 2007; Lin, Huang, 2008; Yoon, Rolland, 2012). In the current study, feelings of autonomy and relatedness on the platform were not associated with online knowledge sharing behaviour (although autonomy was a marginally significant predictor). However, in a previous study on virtual communities (i.e., platforms outside the organizational context; Yoon, Rolland, 2012) both competence and relatedness were related to online knowledge

sharing behaviour. The more users felt competent in using the platform and related to other (anonymous) users, the more they shared their knowledge online.

An explanation for the absence of feelings of relatedness and autonomy on the platform as significant predictors for online knowledge sharing behaviour is the context: the current study concerns an online platform that is set-up *within an organization*. Consequently, many users might know each other already offline since they are colleagues, and therefore the minimum required level of trust to share knowledge is already present. This is something that is less obvious in online communities with anonymous users. Furthermore, feelings of autonomy in how to use the platform might be less important for a platform set-up within an organization. The working context is a less autonomous setting compared to the Internet providing online communities that one can visit purely out of personal interest. Within organizations, participation might be stimulated by managers and other co-workers. As a result, employees may accept more easily that participating on this online platform is part of their work routine, something that is simply 'part of the job' and therefore needs to be done.

In terms of potential consequences, the current study showed that sharing knowledge on the online platform enhanced feelings of competence, relatedness and autonomy *at work*, but that only competence at work was also related to job satisfaction. Thus online platforms seem to have the potential to empower employees in several ways, but especially feelings of competence seem important for job satisfaction. In other words, if employees feel capable in using new technologies to share knowledge with colleagues, this might enhance their work experience in terms of feeling competent in performing their job, and job satisfaction. Hence, these online tools seem to have the capability of facilitating the process of learning from others, which is very useful for the individual employee and the organization as a whole. However, this finding also hints to a negative outcome; what if the employee is less capable in coping with new online communication tools? Recent research also taps into this issue under the label of 'techno-stress', i.e., stress caused by the use of ICT (Tarafdar, Tu, Ragu-Nathan, 2011). Some employees experience stress when they try to cope with and adapt to new technologies, which might be applicable to social technologies as well. Thus future studies should pay more attention to both the positive and negative consequences of new communication technologies.

An important limitation of the current study is its cross-sectional design. Although many studies in the field of online knowledge sharing are based on cross-sectional surveys, we should be careful in drawing causal conclusions from this data. For example, in the current study it might also be possible that job satisfaction predicts online knowledge sharing behaviour. Hence, in future studies it would be interesting to use a longitudinal or quasi-experimental design, and to look at non-users as well, especially when they have access to platforms but decide not to participate.

4.3. Implications for Management

For managers these results would imply that social media platforms are worthwhile to consider. They have the potential to stimulate knowledge sharing among employees, and improve employees' feelings of competence, relatedness and autonomy, which are important indicators for work motivation and performance (e.g. Gagné, Deci, 2005; Van den Broeck et al., 2008). However, the process of implementing a social media platform needs to be nurtured. Without a good strategy, it is unlikely that there will be enough employees that participate, which means that the online platform immediately loses its value. Furthermore, management should guide employees who have difficulties coping with new technologies, and make sure that those individuals will not lag behind and feel excluded.

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Appendix

Scale items

Need satisfaction on the platform (Yoon, Rolland, 2012)

Autonomy using the online platform:

1. I feel pressured on [platform] (reversed). (Dropped).
2. I am free to express my ideas and opinions on [platform].
3. I feel like I can pretty much be myself on [platform].

Relatedness using the online platform:

1. I really like the members of [platform].
2. The members of [platform] care about me.
3. The members of [platform] are pretty friendly towards me.
4. I feel a lot of closeness and intimacy on [platform].

Competence using the online platform:

1. I have been able to provide useful knowledge on [platform].
2. Most days I feel a sense of accomplishment when using [platform].
3. I feel like a competent person when I participate in [platform].
4. I frequently feel like a very capable member of [platform].

Online knowledge sharing behaviour (Yoon, Rolland, 2012):

1. I frequently participate in knowledge-sharing activities on [platform].
2. When participating in [platform], I usually actively share my knowledge with others.
3. When discussing a complicated issue on [platform], I am usually involved in the subsequent interactions.
4. On [platform], I usually involve myself in discussions of various topics rather than specific topics.

Need satisfaction at work due to platform (based on Deci, Ryan, 2001; Van den Broeck, et al., 2010)

Autonomy at work due to the platform:

1. Due to [platform] I have more input in how my job gets done
2. Because I use [platform] I am freer in expressing my ideas and opinions on the job
3. Due to [platform] I feel like I can be more myself at work

Relatedness at work due to the platform:

1. Because I use [platform] I like the people I work with better than before
2. Because I use [platform] colleagues are friendly to me
3. Because I use [platform] I am connected with more colleagues than before
4. Due to [platform] I get along better with people at work

Competence at work due to the platform:

1. Because I am using [platform] more people at work tell me I am good at what I do
2. Due to [platform] I have been able to learn interesting new skills on my job
3. By using [platform] I can perform my job better and faster

Job satisfaction (Brayfield, Rothe, 1951 in Curry et al., 1986):

1. I find real enjoyment in my job.
2. I like my job better than the average worker does.
3. I am seldom bored with my job.
4. I would not consider taking another job.
5. Most days I am enthusiastic about my job.
6. I feel fairly well satisfied with my job.



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