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Article

# Enterprise Social Media Adoption: Its Impact on Social Capital in Work and Job Satisfaction

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**Abstract:** Enterprise social media is increasingly being recognized as an important technical tool to achieve more effective management and sustainable development. Limited research has been conducted on workplace satisfaction in the enterprise social media context. To fill this gap, we propose a research model explaining how employees' usage of enterprise social media influences job satisfaction from the social capital perspective. Through a survey of 509 respondents, we conceptualize the constructs of enterprise social media use (i.e., work-related use and social-related use), social capital (i.e., bridging social capital and bonding social capital), and job satisfaction. We empirically validate the proposed model. The results largely support the proposed hypotheses. Firstly, both work-related use and social-related use positively impact bridging and bonding social capital. Secondly, bridging and bonding social capital play different roles in job satisfaction. Bonding social capital promotes job satisfaction, while bridging social capital inhibits job satisfaction. Thirdly, work-related use accumulates more bridging social capital, while social-related use is more conducive to the establishment of bonding social capital. Finally, some theoretical and practical implications are discussed.

**Keywords:** enterprise social media; social capital; work-related use; social-related use; job satisfaction

## 1. Introduction

Enterprise social media (ESM) refers to the use of social networks by organizations that enable work-related collaboration and form online communities [1]. The topic of online social network usage in the workplace is high on the agenda for many organizations [2,3]. A global survey about social media use in the workplace revealed that 36% of employers block social media at work [4]. While there is some cautionary information about the negative effect of using online social networks at work on productivity [5], more companies have realized that there are benefits [6,7], such as promoting organizational communication, strengthening knowledge management, and enhancing innovation capability [8].

The rise of ESM adoption has gained significant momentum. The potential benefits of ESM can be seen as ways to establish and manage social networks in novel ways, and enable accessibility to digital content and ties [9]. With the increasing promotion and in-depth application of ESM, the research into ESM has also attracted the attention of many scholars. Previous studies in this area have been more interested in ESM economic values, such as accessing information, acquiring resources, and improving job performance [10–12].

In addition to those direct benefits, it is worth noting that stable human capital is particularly important for the sustainable development of enterprises in hyper-competition [13,14]. Previous studies have shown that stable human capital is largely related to employees' job satisfaction [15]. Nowadays, with increasing social needs, employees' subjective satisfaction is closely associated with the intra-organization social support they obtain. ESM makes this easier through the functions of communicating, sharing, and collaborating in a variety of formats and communities. Therefore, it is meaningful to explore the relationship between ESM use and employees' job satisfaction. However, there is a lack of empirical research exploring the extent to which specific users, in this case employees, can gain subjective improvement in job satisfaction through the use of an ESM system, and this gap has not yet been addressed.

Previous studies have suggested that workplace social capital has been found to be an important antecedent of employees' subjective job satisfaction by acting as an instrument for organizations and employees to create value through access to social capital [16]. Therefore, drawing on the social capital perspective, this study aims to better display the impact of ESM usage on employees' job satisfaction with the mediation of workplace social capital, and fully explore the different working approaches of usage patterns. In addition, this study also puts forward some suggestions on how to accumulate social capital and improve job satisfaction through ESM usage, since stable human resources and sustainable social capital are important antecedents for the sustainable development of enterprises.

In the following sections, we review the literature on ESM use, social capital, and job satisfaction, and then propose six hypotheses. Discussion of results and findings, conclusion of contributions, and implications of the current study are provided in later sections.

## 2. Literature Review

### 2.1. Enterprise Social Media Use

Enterprise social media, also referred to as enterprise social software or enterprise 2.0 systems, is a form of computer-mediated tool that allows users to communicate, share, and collaborate in a variety of formats and communities [3]. It is an online platform that users, with uniquely identifiable profiles, can use to generate viewable and traversable content [17]. Further, users within the platform can consume, produce, or interact with this user-generated content. A number of articles have suggested companies could gain business value through the use of social media [9]. The ESM system shares similar features (i.e., an articulate list of connection) with public or commercial social media (such as Facebook<sup>TM</sup> (Facebook, Menlo Park, CA, USA)), but there are also some key differences, including the users, users' behavior, design, and goals.

Initially, ESM was designed for interactions among individuals, teams, and other units (based on the organizational structure), and users were influenced by organizational guidelines or norms. Therefore, employees could be encouraged or forced to use the network for work-related activities, such as knowledge sharing and information access. Thus, ESM can be viewed as an integrated platform that allows employees to: (1) communicate messages with specific co-workers or broadcast messages to everyone in the organization; (2) explicitly indicate or implicitly reveal particular co-workers as communication partners; (3) post, edit, and sort text and files linked to themselves or others; and (4) view the messages, connections, text, and files communicated, posted, edited, and sorted by anyone else in the organization at any time of their choosing [18].

It is worth noting that ESM is a social media embedded intra-organization, and is also an office system with nested social elements that affords employees a range of uses that are not simply focused on work, but also on socialization. ESM use can be divided into work-related use and social-related use [5]. Work-related use refers to the extent to which employees use ESM for utilitarian working purpose (i.e., posting an update on a project or exchanging information about organizational objectives), and employees' work-related activities may positively influence their task execution and performance [19]. Social-related use refers to the extent to which employees use ESM to establish

and maintain relationships with others (i.e., setting up a social event or making friends within the organization) [20]. Employees' social-related activities have positive spillovers for work-related use [21]. A few studies have recently explored the relationship between ESM use and outcomes. These previous studies have suggested that social media use in an organization can enhance access to information [6], help construct workplace social capital [22], optimize knowledge management processes [23], and promote job performance [24]. Until recently, more attention has been paid to the impact of usage patterns on outcomes (e.g., information access in organizations [6], and job performance [24]). Few studies have paid attention to the impact of enterprises' social capital on human resources, which is thought to be an important antecedent for the sustainable development of enterprises. Therefore, we propose that ESM may play a role not only in objective work benefits, but may also have an important effect on employees' workplace social capital or job satisfaction. More importantly, the influence may be related to employees' usage patterns (i.e., work-related use and social-related use).

## 2.2. Social Capital Theory

To a large extent, ESM provides users with the function of interacting with each other; it is a tool to support people in the formation and maintenance of social relationships [25]. Prior studies have showed that articulating networks is a primary way that users build, enhance, and maintain their social capital, and furthermore most online social networks are used to support and maintain social relationships [26,27]. Thus, ESM presents an opportunity for organizations and employees to create value through access to social capital [3,28].

Social capital is defined as "the sum of the resources, actual or virtual, that accrue to an individual or a group by virtue of possessing a durable network of more or less institutionalized relationships of mutual acquaintance and recognition" [29,30]. Broadly, social capital refers to resources available to people based on their social interactions [31]. The focus of social capital is not only on the available resources and social interaction but also the relationship ties, which can be: (a) external ties, or bridging forms of social capital; or (b) internal ties, or bonding forms of social capital [32].

Bridging social capital was originally defined as "the type that brings together people or groups who previously did not know each other", while bonding social capital was defined as "the type that brings people who already know each other closer together" [33]. In coining the original definition, Putnam [32] suggested the dimensions of breadth (or inclusive ties) and depth (or exclusive ties). Broadly speaking, bridging social capital relates to the relationships of weakly tied people with heterogeneous backgrounds [34]. It can expand social horizons and create more information and new resources, but provides less emotional support when compared to bonding social capital [35].

Bonding social capital, by contrast, relates to the internal structure and relationships within a collective group (i.e., within an organizational department, or within a project team), and is embedded within the relationships of strongly tied or homogeneous groups [34]. Bonding social capital can enhance group cohesion, which allows the group members to pursue shared goals. Given that the level of associability and trust are high for bonding social capital, network members are comfortable expressing ideas, which can lead to idea creation [36].

However, to what extent does the ESM use help or hinder social capital development? The current study proposes that the work-related and social-related usage patterns of ESM may influence social capital differently. Work-related use emphasizes its instrumentality. In this usage pattern, employees use ESM to support the execution of work through information and resources shared by others. Therefore, the breadth of information is important. That is to say, work-related use is conducive to increasing the richness of network connections [24]. On the other hand, social-related use emphasizes social ties and interactions, from which friendship and trust may be established. As mentioned in a previous study, users can maintain a set of "latent ties" through social interaction [26], and these latent ties can be a solid base for strengthening the ties in times of need [3].

The social capital theory was first introduced in sociology, while in organization studies, researchers usually consider social capital to act as a broker in the network [37]. Ali-Hassan, Nevo, and Wade [24] adopted a technology-use lens to study the effect of social media use on job performance, which is mediated by three dimensions of social capital. Later, Ali-Hassan and Nevo [6] demonstrated that social media use has an impact on organizational transactive memory with the mediation of social capital. Cummings and Dennis [37] examined how the information provided in ESM impacts the formation of impressions through perceptions of social capital (i.e., relational, structural, and cognitive). Following up, this study proposes that social capital might also exist as a broker in the impact of ESM use on job satisfaction. Therefore, the relationship between social capital and job satisfaction will be discussed in the next section.

### *2.3. Social Capital and Job Satisfaction*

Job satisfaction is defined as the extent of the positive emotional response to a job resulting from an employee's appraisal of the job as fulfilling or congruent with the individual's values, and it can also be considered as the degree of satisfaction related to certain aspects of work as an indicator for perceived goal achievement [38]. With the rapid development of social networks, employees' subjective job satisfaction is no longer limited to instrumental indicators (e.g., income, position, etc.). Key dimensions related to social indicators are increasingly concerned with aspects such as social capital (e.g., accumulation of interpersonal relationships), emotional support (e.g., workplace friendship and trust), and fairness and justice (e.g., information transparency, mutual monitoring).

In recent years, some studies have explored the relationships between job satisfaction and constructs related to workplace social capital. Riordan and Griffeth [39] hypothesized and tested the positive relationship between perceived friendship in the workplace and job satisfaction. Further, Flap and Völker [16] addressed the questions "To what extent can job satisfaction be affected by social capital?" and "Which social ties lead to job satisfaction?". The results revealed that closed networks of identity-based solidarity ties improved employees' satisfaction, while a network with a bow-tie structure (i.e., where a focal actor is the link between two or more mutually exclusive cliques) negatively impacted satisfaction [16]. Further, Ommen et al. [40] found that social capital, in the form of perceived trust, common values, and reciprocity in a workplace, had a significant positive association with job satisfaction after accounting for workload and professional experience. Chen et al. [41] confirmed that social capital is positively associated with job satisfaction—both bonding and bridging capital.

In addition to the traditional organizational context, a few recent studies have suggested that online social media use also has a significant impact on job satisfaction [42–44]. Charoensukmongkol [43] indicated that social media use enables employees to have more opportunity to connect with others. Online social interactions are crucial because they may help employees gain emotional support from their colleagues, relieving the stress inherent in performing and keeping their jobs [43]. More importantly, they serve as a social resource that helps build and strengthen social ties, which may influence job satisfaction through the provision of social support [44].

Although a few studies have begun to consider the relationships between social capital and job satisfaction, as well as the impact of social media use on job satisfaction, few studies have addressed the question of how intra-organizational technology use affects job satisfaction by leveraging the mediation role of social capital in the ESM context.

## **3. Research Context and Hypothesis**

### *3.1. Research Context*

The current study examines ESM use in China. ESM incorporates social networking technology, such as microblogs, in day-to-day business operations. It is an application of software-as-a-service (SaaS), aiming to increase efficiency, transparency, visibility, and communication [45]. In China, Fanfou was the first microblog platform to be developed, and was introduced to the public in 2007.

Within a couple of years, microblogging had gained popularity and more platforms were introduced, such as Sina, Sohu, Netease, and Tencent. The use of microblogs accounts for 54.7% of internet use in China [46]. Public microblogs also began to be used in discussing business issues as an alternative to email. However, the popularity of microblogs is not without controversy. Many Chinese companies have noticed similar issues with the improper use of public social media, and have thus tried to use ESM as an alternative. There are a number of platforms aiming to serve firms professionally, such as Dingtalk™ (Alibaba, Hangzhou, China) and iWork™ (Apple, Cupertino, CA, USA). The rise of ESM use in China is evident, yet the ESM context is far less studied than the context of public social media. In particular, how ESM use among employees can foster social capital, which can turn into psychological wellbeing factors such as job satisfaction, is yet to be explored.

As discussed previously, ESM use can be related to individuals' perceptions of social capital. The current study focuses on the usage patterns of ESM in the workplace, rather than the availability or accessibility of technology. This is because the usage patterns will be more likely to influence users' behavior and experiences [47]. Thus, this study aims to address the question: "How do different ESM usage patterns affect job satisfaction through perceived bridging and bonding social capital?" The current study predicts that different ESM usage patterns will have different effects on the level of perceived social capital, which in turn impacts individual job satisfaction.

### 3.2. Research Hypothesis

The original intention of most organizations when introducing ESM is to improve the work performance of employees. However, as a bottom-up system that is not totally mandatory, ESM can be used for both work and social purposes. Work-related use, with its focus on utilitarian working purposes, incorporates communication and collaboration; thus, it is expected to distinctly impact workplace social capital [6]. With these attributes, it could help users broaden their horizons and expand opportunities to acquire novel information and resources through the knowledge and experience shared by others, thus allowing goals to be achieved more easily. Therefore, individuals may be connected with more colleagues from different departments or work groups through information exchange [48], which is considered to be an important antecedent of bridging social capital [49].

Social-related use enables employees to establish and maintain social relationships with others [20]. Frequent and visible social use activities support the development of familiar and close relationships, because sophisticated search engines allow users to find and form like-minded connections. The use of ESM exposes one's network of social relations, leading to "identity warranting", which could contribute to providing credibility and shared trust [24]. Consequently, we proposed the following hypotheses:

**Hypothesis 1a (H1a).** *Work-related use positively impacts users' perception of bridging social capital.*

**Hypothesis 1b (H1b).** *Work-related use positively impacts users' perception of bonding social capital.*

**Hypothesis 1 (H1).** *Work-related use will demonstrate a greater impact on bridging than bonding social capital.*

**Hypothesis 2a (H2a).** *Social-related use positively impacts users' perception of bridging social capital.*

**Hypothesis 2b (H2b).** *Social-related use positively impacts users' perception of bonding social capital.*

**Hypothesis 2 (H2).** *Social-related use will demonstrate a greater impact on bonding than bridging social capital.*

Social capital, which is related to the willingness and capability of others to provide help, is a means to achieving job satisfaction in the workplace [16]. In a loose or diffuse network, network members may come from different groups or different backgrounds, and therefore the information shared is diverse and abundant. The network will consist of many weak ties, and network members are assumed to obtain more heterogeneous and valuable information and achieve goals more quickly;

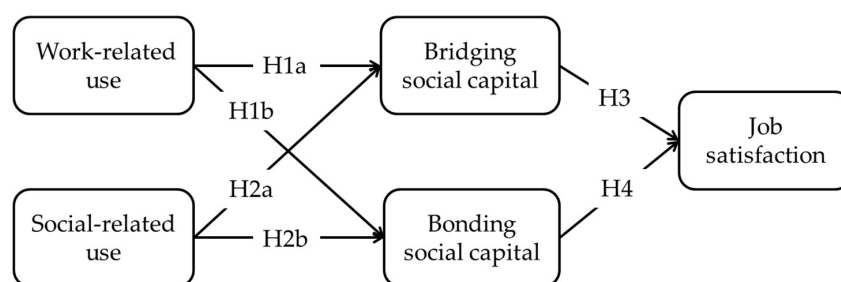


thus, job stress may be relieved, which has been verified to be related to job satisfaction. In a close or cohesive network, communications flow quickly and easily, thus every network member knows the same things or shares the same vision. The network consists of many strong ties and network members are assumed to trust and cooperate with each other, which will influence employees' job satisfaction and also help to achieve goals effectively. Thus, we proposed Hypotheses H3 and H4.

**Hypothesis 3 (H3).** *Perception of bridging social capital positively affects users' job satisfaction.*

**Hypothesis 4 (H4).** *Perception of bonding social capital positively affects users' job satisfaction.*

In summary, the research model is exhibited in Figure 1.



**Figure 1.** Research model.

## 4. Methodology

### 4.1. Measurement

All measurement items were adopted from previously validated constructs, with certain modifications to fit the research context. Social-related use and work-related use were adapted from Sun and Shang [22]. Bridging social capital and bonding social capital were revised from Williams [50]. To inquire about the resources available in the enterprise social media, eight items were used for each variable. Job satisfaction was measured using a three-item scale adapted from Morris and Venkatesh [38]. The constructs in the model were measured using a 7-point Likert scale (see Appendix A). In addition, gender, organizational position, organizational tenure, and company size were important control variables, given their impact on several key constructs related to technology adoption and job satisfaction [51–53]. Consistent with the purpose of this specific study, the measures of control variables were determined [54]. Organizational position was coded as an ordinal variable based on employee level in the organization. Organizational tenure was measured by enquiring about experience in the current company. Company size was measured by the number of employees in the current company.

### 4.2. Data Collection

An online survey conducted through a third party was used to test our hypotheses. We invited a well-known ESM supplier in China to participate. Their ESM platform provides a rich and typical set of social media features, including personal profiles, instant communication, content tagging, resource sharing, and social networking. In addition to the basic functions of a communication and information sharing tool, the platform can also be used as a task and project management tool. The respondents were the users of this platform.

The questionnaire was pretested with 10 consultants from the enterprise social media platform supplier. This was undertaken to detect problems in content, format, and wording. Modifications were made following feedback from respondents. The questionnaire was then pilot tested with 60 respondents. The analysis provides preliminary evidence that the measures have strong reliability (greater than 0.70), convergent validity (factor loadings greater than 0.60), and discriminant validity

(factor loadings greater than cross loadings). No major problems were found, and the questionnaire was deemed ready for data collection. We offered respondents a lucky draw for gifts as an incentive for participation. Approximately 2100 invitations were sent, and 519 complete responses were received during a 10-day period. Some respondents with no prior experience in using enterprise social media were excluded; there were 509 valid responses after this exclusion was applied. We examined the possibility of nonresponse bias by comparing the early and late responses on the demographic variables; the results showed no significant difference between the two groups.

Table 1 shows the features of our sample. The table shows our sample was spread across a wide range of industries, company sizes, ages, education levels, organizational positions, organizational tenures, and experience levels in using the ESM. The majority of respondents were in a company with less than 500 employees (85.66%), were between 21 to 40 years old (87.03%), and had used the ESM for between 6 months and 3 years (81.32%).

**Table 1.** Sample description.

Attributes	N	Percent	Attributes	N	Percent
Company size			Industry		
< 50	155	30.45%	Manufacturing	88	17.29%
51–100	175	34.38%	Construction	28	5.50%
101–500	106	20.83%	Distribution	49	9.63%
501–1000	29	5.70%	Software and Information services	74	14.54%
> 1000	44	8.64%	Finance	15	2.95%
Gender			Real estate	32	6.29%
Male	300	58.94%	Research and technical services	19	3.73%
Female	209	41.06%	Education	19	3.73%
Age			Others	185	36.35%
16–20	6	1.18%	Education		
21–25	79	15.52%	High school or below	35	6.88%
26–30	175	34.38%	College	204	40.08%
31–35	114	22.40%	University	232	45.58%
36–40	75	14.73%	Graduated school or above	38	7.47%
41–45	38	7.47%	Position		
46–50	16	3.14%	Non-managerial employee	183	35.95%
51–55	4	0.79%	Junior manager	186	36.54%
56–60	1	0.18%	Middle manager	117	22.99%
> 60	1	0.18%	Senior manager	23	4.52%
Experience in current company			ESM experience		
< 3 months	31	6.09%	< 3 months	24	4.72%
3–6 months	38	7.47%	3–6 months	25	4.91%
6–12 months	59	11.59%	6–9 months	75	14.73%
1–2 years	122	23.97%	9–12 months	140	27.50%
2–3 years	120	23.58%	1–2 years	140	27.50%
3–5 years	70	13.75%	2–3 years	59	11.59%
5–8 years	34	6.68%	3–5 years	27	5.30%
> 8 years	35	6.88%	> 5 years	19	3.73%

## 5. Data Analysis and Results

### 5.1. Reliability and Validity

Given that partial least squares (PLS) has no restrictions on the distribution of samples and ensures convergence (i.e., bridging social capital and bonding social capital), partial least squares structural equation modeling (PLS-SEM) seemed to be appropriate for this study [55]. Thus, we assessed the proposed model using Smart PLS™ (SmartPLS GmbH, Bönningstedt, SH, Germany) to test the indicator reliability, internal consistency reliability, convergent validity, and discriminant validity of the study. To assess indicator reliability, we evaluated the indicator loading; all of the factor loadings were above the required threshold of 0.5, except for one job satisfaction item. Thus, the items below the



threshold were removed. To assess internal consistency reliability, we evaluated the Cronbach's  $\alpha$  and composite reliability; all constructs reached values above the required threshold of 0.7 [56]. To assess convergent validity, we evaluated the average variance extracted (AVE), and all constructs reached values above the required threshold of 0.5 [56], except bonding social capital. As bonding social capital has a high composite reliability, there is sufficient evidence to conclude that knowledge transfer has adequate convergent validity [56]. In addition, in order to further assess the discriminant validity of our measurement instruments, a cross-loadings table was constructed (Table 3). It can be observed that each item loading was higher on its assigned construct than on the other constructs. Above all, the results listed in Tables 2 and 3 indicate that the proposed models demonstrate satisfactory reliability and validity.

**Table 2.** Descriptive statistics, reliabilities, and correlations.

Construct	Mean	Standard Deviation	Cronbach's $\alpha$	Composite Reliability	AVE	Wru	Sru	Bri	Bon	Jobsa
Wru	5.254	0.907	0.884	0.912	0.635	<b>0.797</b>				
Sru	5.202	0.977	0.823	0.883	0.653	0.679	<b>0.808</b>			
Bri	5.337	0.809	0.869	0.897	0.522	0.712	0.556	<b>0.723</b>		
Bon	5.101	0.781	0.828	0.869	0.454	0.562	0.580	0.603	<b>0.674</b>	
Jobsa	4.577	1.545	0.858	0.933	0.875	0.084	0.161	0.089	0.338	<b>0.936</b>

Note: Wru = work-related use; Sru = social-related use; Bri = bridging social capital; Bon = bonding social capital; Jobsa = job satisfaction. Diagonal elements bolded are the square root of AVE for that construct and off-diagonal elements are correlations.

**Table 3.** Item loadings and cross-loadings.

	Gender	Position	Tenure	Company Size	Wru	Sru	Bri	Bon	Jobsa
Gender	1.000	-0.040	0.044	-0.109	0.065	0.057	0.074	0.037	0.090
Position	-0.040	1.000	0.409	0.005	0.066	0.060	-0.016	0.010	0.073
Tenure	0.044	0.409	1.000	0.025	0.102	0.023	0.051	0.013	-0.043
Company Size	-0.109	0.005	0.025	1.000	0.127	0.119	0.097	-0.027	-0.197
Wru1	0.064	0.072	0.097	0.106	0.839	0.531	0.601	0.458	0.104
Wru2	0.074	0.060	0.127	0.096	0.818	0.571	0.576	0.486	0.094
Wru3	0.044	0.033	0.014	0.086	0.820	0.532	0.580	0.444	0.069
Wru4	0.013	0.033	0.106	0.121	0.800	0.519	0.546	0.431	0.039
Wru5	0.041	0.046	0.079	0.095	0.779	0.503	0.571	0.451	0.107
Wru6	0.076	0.072	0.064	0.106	0.718	0.591	0.524	0.411	-0.021
Sru1	0.088	0.031	0.019	0.108	0.553	0.811	0.470	0.447	0.111
Sru2	-0.034	0.085	0.036	0.125	0.530	0.814	0.420	0.480	0.095
Sru3	0.086	0.053	0.005	0.026	0.527	0.782	0.432	0.461	0.193
Sru4	0.045	0.027	0.015	0.121	0.582	0.825	0.474	0.487	0.123
Bri1	0.067	-0.035	-0.057	0.097	0.532	0.455	0.781	0.463	0.077
Bri2	-0.006	0.003	0.021	0.081	0.503	0.415	0.759	0.412	0.030
Bri3	0.053	-0.002	0.020	0.089	0.487	0.406	0.745	0.410	0.100
Bri4	0.018	-0.033	0.017	0.082	0.498	0.388	0.710	0.395	0.055
Bri5	0.085	0.028	0.087	0.091	0.517	0.408	0.683	0.418	0.034
Bri6	0.077	0.004	0.071	0.038	0.543	0.368	0.732	0.426	0.056
Bri7	0.090	-0.029	0.048	0.071	0.492	0.319	0.675	0.429	0.115
Bri8	0.039	-0.029	0.088	0.015	0.535	0.447	0.688	0.521	0.054
Bon1	-0.004	-0.061	0.067	0.016	0.466	0.371	0.499	0.603	0.123
Bon2	0.030	-0.020	-0.018	0.001	0.396	0.424	0.480	0.694	0.129
Bon3	0.037	0.043	-0.011	-0.028	0.404	0.406	0.429	0.724	0.213
Bon4	-0.037	0.042	-0.042	0.020	0.426	0.510	0.405	0.692	0.170
Bon5	0.010	-0.063	0.052	0.020	0.439	0.403	0.450	0.704	0.217
Bon6	0.098	-0.043	-0.038	0.008	0.349	0.420	0.372	0.672	0.241
Bon7	0.029	0.090	0.030	-0.065	0.336	0.340	0.360	0.668	0.294
Bon8	0.046	0.071	0.038	-0.138	0.186	0.220	0.238	0.625	0.467
JobSa1	0.077	0.071	-0.028	-0.193	0.129	0.184	0.146	0.348	0.939
JobSa3	0.092	0.067	-0.053	-0.175	0.025	0.115	0.018	0.283	0.932

Note: Wru1–Wru6 = the six measurement items of work-related use; Sru1–Sru4 = the four measurement items of social-related use; Bri1–Bri8 = the eight measurement items of bridging social capital; Bon1–Bon8 = the eight measurement items of bonding social capital; Jobsa1, Jobsa3 = the two measurement items of job satisfaction.

## 5.2. Common Method Bias

Since each respondent self-reported all measurement items, there was the potential for common method biases [57]. As mentioned above, we used the online questionnaire survey tool to randomize the order in which items appeared, which can alleviate the bias caused by item approximation. Specifically, we conducted Harman's one-factor test to assess the severity of common method bias [58]. The result of the analysis yielded nine factors with eigenvalues greater than one and the first factor explained only 36.794% of the variance, which was smaller than the recommended threshold of 50%. Thus, common method bias did not seem to be a serious problem in this study.

## 5.3. Hypothesis Testing

Before hypothesis testing, the structural model was assessed for multicollinearity [59]. The variance inflation factor values calculated for all of the items were well below the acceptable threshold of 5.0, and ranged from 1.403 (Bon1) to 2.436 (Wru1). Thus, collinearity was not an issue. Then, the bootstrap resampling method with 5000 resamples was used to test the proposed research hypotheses. We examined the path significance and magnitude of each of our hypotheses' effects, and the overall explanatory power of the proposed model. Results of this analysis are shown in Table 4.

**Table 4.** Results of hypothesis tests.

Hypothesis	Path	Path Coefficients	Standard Deviation	T Values	p Values	Hypothesis Test
H1a	Wru → Bri	0.620	0.063	9.840	0.000	Supported
H1b	Wru → Bon	0.311	0.056	5.536	0.000	Supported
H2a	Sru → Bri	0.136	0.064	2.125	0.034	Supported
H2b	Sru → Bon	0.369	0.056	6.591	0.000	Supported
H3	Bri → Jobsa	−0.147	0.058	2.536	0.011	Non-supported
H4	Bon → Jobsa	0.419	0.057	7.299	0.000	Supported

All of our hypotheses were validated except for H3. Work-related use positively influenced bridging social capital ( $\beta = 0.620, p < 0.001$ ) and bonding social capital ( $\beta = 0.311, p < 0.001$ ). Therefore, hypothesis H1a and H1b were supported. The parameter difference between bonding and bridging social capital was further calculated with the bootstrapping approach referred to by Chin et al. [60] and Carrión et al. [61]. The 95% confidence interval derived from the bootstrap procedure with 5000 draws ranged from  $-0.437$  to  $-0.180$ . Since it did not contain zero with regards to the estimation, this suggests that the difference between the two path coefficients is statistically significant, and work-related use accumulates more bridging social capital. Therefore, hypothesis H1 was supported.

Social-related use positively influenced bridging social capital ( $\beta = 0.136, p < 0.05$ ) and bonding social capital ( $\beta = 0.369, p < 0.001$ ). Therefore, hypothesis H2a and hypothesis H2b were supported. Similarly, the parameter difference between bonding and bridging social capital was further calculated with the bootstrapping approach referred to by Chin, Kim, and Lee [60] and Carrión, Nitzl, and Roldán [61]. The 95% confidence interval derived from the bootstrap procedure with 5000 draws ranged from  $0.108$  to  $0.358$ , and did not cover the value of 0. Therefore, we conclude that the difference between the two path coefficients is statistically significant, and social-related use is more conducive to the establishment of bonding social capital. Therefore, hypothesis H2 was supported.

In addition, the parameter differences between the effect of work-related use or social-related use on social capital were further calculated with the bootstrapping approach [60,61]. The result showed that the 95% confidence interval derived from work-related use and social-related use on bridging social capital ranged from  $-0.714$  to  $-0.230$ , and did not cover the value of 0. That is to say, the difference between the two path coefficients is statistically significant, and work-related use is more conducive to the establishment of bridging social capital than that of social-related use. However, the 95% confidence interval derived from work-related use and social-related use on bonding social

capital ranged from  $-0.145$  to  $0.271$ , and covered the value of  $0$ . This means that there is no difference between the two path coefficients; work-related use and social-related use have the same impact on bonding social capital.

Bridging social capital had a strong and significant negative effect on job satisfaction ( $\beta = -0.147$ ,  $p < 0.05$ ), therefore hypothesis H3 is not supported. Bonding social capital had a strong and significant positive effect on job satisfaction ( $\beta = 0.419$ ,  $p < 0.001$ ), supporting hypothesis H4.

#### 5.4. Endogeneity Check

We evaluated potential endogeneity issues due to omitted variable bias, which is one of the three major sources of endogeneity problems [62]. A previous study on information technology usage in a work context suggests that users' experience of the work system influences their work-related system usage behavior [63], and can influence users' social capital only indirectly through work-related system usage behavior. Therefore, we considered ESM usage experience to be an instrumental variable of work-related use. We used a two-stage least squares (2SLS) regression with the instrumental variable mentioned above. Results are similar to the SEM results and hypotheses H1a and H1b are consistently supported. In addition, Hausman tests revealed that the relationship between work-related use and bridging social capital does not suffer any problem of endogeneity ( $\chi^2 = 0.85$ ,  $p = 0.36$ ); the relationship between work-related use and bonding social capital also does not suffer any problem of endogeneity ( $\chi^2 = 0.55$ ,  $p = 0.46$ ) [64].

#### 5.5. Post Hoc Assessment of Mediating Effects

In testing for potential mediating effects, the bootstrapping method suggested by Zhao et al. [65] was conducted, as this approach is more powerful than Sobel's test [66]. Firstly, we examined the significance of the indirect effect, and the results are shown in Table 5. The results indicate that all mediation effects are significant, since the 95% confidence interval derived from each path does not cover value  $0$ . The mediation effect of bonding social capital is positive, while the mediation effect of bridging social capital is negative. We then examined the significance of the direct effects in order to justify full or partial mediation. The results indicate that all mediation effects are fully mediated, as all of the direct effects were found to be insignificant.

Table 5. Significance of mediation paths.

Row	Path	Path Coefficients	Standard Deviation	Bootstrap 95% CI	Mediation
1	Wru → Bri → Jobsa	$-0.091$	$0.040$	$-0.178, -0.021$	Full mediation
2	Wru → Bon → Jobsa	$0.131$	$0.031$	$0.076, 0.195$	Full mediation
3	Sru → Bri → Jobsa	$-0.020$	$0.012$	$-0.046, -0.001$	Full mediation
4	Sru → Bon → Jobsa	$0.155$	$0.032$	$0.098, 0.223$	Full mediation
5	Wru → Jobsa	$-0.091$	$0.081$	$-0.251, 0.065$	
6	Sru → Jobsa	$0.052$	$0.079$	$-0.103, 0.202$	

## 6. Discussion and Implications

### 6.1. Discussion

The current study explored the impact of ESM use on job satisfaction from the social capital perspective. Most of our hypotheses were supported by our empirical analysis, and some interesting findings were captured.

Firstly, both work-related use and social-related use positively impact bridging and bonding social capital directly. In fact, social-related use does not interfere with employees' work as much as previously thought. Both work-related use and social-related use are conducive to the establishment and accumulation of social capital. This is consistent with previous results [24], which showed

that social-related use of social media acted as an instrumental support for users' emotional states. Therefore, from the social capital perspective, it is appropriate and valuable to introduce social features in the design and implementation of ESM systems.

Secondly, bridging social capital and bonding social capital play different roles in job satisfaction. Social capital does not always work positively. The reason social capital does not always promote job satisfaction might be because social capital is goal specific [16]. Bridging social capital relies on weak ties, from which a person may gain some broad connections (e.g., many known people from work); these people may have different cultural backgrounds, socioeconomic backgrounds, or ages. As a result, the information gain via this channel may not be as applicable or useful as expected. It is less likely that these bonding networks can be trusted due to the differences between the participants. Sometimes, bridging can create collusion on an issue (e.g., a work strike).

Thirdly, work-related use accumulates more bridging social capital, while social-related use is more conducive to the establishment of bonding social capital. Bridging promotes a loose network, so if a person aims to use technology for messaging to find out an answer about work, that person does not require a deep relationship. For example, one can post on ESM and ask how to use the ESM system, and a few people may answer. The connection within the ESM community begins to form loosely by linking individuals who work in different departments or teams. On the other hand, for social-related use, one may want to build a company football team, so one needs to find the right people who like football and will play together well as a team. People may need to connect at a deeper level, and these contacts may become closer friends at work who like same things and move forward with shared goals.

## 6.2. Implications for Research

The current study proposed a research model explaining the working approach of ESM use on job satisfaction, drawing on the social capital perspective. It contributes to the literature in three ways.

Firstly, drawing on a theoretical perspective, the current study is important because the findings empirically verified the effect of ESM use on job satisfaction—particularly that social capital acts as a mediator, which has not been previously addressed in the literature. In other words, the current study not only helps us better understand the benefits and working approaches of ESM in the organization, but also enriches our understanding of social capital as a broker.

Secondly, in terms of the research content, most studies on ESM use regard it as a common behavior construct [7,67]. In fact, ESM is perceived as not being completely mandatory, and the use behavior and effects among employees, groups, or organizations are not always the same [5,44]. In this regard, distinguishing between the two types of usage patterns provides valuable insights into the current research on ESM use, especially as ESM is becoming increasingly important. Through in-depth analysis of usage patterns, this study proved the duality of ESM (i.e., instrumentality and sociality), which advances our current understanding.

Finally, in terms of the research findings, this study contributes to social capital theory. Social capital is an important component of individual or organizational resources, but our research provides some insights, namely that greater accumulation of social capital is not always better. Bridging social capital weakens employees' job satisfaction, although previous studies have shown a positive effect on job performance [36]. Therefore, keeping the balance of bridging social capital is very important. We hope that this finding spurs further research to investigate the underlying psychological mechanisms that may be at work, about which we can currently only speculate.

## 6.3. Implications for Practice

This study is based on data from ESM users. It was found that social capital mediated the relationship between ESM use and job satisfaction. That is to say, ESM use can promote the maintenance and development of social capital, and also can improve job satisfaction. These relationships provide stable human capital and social capital for the sustainable development of enterprises. Several implications for practice are offered as follows.

Firstly, our study suggests that heavy work-related use may increase employees' perceived bridging ties, which mediates the negative impact on job satisfaction. Therefore, managers should be aware of the indirect negative effect of work-related use. They should make sure that the ESM has a clear design and structure, and that relevant information is easy to access. This can be done by introducing smart filter options or AI intelligence, which help employees achieve timely and targeted communication. For example, an advanced retrieval and recommendation function can be provided to reduce information or social network complexity. However, excessive demand for employees to access different content could backfire. Therefore, companies should clearly communicate the ESM's purpose and objectives and train their employees if needed, so as to improve communication quality and efficiency by ensuring timely and targeted communication.

Secondly, one of the major differences between ESM systems and traditional information tools is the increase of social attributes. However, some companies forbid social-related functions for fear of job conflicts or wasted time. We suggest that social-related use is an effective complement to work-related use; appropriate social-related use helps improve job satisfaction via bonding social capital (i.e., social support and emotional support). In this way, providing social-related functions is also quite necessary.

Thirdly, close friendships at work may help increase employees' happiness and satisfaction, especially in a collectivist context. Therefore, we suggested that activities that help foster bonding social capital should be designed and implemented, for example by establishing virtual communities relating to different employee interests, and enhancing friendships and trust through community interactions. These activities may promote the exchange and reciprocity of scarce resources when needed, thereby improving employees' job satisfaction. In addition, these activities make communication and information transmission more efficient and transparent. As an online mutual monitoring system, ESM creates an open and transparent working environment that is thought to be efficient in improving job satisfaction and mitigating the corporate governance problem caused by information asymmetry [68,69].

## 7. Conclusions

This study explores the mechanism of ESM use in impacting job satisfaction with the mediation of social capital. The results show that workplace social capital fully mediates the impact of ESM use on job satisfaction. Both work-related ESM use and social-related ESM use can effectively enhance bridging social capital and bonding social capital. However, for workplace social capital, it's not the more the better. We found that bonding social capital improves employees' job satisfaction, while bridging social capital plays a negative role. Work-related use increases bridging social capital more, while social-related use increases bonding social capital more. Overall, this study advances the existing literature on social capital theory and ESM adoption, as this study explores the impact of different ESM usage patterns on job satisfaction for the first time and innovatively uses social capital theory as a mediator to explain the different working approaches. Further, the results provide some insights and suggestions for both employees and managers. A clear design and structure for ESM is important, and relevant information should be easy to access. The duality of ESM confirms the value of its social function. Social-related use is an effective way to increase employee job satisfaction; in particular, bonding social capital plays an important role. The purpose and objectives should be clearly defined, as excessive demand and aimless use can have unintended negative effects.

Although the current study makes significant contributions to the relevant areas, we also must acknowledge some limitations. Firstly, the data were gathered from organizations in China, a specific geographic region. It is possible that the experiences reported in China may not be representative of individuals from other regions of the world. Exploratory studies in different cultures are worth discussing in the future. Secondly, the data for this study were collected through one ESM supplier, and different systems have many differences in functions. A particular product may not represent all ESM products. A comparative study with different products might be helpful. Thirdly, the study



employed a cross-sectional design that demonstrated the impact of ESM usage on job satisfaction, whereas a longitudinal design could uncover the impact of ESM usage over time, which may be especially meaningful for long-term development. Fourthly, usage patterns and social capital were considered in this study. More factors affecting ESM adoption and job satisfaction should be considered in further work. In addition, further work should be extended to a cross-level framework, such as introducing variables at the team or organizational level (e.g., organizational social capital, organizational human capital, organizational environment, corporate governance), as such enriching our research study with the new framework. Fifth, all of the measurements in this study were adopted from previous literature. The choice of measures is important and difficult. The results may not be robust to different measures. Therefore, we will do more work on the measures for variables, try multiple measures, and test the robustness of the result through different measures. Finally, we tested endogeneity using the instrumental variable. Future studies could employ other remedies, such as the lagged independent variable, fixed effects, and the dynamic model, to address the endogeneity problems if the research design and variables collected in the future research permit.

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## Appendix A

Please indicate the extent to which you agree or disagree with the following statements (Likert scale: 1 = very few, 2 = few, 3 = a little less, 4 = neutral, 5 = a little more, 6 = many, 7 = very much).

Work-related use and Social related use—adapted from previous work [22]

Work-related use

Wru1. I use the enterprise social media to post updates on work projects.

Wru2. I use the enterprise social media to arrange meetings with colleagues about work projects.

Wru3. I use the enterprise social media to share information with colleagues about organizational objectives.

Wru4. I use the enterprise social media to share information about organizational policies and procedures with colleagues.

Wru5. I use the enterprise social media to organize my work files.

Wru6. I use the enterprise social media to gain access to others with expertise in a particular area.

Social-related use

Sru1. I use the enterprise social media to arrange social events with co-workers after work hours.

Sru2. I use the enterprise social media when I need a break from work.

Sru3. I use the enterprise social media to chat with others while at work.

Sru4. I use the enterprise social media to find people with similar interests.

Bridging and Bonding Social Capital: adapted from previous work [50]

Bridging



Bri1. Interacting with people in the enterprise social media makes me interested in things that occur outside of my department.

Bri2. Interacting with people in the enterprise social media frequently makes me want to try new things.

Bri3. Interacting with people in the enterprise social media frequently makes me interested in what people unlike me are thinking.

Bri4. Talking with people in the enterprise social media makes me curious about other departments in the enterprise.

Bri5. I am willing to spend time to support general enterprise social media community activities.

Bri6. Interacting with people in the enterprise social media always makes me feel part of a larger community.

Bri7. Interacting with people in the enterprise social media always makes me feel connected to the bigger picture.

Bri8. In the enterprise social media, I come in contact with new people all the time.

### Bonding

Bon1. There is someone in the enterprise social media that I can turn to for advice when making very important decisions.

Bon2. When I feel lonely, there are several people in the enterprise social media who I can talk to.

Bon3. If I needed an emergency loan, I know someone in the enterprise social media I could turn to.

Bon4. The people I interact with in the enterprise social media would put their reputation on the line for me.

Bon5. The people I interact with in the enterprise social media would be good job references for me.

Bon6. The people I interact with in the enterprise social media would share their resources with me.

Bon7. I do not know people in the enterprise social media well enough to get them to do anything important (reversed).

Bon8. The people I interact with in the enterprise social media would help me fight an injustice.

### Job satisfaction—adapted from previous work [38]

Jobsa1. Overall, I am satisfied with my job.

Jobsa2. I would prefer another, more ideal job (reversed).

Jobsa3. I am satisfied with the important aspects of my job.

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