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How Does Enterprise Social Software Impact on Employees' Innovation Behavior? The Role of Symbolic Capital

Huifen Wang[1] Kui Jiang[1*] Chuan Hu[1] Qiuhong Tang[2]

1. School of Management, Jinan University, 601 Huangpu Avenue West, Guangzhou 510632, China
2. Business School, Guangxi University, 100 Daxue Avenue, Nanning 530004, China

* E-mail of the corresponding author: JKnuli@126.com

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Abstract

Organizations are increasingly adopting new technologies, such as enterprise social software (ESS), which afford employees a repertoire of uses. They not simply focused on work but also on socialization and entertainment. Previous research suggested that the implementation of ESS in an organization had an impact on their employee's creative behavior. However, how does it impact on is still not clear. In the present study, the generative mechanism of the impact on their employee's innovation behavior is investigated. Based on the practice theory of Bourdieu and theory of critical realism, a large number of interviews within four small medium enterprises was conducted by the grounded theory methodology. The results indicated that the impact on their employee's creative behavior was accomplished by four steps, i.e., ESS usage, capitals reproduced, being recognized and practice of creation. The managerial implications from our study are discussed finally.

Keywords: ESS, Symbolic capital, Innovation behavior, Generative mechanism

1. Introduction

With affordable and reliable internet service for everyone and information technology evolving quickly, the first digital natives, also referred to as "Generation Y", have been exposed to technology and the internet from early childhood (Wehner *et al.*, 2017). With the ever-pervasive access to and usage of the Internet, social media emerged in the last decade. This application of technology has been fuelled by Web 2.0 platforms that prioritize a highly participative user base and an increased recognition of User-Generated Content (Antonius *et al.*, 2015). Enterprise 2.0, is the use of emergent social software platforms within companies, or between companies and their partners or customers (McAfee, 2006). McAfee envisioned that the popularity of social media would lead to the adoption of these emergent social software platforms by organizations to pursue their goals, which resulted in the term Enterprise Social Software (ESS) (Antonius et al., 2015). In order to support collaboration among business users, large corporations have started to implement ESS in their portfolio of IT applications, e.g. British Airways, one of the English largest companies, introduced the ESS 'Yammer' in 2013. "We've found that Yammer facilitates spontaneous conversations among employees — sparking innovative ideas that help us operate more efficiently and improve customer service." said Adrian Steel, global head of IT operations for International Airlines Group.

Previous research has demonstrated that social use of social computing have positive effect on the employee's access to knowledge which take the positive effect on employees' innovative performance (Ali-Hassan *et al.*, 2011). Enterprise 2.0 tools are important because they offer a new approach to knowledge management by enabling knowledge workers to communicate, collaborate and innovate in ways that were not possible previously (Gardner, 2013). Using Enterprise Social Software Platforms(ESSPs) for connecting across teams has a stronger effect on employee innovation(Kuegler *et al.*, 2015). Task-oriented ESN use positively moderates the effects of the two stressors (challenge and hindrance stressors) on employee innovation, while relationship-oriented ESN use negatively moderates the relationship between the two stressors (challenge and hindrance stressors) and employee innovation (Ding *et al.*, 2015). Social and cognitive uses of technology were empirically shown to have a positive, albeit indirect, effect on employees' routine and innovative job performance. Hedonic use of the technology, while having a direct negative impact on routine performance was shown to positively contribute to the development of social ties, leading to a mitigating positive influence on innovative performance (Ali-Hassan

et al., 2015). Existing scholarship only represents the implementation of ESS will take the positive effect on employees' innovative performance, the mechanism of the ESS impact on the employees' innovative behavior is still not clear. Further research is needed to fill knowledge gaps on ESS and its use. This study's research question therefore is: How does enterprise social software impact on employees' innovative behavior? More specifically, the purpose of this study is to find the factors what generated in the use of ESS, and how do these factors make a positive/negative effect on the employees' innovative behavior?

Building on a critical realist approach, the study introduces the practice theory of Bourdieu for interpreting the generative mechanism for employees' innovative behavior in the use of ESS. The study makes two key contributions: (1) The present research based on the practice theory of Bourdieu and the theory of critical realism which provide a new perspective on ESS research. (2) A large number of interviews provide strong references for best-practices on ESS implementation.

The paper is structured as follows: Section2 elaborates on the theoretical background, makes a definition for the ESS, and takes a short introduce for the critical realism and the practice theory of Bourdieu. The focus of Section 3 is on ESS usage and the generative mechanism for employees' innovative behavior in the use of ESS. Finally, in Section 4, we make a conclusion of this study and managerial implications are discussed.

2. Theoretical background

2.1 Enterprise Social Software

As research in the area of ESNs has only started recently and is still evolving, many different terms and definitions have been developed and used interchange-ably to describe the same phenomenon (Wehner et al., 2017). Consequently, we need to make a specific definition for the ESS in this research. A diverse mix of organizational social software applications adopted in organizations which refer to collectively as enterprise social software platforms (ESSPs)(Kuegler et al., 2015). Von Krogh suggested that Enterprise Social Software are less costly, more cloud-based, ubiquitous, standardised, mobile, personalized and more effective in meeting individual needs compared to traditional Knowledge Management Systems (Antonius et al., 2015). Based on the previous studies, this paper addresses an explicit definition for the Enterprise Social Software(ESS), to be specific, ESS refers to the social software which implemented in an organization for the purpose of communicate with each other within an organization.

2.2 Critical Realism

Critical realism takes the ontological position that social structures, natural objects, material artifacts, and conceptual entities such as language, opinions, and goals (all of which we will refer to collectively as structures) are real and exist independently of our perception of them (Volkoff and Strong, 2013), which is a philosophy attributed to the British philosopher Roy Bhaskar. Reality is conceived as being stratified in three domains; the real, the actual and the empirical. The real domain consists of structures of objects, both physical and social, with capacities for behavior called mechanisms. These mechanisms may (or may not) trigger events in the domain of the actual. In the third domain, the empirical, these events may (or may not) be observed (Bygstad *et al.*, 2016). Since the publication of the seminal paper by Orlikowski and Baroudi (1991) which noted the dearth of critical IS research, there has been a considerable shift in the research landscape. Several researchers have argued that Critical Realism may enrich IS research. Our object of study is ESS, a complex entity consisting od many elements. In order to make a comprehensive explanation as for how does employees' innovative behavior generated in the use of ESS, we introduce Critical Realism theory into the study for helping us make a better understanding about the generative mechanisms.

In broad terms, generative mechanisms have been variously described in the literature on critical realism as "the ways of acting of a thing", "the causal powers and liabilities of objects or relations", "capacities for behavior", and "tendencies of structures" (Volkoff and Strong, 2013). Roy Bhaskar described the term "generative mechanism" as "the ways of acting of a thing". He appears to suggest that mechanism is about action, which is associated with structures. According to the Roy Bhaskar's explanations, mechanism may arise from a structure, or from the relations between structures, or from the relations between structures and actors. In this study, suggested on the ontological in the Critical Realism, we make an exploration work on the usage of ESS and elaborate on the generative mechanism about the employees' innovative behavior based on the relations between ESS and users.

2.3 Practice theory of Bourdieu

Bourdieu's ideas constitute a practice theory based on his "relational thinking" (Jayasinghe and Wickramasinghe, 2011). The key concept of the Bourdieu's theory is the habitus, capital and field. The "relational thinking" make

it easy to understand the relationships of these three concepts. And Bourdieu summaries the practical logic as: Practice = (habitus*capital) + field.

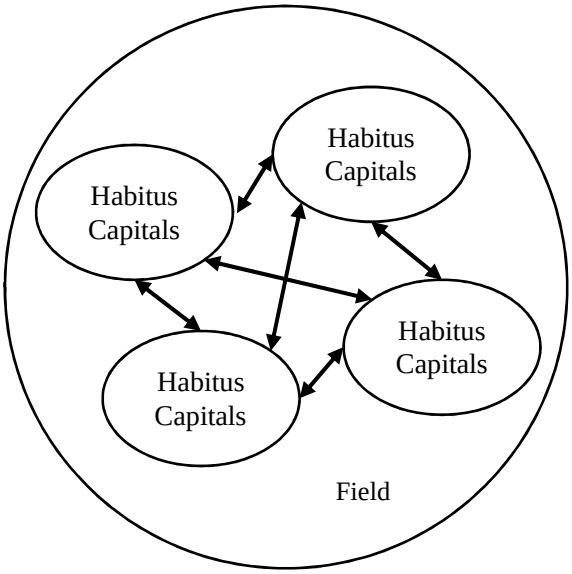

Figure 1. Diagrammatic representation of relational thinking: practical logic of Bourdieu.

Field in the Bourdieu's theory means social space which has the characteristic of produced and reproduced. For Bourdieu, a field is a duality that consists of a structured space of positions and a space of positions-takings (Apple, 2015). The space is not refers to the space of physical but constituted with a series of objective historical relations which depended on the various forms of the power or the capital. The field is the main place for activities that structured by the social agents who follow the certain logic. And the social agents are all influenced by the field, it depends on the structure or the quantity of the capital but also depends on the agents' habitus and positions.

Habitus is a way of conceptualizing how social structures influence practice without reifying those structures or falling into the traps of voluntarism, determinism, subjectivism and objectivism (Fayard and Weeks, 2014). Bourdieu's concept of habitus explains the interpretation process particularly well. Habitus stresses that the objective structures, such as institutions, social relations and resources, become embodied and internalized in the cognitive structure of agents, and that this is further realized in practice. It is acquired over the lifetime of an individual by virtue of the objective economic and social conditions of his or her existence (Fayard and Weeks, 2014). That is to say, no one has exactly the same biography as others, and the agents' habitus maybe homologous when they live in the same context and share a similar social class but can't be identical. Habitus is both a system of schemes of production of practices and a system of perception and appreciation of practices. And, in both of these dimensions, its operation expresses the social position in which it was elaborated. As the Bourdieu's words "possible the free production of all the thoughts, perceptions and actions inherent in the particular conditions of its production – and only those", all agents' behavior are regulated by their habitus and the habitus tends to generate practices that ultimately reproduce the original objective conditions and so functions as structure.

In the Bourdieu's theory, the field is seen as a struggle space for agents who use their capitals. Bourdieu classified the capitals as four capitals: economic capital, cultural capital, social capital and the symbolic capital. Economic capital is consist with the factors of production, property and some of the economic interest. Economic capital is the basic capital for the social activity and the economic capital has the different characteristic in the different social context. Cultural capital is the same as the economic capital that forms the principle in the social distinction. Cultural capital that can be incorporated into dispositions (taste and lifestyle, for example), objectified (cultural goods own by an agent), or institutional (for instance, educational qualifications)(Husu, 2013). So that we should consider the forms of the cultural capital when we analysis the characteristics of the cultural capital. For instance, the cultural capital of the disposition is transformed by the economic capital in a long time, and which makes it has the historical and timeliness. Moreover, the value of the objective cultural capital depended by dominant capacity of the appreciation and consumption which included in the cultural property, and is not depended by the cultural capital, per se. The institutional cultural capital, has the self-discipline which independent of the owner because of the relative independence of the institution per se.

Social capital is the social resource or the fortune which acquired with the social relations. The reproduce of the social capital rely on the institutions which promote the legal exchange activities and reject the illegal exchange activities. For instance, the social capital can reproduce in the sport games, clubs, masquerades and any other social activities. Symbolic capital refers to the capitals with the symbolic such as honor, prestige and respect. Symbolic capital is based on the possession of economic and cultural capital, which draws attention to the class position and middleclass status of the members(Husu, 2013). A key property of symbolic capital is that it is not strictly intrinsic in an individual, but in fact developed as a result of social interaction (Conway *et al.*, 2016). Therefore, the symbolic capital is different from the other capitals and it is a sociological phenomenon which legitimated by the field-specific conditions. Symbolic capital that becomes official, as in the case of official languages, is often embedded in histories and ideologies that may challenge the hegemony of the state. It is more powerful in an invisible way than any other hypostatic capitals.

In the Bourdieu's primary 'thinking tools' premising the sociology of everyday life, 'relational thinking' can help us to understand the complex theoretical triad consisting of 'habitus', 'capital' and 'field'. Agents are influenced by the field, and agents are always conflict with each other with their capitals, which will restructure their habitus.

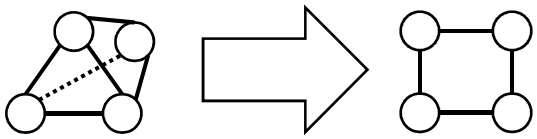

Figure 2. Diagrammatic representation of habitus restructured.

3. The generative mechanism for employees' innovative behavior in the use of ESS

Organizations' increasing adoption of social software led to empirical research on the enterprise social software phenomenon and its business impact, but how does the usage of the ESS impact on the employees' innovative behavior is still not clear. Focusing on the implementation of the ESS in the Small Middle Enterprise(SME), we examined the generative mechanisms of the ESS implement practice.

3.1 Methodology and Data Collection

Staying true to its essential cause, this research employed a grounded theory method in an attempt to secure an in-depth understanding of the sociology factors or anthropology factors that influence the employees' innovative behavior. Grounded theory is an inductive, theory discovery methodology that allows the researcher to develop a theoretical account of the general features of a topic while simultaneously grounding the account in empirical observations or data (Martin and Turner, 1986). For data collection, a field study was conducted. Four company with identifiable uses of ESS were selected, and twenty individuals from those firms were interviewed. The selected subjects were ESS users or the main members who have participated in well-known ESS projects. We collected qualitative data through in-depth interviews, each of them lasted approximately 40 minutes, and was conducted in Guangdong province in China. The details of the qualitative data are summarized in Table 1. Field notes and memos were written to keep track of the analysis of the generative mechanism.

Table 1. Details of the qualitative data

Company's name	*Company type*	*Date of interview*	*Numbers of subjects*
VI	Software-adoption company	Apr.2016	6
TI	Software-adoption company	Apr.2016	4
SE	Software-development company	Jul.2016	5
JD	Software-development company	Dec.2016	5

3.2 Data Analysis and Results

Based on the techniques of content analysis proposed by Juliet M.Corbin and Anselm L.Strauss's book "Basics of Qualitative Research", a coding template was developed and validated with three researchers who are not familiar with the ESS which can make the results more objectively. The interviews' content and field notes were analyzed line by line and the results provided important information about the ESS usage and the creative behaviors, it was revealed that the main concern of the users was their ideas whether can be recognized by their colleagues, which maybe causes the creative behaviors. According to the data analysis, we propose six main categories and eleven sub-categories, the details are summarized in table 2.

Table 2. Categories of the generative mechanism from the data analysis

Main categories	*Sub-categories*	*Data of interviews*
ESS Usage	ESS Usage(Breath)	● I know about all functions and use them ● I have used all functions in the ESS
	ESS Usage(Depth)	● I use all functions in-depth ● I know about the connotation of every functions
	ESS Usage(Intension)	● ESS becomes an essential tool in my work ● I use the ESS for communicating with workmates
Habitus	Extrinsic Motivation	● ESS can improve my job performance ● ESS can enhance communication effects
	Intrinsic Motivation	● Using ESS is enjoyable ● Using ESS is pleasant ● Works become entertaining through using ESS
Cultural Capitals	Embodied Cultural Capital	● My working skills have been improved ● Using ESS can normalize my work
	Objectified Cultural Capital	● I can get some knowledge from ESS ● Using ESS can widen my horizon
Social Capitals	Quantity of Social Resource	● There are many friends in my ESS ● I always chat with friends in ESS ● I always ask my friends in ESS for help
	Quality of Social Resource	● I keep a closely connected with friends in ESS ● Many friends in ESS will offer helps when I was in trouble
Symbolic Capitals	Be Recognized	● My opinions proposed in ESS can be adopted for the most part ● I get more trust from workmates through using ESS ● My colleagues always appreciate my opinions in ESS
Creative Behaviors	———	● I always propose creative ideas for the work ● I will try my best to realize my creative ideas ● I like to do the same thing with different ways

Referencing some literatures and reanalyzing the interviews' content, we propose a map to describe the generative mechanism of the creative behavior in the use of ESS which is depicted in Fig.3. ESS usage, capitals reproduced, be recognized and practice of creation are four steps which constitute the generative mechanism.

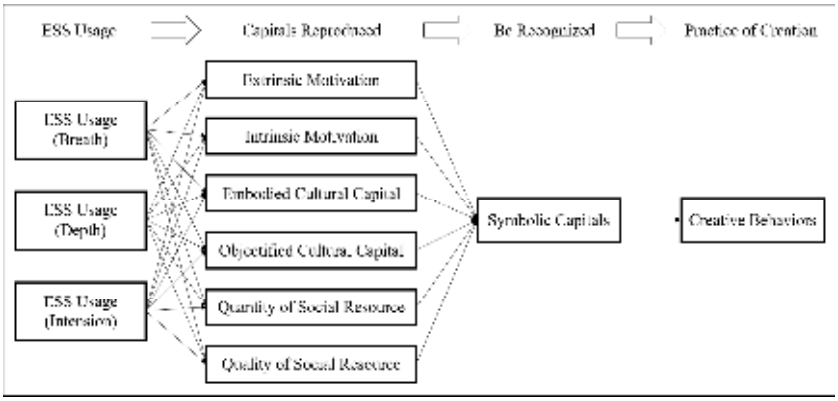

Figure 3. The path of the creative behavior generated in the use of ESS

Capitals reproduced from the ESS usage. ESS usage is the extent to which ESS technologies are used along the value chain activities (Picoto *et al.*, 2014), and is measured by the breath of use for different functions use, depth of use for each function use and intension of use for frequency of ESS usage. In order to know about the ESS usage in the organizations, we asked interviewees some questions such as "Could you please tell us how do you use the ESS? You can say what comes into their minds with little filtering." From the interviews we collected a list of replies about the ESS usage and classify them by breath, depth and intension.

From the interview, we found that some users feel that using ESS can improve the job performance and communication effects, it can also make them pleasant and enjoyable. To capture an individual's utilitarian and

hedonic evaluations of ICT usage, HsiehRai & Keil identify extrinsic motivation and intrinsic motivation as constituent properties of habitus (Hsieh *et al.*, 2011). Based on the existing research, we classify the job performance and communication effects as extrinsic motivation and classify pleasant and enjoyable as intrinsic motivation, they all constitute users' habitus.

The interviews indicated that users can obtain knowledge in ESS and someone will take the initiative to share their knowledge or work skills through ESS. According to the data analysis, we found that users' work skills have been improved and their work are normalized. Furthermore, the majority of the interviewees stated clearly that they can search some knowledges and work skills in the ESS which can help them work better in the case of they need. Bourdieu conceptualizes three forms of cultural capital: long-lasting personal dispositions (embodied form), cultural goods (objectified form) and educational qualifications (institutionalized form)(Pret *et al.*, 2016). In consideration of the definition of cultural capital from Bourdieu, we classify work skill and normalized work are embodied cultural capital and sort knowledge into objectified cultural capital, both of them constitute users' cultural capitals.

Bourdieu conceptualizes social capital as the instrumental benefits that one can obtain from the social network (Hsieh et al., 2011). Bourdieu confirm that the nature of the social capital is the potential resources that can be accessed through a durable network of relationships (Pret et al., 2016). From the interviews, we found that ESS users can improve their social capital through using ESS, for instance, some of interviewees show that they have been built relationships with more people who may never get in touch with offline, and they also can get help from others in the ESS timely. Based on the practice theory of Bourdieu, we define this phenomenon as the cultural capital reproduced.

Bourdieu named a struggle space for agents who use their capitals as field, in the field of the ESS implement in an organization, the agents who use the ESS will be exchanged with the restructure of their habitus, cultural capital and social capital, this exchange comes from the use of the ESS, which can be seen as the struggle or the practice in the practice theory of Bourdieu. With the reproduce of capitals, agent (ESS users) will gain new capitals, but how these capitals work? Bourdieu proposed another type of capitals and named it as symbolic capitals. This form of capital is particularly powerful as it can engender belief in the quality of products, generate trust and legitimize the actions of agent (Pret et al., 2016). We conducted by the practice theory of Bourdieu, asked interviewees some questions such as "How do you think of your recognition in the organization?" and "Talk about to what extent your opinion will be accepted in your organization?". Some interviewees indicated that they can get more recognition while they share more knowledge in the ESS. At the same time, their social capital will accumulate gradually, and cultural capitals will also be improved with other members' free contribution of the knowledge in the ESS. Symbolic capital is a result of conversion between habitus, cultural capitals and social capitals, it is objectified in awards and recognitions (Pret et al., 2016), makes agents' actions more legitimately. Once users' actions be recognized, the users' position in the ESS will be improved and it can promote users' working enthusiasm and then generate more creative behaviors. Actually, the interviews confirmed the theoretical analysis just like the interviewee state that "I will be more active when my opinions have been recognized" and the majority of interviewees admit that they propose creative ideas for the work in order to promote their positions in the organization and they will try their best to realize their creative ideas with the promotion of their positions in the organization.

To make a long story short, the use of ESS can take a positive effect on employees' innovative behavior through ESS usage, capitals reproduced, be recognized and practice of creation. The practice theory of Bourdieu helps to explain the generative mechanism of creative behavior with the role of symbolic capital, cultural capital, habitus and social capital.

4 Conclusion

ESS technology's value inside the organization, particularly its impact on employee's creative behavior. Based on the practice theory of Bourdieu and the theory of critical realism, the present study reveals that ESS usage in an organization can affect employee's creative behavior positively, and explains the generative mechanism of creative behavior with the grounded theory methodology.

The managerial implications obtained by the study is twofold: On the one hand, for the company who develop the ESS, the results can guide them how to design and optimize the function in the ESS which can improve the affordance of the ESS. On the other hand, form a practitioner's perspective, reference for best-practice on ESS implementation was provided and the value space of ESS was explored.

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