Employees may have the company at heart – But do they understand the ramifications of social media use?

Abstract

Cases of employees' imprudent social media use appear to be on the rise. This paper describes the first steps in the multi-country validation of the employees' company reputation-related social media competence (RSMC) scale. The RSMC scale contains five dimensions: technical competence, visibility awareness competence, knowledge competence, impact assessment competence, and social media communication competence. The present research assesses an abbreviated version of the RSMC scale, using data from three countries—Germany, China, and the U.S.—as part of a wider research project into the cross-cultural generalizability of the RSMC scale. Preliminary findings suggest that the RSMC short scale is valid in all three national contexts and achieves partial metric invariance. The discussion includes tentative implications, both for managers and research.

Keywords: Cross-cultural, employees' company reputation-related social media competence, scale validation

Introduction

Social networks are now well established in most developed and many developing countries (Statista 2016). Social media are commonly used to advertise jobs or vet job candidates (Felix et al. 2017; Van Iddekinge et al. 2016). Companies may also use their employees' to disseminate corporate messages and brand information into the marketplace (Hansen and Levin 2016). However, social media can also pose a risk to companies because of employees' social media-related missteps. Whatever an employee posts on social media is in the public domain, where it can cause legal and reputational damage to the company. A case in point is the ESPN analyst who in 2016 was fired over a shared Facebook post that mocked transgender people (Sandomir 2016). As social media use continues to grow, a concomitant increase of cases of employees' imprudent social media use can be witnessed (Johnston 2015; Lyons et al. 2016). Therefore, companies need to identify employees who lack company reputation–related social media competence. Once identified, HR managers can target those employees with appropriate training to ferret out behaviour that contradicts company guidelines and communication strategies.

To address this employee phenomenon, Walsh, Schaarschmidt and von Kortzfleisch (2016) introduced a new measurement scale: employees' company reputation-related social media competence (RSMC), defined as an employee's explicit and tacit knowledge, skills, and behaviour that give him or her the ability to use social media in ways that do not harm the employer's reputation. The RSMC construct is likely to garner interest among practitioners and researchers, however, the original development took largely place in a German context¹, which might differ from other western and eastern contexts with regard to how employees use social media and their attitudes toward their employer (Hill 1998; Ziefle et al. 2015). For example, compared to their U.S. counterparts, Chinese users spend less time on social media, perceive them to be less important, and have fewer social media friends (Jackson and Wang 2013). Moreover, the original 21-item scale is relatively lengthy which might prevent it from being adopted widely. There appears to be implicit consensus in the diverse literature advocating short scales that scales with more than 20 items may be too long (e.g., Eastman et al. 1999). Given cross-cultural difference in social media use and employee attitudes and behaviour, as well as scale's current length, scholars might be reluctant to adopt the scale to measure RSMC in other countries. The IT and IS fields thus need a thorough re-examination of the scale and its measurement properties in other cultural contexts.

This investigation of the RSMC scale contributes to the pertinent literature by assessing the robustness and generalizability of the RSMC short scale in three countries using data collected from employees. In doing so, the authors attempt to heed the call by Walsh et al. (2016) for replication studies in other individualistic countries and exploration of RSMC in more collectivistic countries. Thus, the researchers report on an assessment of the RSMC scale in three countries—Germany, China, and the United States. The present study will be followed by additional validations in other countries. Moreover, scholars across disciplines advocate the use of shorter scales with non-redundant content that are as valid as those that contain more items (Ponzi et al. 2011; Walsh et al. 2009). In line with this call, the authors aim to develop and validate a shorter version (RSMC-Short) of the 21-item RSMC scale that exhibits good psychometric properties. Shorter scales are often preferred for practical reasons; they are especially useful when the response burden needs to be kept reasonable. Using data collected in three countries, this research proposes and cross-culturally assesses the 15-item RSMC short scale.

¹ The main scale refinement (n=360; Study 1) and scale validation (n=314; Study 2) efforts were based on German data.

This study has potential importance, both practically and conceptually. Practically, a valid RSMC measure that is short enough to be used in surveys could be more useful to practitioners and may enable researchers to use public opinion polls as a data source for empirical investigations of employee RSMC. Conceptually, demonstrating the applicability of the RSMC scale to different countries might prompt further research into the employee RSMC construct and its correlates.

Research Background

Employees' company reputation-related social media competence

Employees use social media for personal or organizational purposes, which might harm a company's reputation, whether deliberately or accidently. We investigate social media competence in relation to company reputation; deliberate attempts to damage the employer's reputation are not the focus of this study (cf. Bordia et al. 2008; Hennig-Thurau et al. 2004). Instead, employees' social media competence, or lack thereof, pertains to behaviours that might shape the way the public perceives the organization. These uses can support marketing activities and be associated with advantages for the employer (Weinberg et al. 2013). Employees also might defend the company against external criticism (Cravens and Oliver 2006). However, inconsiderate or incompetent social media use may have negative reputational consequences (Ivens and Schaarschmidt 2015) which are especially problematic because of reputation's effect on key monetary and non-monetary performance outcomes (Walsh et al. 2014). Examples such as the following offer evidence for the notion that employees' social media uses can hurt their employer's reputation and bottom line.

Walsh et al. (2016) elucidate that an individual competence represents a combination of knowledge, attitude, and skill. For example, Internet competence refers to the "capacity to respond pragmatically and intuitively to challenges and opportunities in a manner that exploits the Internet's potential" (DiMaggio and Hargittai 2001, p. 10). Similarly, Draganidis and Mentzas (2006, p. 53) define competence in information and communication technology settings, as "a combination of tacit and explicit knowledge, behaviour and skills, that gives someone the potential for effectiveness in task performance". Accordingly, Walsh et al. (2016, p. 47) define "employees' RSMC as "an individual-level characteristic, related to each employee's use of social media, which does not vary in the short term and may affect the company's reputation".

Walsh et al. (2016) conceptualize RSMC as a reflective first-order, formative second-order construct (Jarvis et al. 2003). Thus, exogenous interventions that change any or all of its dimensions should be detectable in their indicators. In other words, causality flows from the latent constructs to the indicators. To measure overall RSMC though, the first-order RSMC dimensions can be represented as a formative second-order construct, such that causality flows from the five dimensions to the overall RSMC construct.

The multidimensional RSMC measure offers insights into individual differences in employee RSMC. Such insight can assist organizations in directing reputation-protecting initiatives at appropriate employees or groups of employees. However, the original scale is relatively long and, thus far, no study has applied the RSMC scale cross-culturally. Its length and the lack of existing information about the cross-cultural generalizability of the RSMC scale may make HR managers and scholars reluctant to use the scale. Therefore, demonstrating cross-cultural generalizability is necessary, not least because it is an important test of a construct's viability.

The RSMC scale

Walsh et al. (2016) conducted a qualitative and four quantitative studies to examine the nature of RSMC and identify behavioural correlates. The first study relied on qualitative explorations and confirmed the five RSMC dimensions derived from literature (i.e., technical competence, visibility awareness competence, knowledge competence, impact assessment competence, and social media communication competence). Using depth interviews (n=30 full-time employees), these authors probed informants about their social media use in general, and in relation to their employer. The insights from the interviews converged with the five literature-derived construct dimensions. Building on the results of their qualitative studies, Walsh et al. (2016) developed a 21-item, five-dimensional RSMC scale and quantitatively validated their scale using a sample of 360 employees and exploratory factor analysis (Study 1). All five RSMC dimensions achieved Cronbach alpha reliabilities of .81 to .91 and composite reliabilities from .85 to .91, demonstrating good internal consistency. In their confirmatory factor analysis (CFA) on the 21 RSMC items, the factor loadings for the RSMC items ranged from .60 to .93. These results strongly indicate that the 21-item RSMC scale measured a five-dimensional, internally consistent construct.

The RSMC scale was further validates based on a sample of 314 employees (Study 2). A CFA yielded factor loadings ranging from .52 to .93 and composite reliabilities from .81 to .93 and thus confirmed the robustness of the 5-dimensional construct. Nomological validity was established by relating RSMC to two antecedents (job resources, job demands) and two outcomes (bad mouthing, positive word of mouth).

Studies 3 (n=168) and 4 (n=72) were based on employee samples and aimed to establish testretest reliability and ecological validity, respectively. Because there is a trade-off between the reduction in item numbers (and the concomitant reduction in survey completion time) and reductions in validity (Smith et al. 2000), it is important to consider different criteria and conduct different assessments whenever a scale's number of items is reduced. Following convention in the literature (e.g., Walsh et al. 2009), the present study assesses the RSMC short scale's dimensionality, reliability, and cross-cultural invariance.

Method

Sample and measures

The online questionnaire in Germany, China, and the U.S. comprised the 15 highest-loading RSMC items from Walsh et al. (2016). Following the original scale-development effort, the questionnaires also contained items for measuring two presumed correlates—bad mouthing and positive word of mouth. Items were anchored on seven-point Likert scales (1 = "strongly disagree" and 7 = "strongly agree"). To ensure the equivalence of the RSMC scale, a translation/back-translation approach, with bilingual native Chinese and English speakers (Van Auken et al. 2006) was employed for all scales used.

The German data was provided by Walsh et al. (2016), who used it in their Study 2. In China, two independent translators were used to translate the English questionnaire to its Chinese equivalent. For the purpose of ensuring face and content validity, six in depth interviews, with three marketing professors and three consumers, were conducted in China. Following this, a pre-test was conducted with a sample size of thirty participants. Upon completion, participants provided useful feedback on the overall design and wording of the questionnaire, which was then refined and finalized based on the results and feedback. Data were collected online via Survey Star in Chinese. Participants who completed the survey were paid for their participation. In total, 200 usable responses were obtained. In the U.S., participants were

recruited for a study from Amazon Mechanical Turk (MTurk), an online pool of workers who complete crowd-sourced tasks for business and scholarly purposes. Participation was restricted to individuals who had a high approval rate on MTurk (> 95% approval on at least 100 tasks). Participants were first asked generally about their job and social media use, and were advised that subsequent questions would be asked in relation to their social media. Table 1 provides descriptions of the three samples.

Measurement assessment

The authors adopted Walsh et al.'s (2016) five-dimensional conceptualization of RSMC. This conceptualization involves an employee's technical competence, visibility awareness competence, knowledge competence, impact assessment competence, and social media communication competence in relation to using social media. To assess bad mouthing, the authors used two items adopted from Wilkerson et al. (2008). Word of mouth was measured with six items taken from Goyette et al. (2010). To assess the 15-item, five-dimensional RSMC short scale, the 15 highest-loading items from Walsh et al. (2016) were selected. Specifically, those items that loaded highest across their Study 1 and Study 2 samples were selected for the present study.

To detect potential differences in the RSMC structure and assess the structure within each country sample, three separate CFAs were conducted. The measurement models were evaluated in AMOS 23; all three model fits were satisfactory according to the usual conventions, with $\chi 2/df = 0.95$, GFI=.97, CFI = 0.99, TLI=.95, RMSEA=.000, SRMR =.027 (Germany), $\chi 2/df = 1.44$, GFI=.93, CFI =.96, TLI=.95, RMSEA=.047, SRMR =.055 (China), and $\chi 2/df = 1.47$, GFI=.96, CFI =.99, TLI=.98, RMSEA=.049, SRMR =.029 for the U.S. sample. On average, factor loadings (and composite reliabilities) are slightly lower for the Chinese than the German and U.S. samples (Table 1).

			Germany $n = 314$	China n = 200	U.S. n = 456
Fac	etor 1: Te	echnical Competence	CR=.93	CR=.73	CR=.82
1	TC1	I find it easy to understand the technical side of my profile settings.	.94	.65	.80
2	TC2	I find it easy to find my way around in social media.	.91	.62	.72
3	TC3	I find it easy to change my profile settings in social media.	.85	.79	.81
Fac	etor 2: Vi	sibility Awareness Competence	CR=.82	CR=.78	CR=.76
4	VAC1	I am conscious of the fact that my public comments in social media are read by people I do not know.	.72	.80	.69
5	VAC2	I know that a great number of people can follow my activities in social media.	.87	.63	.80
6	VAC3	I know that my profile is visible to people I do not know.	.74	.78	.66
Fac	etor 3: Ki	nowledge Competence	CR=.84	CR=.65	CR=.85
7	KC1	I only comment on subject-specific contributions of other users when I am well versed in the subject area.	.84	.82	.88
8	KC2	I only participate in discussions on social media when I have knowledge of the subject area.	.78	.65	.81
9	KC3	I only make a counter argument in a discussion on social media when I know my argument is correct.	.77	.36	.73
Fac	ctor 4: In	npact Assessment Competence	CR=.87	CR=.85	CR=.91
10	IAC1	I think in advance of how my comments or posts might affect other users' thoughts and emotions.	.70	.74	.89
11	IAC2	I give thought to how other people might take to my contributions and comments.	.90	.83	.87
12	IAC3	Before I write something in social media, I consider how other people might perceive my contribution.	.88	.84	.85

Table 1. Short scale CFA factor loadings and descriptive statistics for three samples

			Germany $n = 314$	China n = 200	U.S. n = 456
Fac	tor 5: So	cial Media Communication Competence	CR=.82	CR=.68	CR=.74
13	SMC1	I respond to impolite and insulting messages with courtesy and respect.	.81	.62	.73
14	SMC2	A pleasant conversational tone is important to me when communicating in social media with other users.	.81	.71	.81
15	SMC3	It is important to me that my contributions, comments or posts do not	.70	.62	.53
		attack anybody personally.			

To rule out the possibility that the CFAs obscure the true factor structure in China and the U.S., two separate exploratory factor analyses (EFA) were performed (e.g., Anderson et al. 2010). Beginning with the Chinese data, an EFA on the 15 scale items resulted in a five-factor solution that accounted for 67% of the variance. The global measure of sampling adequacy is reasonably high (KMO = 0.77). Reliabilities of the five construct dimensions range from .64 to .84, indicating sound reliability (Table 2).

The EFA on the U.S. sample also produced a five-factor solution that accounted for 75% of the variance, with a high KMO value of 0.84. The Cronbach alphas of the five construct dimensions range from .64 to .90, indicating reliability. What is noticeable is that the five RSMC sub-scales perform slightly better in terms of reliability in the U.S. than China although one item in the U.S. sample (SMC2) has a low loading.

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			China n = 200	U.S. n = 456
Fac	etor 1: Te	chnical Competence	<i>α</i> =.73	<i>α</i> =.82
1	TC1	I find it easy to understand the technical side of my profile settings.	.79	.85
2	TC2	I find it easy to find my way around in social media.	.77	.82
3	TC3	I find it easy to change my profile settings in social media.	.76	.85
Fac	tor 2: Vi	sibility Awareness Competence	α=.78	<i>α</i> =.76
6	VAC1	I am conscious of the fact that my public comments in social media are read by people I do not know.	.87	.77
7	VAC2	I know that a great number of people can follow my activities in social media.	.79	.80
8	VAC3	I know that my profile is visible to people I do not know.	.72	.82
Fac	etor 3: Kr	nowledge Competence	a=.64	a=.85
10	KC1	I only comment on subject-specific contributions of other users when I am well versed in the subject area.	.89	.86
11	KC2	I only participate in discussions on social media when I have knowledge of the subject area.	.72	.85
12	KC3	I only make a counter argument in a discussion on social media when I know my argument is correct.	.56	.84
Fac	tor 4: Im	ppact Assessment Competence	<i>α</i> =.84	<i>α</i> =.90
14	IAC1	Before I write something in social media I try to picture possible consequences.	.87	.87
15	IAC2	I think in advance of how my comments or posts might affect other users' thoughts and emotions.	.79	.88
16	IAC3	I give thought to how other people might take to my contributions and comments.	.72	.86
Fac	etor 5: So	cial Media Communication Competence	<i>α</i> =.65	<i>α</i> =. <i>64</i>
18	SMC1	I respond to impolite and insulting messages with courtesy and respect.	.78	.86
19	SMC2	A pleasant conversational tone is important to me when communicating in social media with other users.	.75	.47
20	SMC3	It is important to me that my contributions, comments or posts do not attack anybody personally.	.58	.64

Table 2. Short scale EFA factor	loadings and descriptiv	e statistics for Chinese,	and U.S. sample

Invariance assessment

The cross-cultural management literature suggests applying additional tests of measurement invariance to assess the full range of a scale's applicability in different countries (Steenkamp and Baumgartner 1998). Typically, researchers test for configural, metric, and scalar invariance. First, configural invariance is given by comparable factor structures for all three data sets and appropriate results of a multigroup CFA ($\chi 2/df = 1.326$, GFI = .96, CFI = .99, TLI = .98, RMSEA = .018, SRMR = .269; Table 3, Model A). As full invariance across all three countries is comparably unlikely, a pairwise assessment of metric invariance, that is, comparing the original German data on RSMC with both Chinese and U.S. data, is an appropriate alternative.

To test for metric invariance, a baseline model for German and Chinese data (Model B1), and German and U.S. data (Model C1), respectively, act as comparison models for χ^2 -difference tests. Both two-group models reveal a good fit with the data, thus again supporting the configural invariance. In a next step, a fully constrained model should function as the comparison model (Walsh et al. 2009). 'Fully' usually relates to equal factor loadings, variances, covariances, and error covariances. Fully refers to equal factor loadings only, which is appropriate when no high correlations among error terms and covariances are observable, which is the case here. Thus, in models B2 and C2 only factor loadings are constrained for each of the five RSMC dimensions.² For the comparison between German and Chines data, no equality can be supported ($\Delta \chi 2(10) = 58.1$, p < .001). When full metric invariance cannot be achieved, partial metric invariance is an accepted alternative indicator for cross-cultural scale reliability (Walsh et al. 2009), especially as full metric invariance is an ideal that is seldom achieved (Steenkamp and Baumgartner 1998). After relaxing six items, a non-significant χ^2 -difference test indicates partial metric invariance ($\Delta \chi^2(4) = 2.74$, p = .60). For the comparison between German and U.S. data, again, full metric invariance (according to factor loadings only), could also not be established ($\Delta \chi 2(10) = 20.33$, p < .001, Model C2 compared to Model C1). Again, after relaxing four items (one item per dimension except technical competence), partial metric invariance could be observed ($\Delta \chi 2(6) = 8.18$, p =.23, Model C3 compared to Model C1). In cases of non-established full metric invariance, tests of scalar invariance may be omitted (Steenkamp and Baumgartner 1998). In sum, partial metric invariance was supported pairwise for Chines and U.S. data.

	Model χ^2 (<i>df</i>)	$\Delta \chi^2$ (Δdf)	χ^2/df	RMSEA	CFI	GFI	Equality supported
(A) Baseline multigroup modelwith German, Chinese, and U.S.data(Configural invariance)	318.20 (240)	-	1.326	.018	.99	.96	-
(B1) Configural invariance (German and Chinese data)	190.88 (160)	-	1.193	.019	.99	.95	-
(B2) Initial full metric Invariance (German and Chinese data)	248.98 (170)	58.10 (10)	1.465	.030	.98	.94	No
(B3) Partial metric invariance (German and Chinese data)	193.62 (164)	2.74 (4)	1.18	.019	.99	.95	Yes
(C1) Configural invariance (German and U.S. data)	230.25 (160)	-	1.270	.019	.99	.97	-

 Table 3. Cross-cultural measurement invariance

² AMOS requires that one indicator per construct is constrained to '1' for technical reasons. Thus, compared to LISREL, the overall number of degrees of freedom is lower.

	Model χ^2 (<i>df</i>)	$\Delta \chi^2$ (Δdf)	χ^2/df	RMSEA	CFI	GFI	Equality supported
(C2) Initial full metric invariance (German and U.S. data)	250.58 (170)	20.33 (10)	1.474	.025	.99	.96	No
(C3) Partial metric invariance (German and U.S. data)	238.43 (166)	8.18 (6)	1.436	.024	.99	.96	Yes

Discussion

Although the RSMC short scale appears to be a reliable and valid measure that has the potential to be widely used to assess employees' social media-related competence, the length of the original RSMC scale may be problematic in some research applications. This study aimed to take the first steps in testing the reliability and validity of the RSMC short scale in different cultural contexts. We provide broad support for the RSMC short scale as a viable scale for use in measuring employees' competence in relation to their social media use, with indications of the generality of most of the scale items in the three countries studied—Germany, China, and the U.S. Overall, findings suggest that the RSMC short scale has construct validity and the potential to be used across international employee populations.

The reassessment of the RSMC short scale in two new countries focuses on testing shortened versions. A shorter scale has several advantages and may therefore boost the RSMC short scale's dissemination. For example, a briefer RSMC scale takes less space on questionnaires, allowing businesses and researchers to include additional constructs in the questionnaire. Also, in studies in which RSMC is not the primary construct of interest, researchers are likely to forego measurement of RSMC to keep the questionnaire at a reasonable length and avoid sub-optimal response rates. A shorter scale overcomes these limitations.

However, further validations are necessary before generalizability across individualistic and collectivistic countries can be assumed. The authors intend to conduct additional studies that include other countries to permit a further generalization of the RSMC construct. Such studies may take into account that work environments differ across countries and may affect employees' compliance with organizational norms and behaviour.

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