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ENTERPRISE SOCIAL MEDIA:
THE OPPORTUNITIES AND CHALLENGES FOR START-UP COMPANIES

Research paper

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Abstract

Enterprise Social Media (ESM) represents a burgeoning area of research; yet, the majority of studies on ESM have focused on the adoption and use of these systems in large enterprises, with limited knowledge about the use of ESM systems in small enterprises, particularly start-ups. The challenges faced by start-up businesses are sufficiently different from those faced by large companies, therefore limiting the generalizability of findings about ESM adoption and use in large companies to the start-up context. In this paper, we use a qualitative case study approach to explore the benefits and challenges associated with the implementation and use of Slack in a Taiwanese mobile application start-up company. Moving beyond offering mere rich descriptions of the organizational impacts associated with ESM implementation for start-up companies, we also use the findings of this study to propose a set of technological modifications that may make ESM systems more suitable for the types of workplace interactions required in small enterprise settings. Thus beyond implications for research and practice, this paper concludes with a set of design implications that could guide ESM developers in building systems for the start-up market.

Keywords: Enterprise Social Media; Start-Up Companies; Small Companies; Design Implications; Appreciative Interviews

1 Introduction

The literature on Enterprise Social Media (hereafter, ESM) has proliferated in recent years, paralleling the high rates of adoption by organizations. Recent statistics have shown that four out of five companies are currently using some form of ESM (Van Osch, 2015) and worldwide investments in ESM have been estimated at $100 billion (Hinchcliffe, 2011). ESM provide people within organizations new forums to connect, collaborate, and co-create with others and encourage serendipitous, impromptu, and unstructured knowledge sharing by making it easier to find and engage people with mutual interests and complementary expertise (Leonardi, Huysman, and Steinfield, 2013; Leonardi, 2014; Treem and Leonardi, 2012; Treem et al., 2015).

Yet, the literature on ESM to date has focused on the adoption and implementation of these systems in large companies. From the early work on IBM's Beehive (DiMicco et al., 2008, 2009; Steinfield et al., 2009) and the Watercooler system at HP (Brzozowski, 2009) to the more recent work on ESM use in a large financial firm (Leonardi, 2014) and an office furniture firm (Van Osch and Steinfield, 2013, 2016; Van Osch et al., 2015a, 2015b, 2016a, 2016b, 2016c, 2017). Given that the strategic objectives of large organizations are very distinct from the day-to-day challenges facing start-up companies and small enterprises in general, results about the organizational impacts of ESM for large corporate settings may offer only limited generalizability to the small enterprise context.

In this paper, we present a qualitative study of the adoption of an ESM tool—Slack—by a small mobile application development start-up company that was founded in Taiwan in 2010 and which now spans six cross-national offices globally with a total of ~60 employees. Our study is driven by three research aims. First, we aim to overcome the dominant focus on large companies in the ESM literature and shed light on the specific opportunities and challenges that ESM provide for start-up companies,

in particular, and smaller enterprises, in general. Second, as first emphasized by Gibbs et al. (2013), the ESM literature to date has been one-sidedly focused on the anticipated positive performance benefits associated with the adoption of ESM technologies, therefore, paying relatively limited attention to the potential challenges and risk associated with this new class of workplace tools. Yet, given the substantial investments of companies worldwide in ESM technologies (Hinchcliffe, 2011) offering a more balanced perspective of the organizational impacts associated with ESM is warranted. Third, moving beyond implications for research and practice, we also aim to shed light onto specific implications for the design and development of ESM tools that are suitable for the small enterprise setting. That is, from the in-depth understanding of the specific challenges of ESM use in the small enterprise context that this study offers, we can inform the improved design of ESM so as to increase the likelihood of their successful adoption and use in start-ups and small organizations.

Small enterprises represent around 99% of all enterprises and are responsible for a growing percentage of employment (EuroStat, 2016) as well as gross value added, especially in smaller economies, like Taiwan. In Taiwan, in particular, 97.64% of all enterprises are considered small to medium-sized enterprises (SMEs). Additionally, 78.30% of all employed persons in Taiwan are employed in SMEs, defined as those with less than 200 employees (SMEA, 2016). Furthermore, SMEs account for 30% of the total annual sales of all enterprises in Taiwan. Thus, not only is research on small enterprises critical to ensure that our fundamental understandings and theoretical models regarding the use of ESM are generalizable to the majority of businesses around the world, but furthermore to ensure that ESM are designed and developed so as to be more suitable to this substantial sector of the global economy.

Therefore, the two research questions underpinning this study are:

1) *What are the opportunities and challenges associated with the use of Enterprise Social Media in start-up (i.e., small) companies?*

2) *What are implications for the design and development of Enterprise Social Media for small enterprise settings?*

The remainder of this paper is organized as follows. First, we briefly review the literature on ESM to data and offer a foundational definition of ESM that will underpin the remainder of this study. Second, we discuss the research setting as well as the methods that guided the collection and analysis of data from our qualitative case study. Third, we present our findings with respect to our first research question regarding the opportunities and challenges associated with ESM use in the context of a start-up company. Fourth, we discuss implications for the design of ESM for the small enterprise context. Finally, we conclude with general implications for researchers and practitioners with an interest in ESM.

2 Enterprise Social Media

2.1 A Definition and Brief History of ESM Literature

Before offering an in-depth review of the literature on ESM to date, we will first offer a definition of ESM to guide the remainder of this paper. Leonardi et al. (2013, p. 2)—following an integration of diverse perspectives from extant research—offer the following definition of *enterprise social media platforms,* that we will adopt in this study; ESM represent: *"Web-based platforms that allow workers to (1) communicate messages with specific coworkers or broadcast messages to everyone in the organization; (2) explicitly indicate or implicitly reveal coworkers 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"*.

Although ESM research is still in its infancy, a rapid growth in the number of articles since 2006 can be witnessed, starting with a mere four articles on the related topics of enterprise social media, enter-

prise social networks, and enterprise social software in 2006 and totaling 224 articles today based on an extraction of all articles stored in the Scopus database[1].

Despite this significant explosion of ESM research, the literature still offers an only limited understanding of the role that social media technologies play in organizations (Leonardi et al., 2013). To illustrate, most studies on ESM to date have been conducted by scholars belonging to the domain of computer-supported cooperative work (CSCW) and human-computer interaction (HCI). In these domains, the focus has been on specific social media technologies—e.g., the Beehive system at IBM (DiMicco et al., 2008, 2009; Steinfield et al., 2009) and the Watercooler system at HP (Brzozowski, 2009)—and their adoption in large corporate settings. These studies have largely offered descriptions—often anecdotal—of how people use social media by relying on self-reports, yet, with little focus on the strategic implications of these tools.

Although information systems (IS) scholars have begun to explore the domain of social media, the focus has largely been on how it could possibly affect knowledge management or sharing, with little empirical validation (Von Krogh, 2012). Finally, scholars in management and organization studies have not yet begin to explore ESM (Leonardi et al., 2013), explaining both the lack of and underscoring the need for research on the strategic implications, such as the impact on generative collaborations, associated with these systems.

From the 224 reviewed articles, two articles were identified that dealt with start-up companies (Huatao, 2010) and small enterprises (Butler et al., 2007). A careful review of these articles indicated that both were irrelevant, because of the lack of inclusion of an ESM as either the object or context of study. Instead, both articles focused on offline (i.e., traditional) social networks in the enterprise setting, with the first looking at the evolution of social networks in start-ups and the second focusing on the role of social networks in vocational training in small enterprises.

A further in-depth analysis of the remaining (i.e., 222) articles reveals that the majority of these studies are exploratory and primarily highlight the anticipated positive performance benefits associated with the use of ESM in large enterprises, such as: (i) the building of meta-knowledge (Leonardi, 2014) of who knows what and whom, both of which may in turn foster innovation. Furthermore, earlier studies on ESM highlight how these tools offer novel opportunities for people sensemaking (creating a mental model of who a person is using information from ESM (DiMicco et al., 2008, 2009) and for building and maintaining workplace social capital. Furthermore, ESM help to establish transactive memory systems (Fulk and Yuan, 2013), foster broader cross-unit participation (Holtzblatt and Tierney, 2011; Hienert et al., 2011; Majchrzak et al., 2013) and enhance boundary work (Leonardi et al., 2013; Van Osch and Steinfield, 2013, 2016; Van Osch et al., 2015a, 2015b, 2016a, 2016b, 2017).

However, the majority of these themes—e.g., the strong need for people sensemaking, boundary work, and transactive memory systems—are much more salient to large enterprises, which often face issues associated with effective coordination and knowledge transfer—and may be less salient to start-ups and small enterprises, which often face very different challenges—e.g., lack of (financial) resources as well as the limited availability of people and expertise—which therefore may present very different opportunities and challenges for the implementation and use of ESM, but also distinct insights into design implications for ESM.

2.2 Opportunities and Challenges Associated with ESM Implementation and Use

Focusing more specifically on the literature that has centered on the opportunities and challenges associated with the adoption and use of ESM, two articles are particularly relevant. First, the conceptual paper by Leonardi et al. (2013) outlines a set of advantages and disadvantages associated with four

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[1] A comparative search was done in other databases, including Google Scholar and EBSCO Host, however, the SCOPUS search results were the most comprehensive, hence, used for further analysis

sets of activities that are likely to be performed through ESM, namely: Social Capital Formation, Boundary Work, Attention Allocation and Social Analytics. Van Osch, Steinfield, and Balogh (2015) adapted the conceptual framework offered by Leonardi et al. (2013) and applied it in the context of a multinational company as well as expanded it with the two dimensions of Adoption and Use Incentives and Governance and Control. A complete overview of the advantages and disadvantages as adapted from both papers are offered in Table 1 below.

	Advantages	**Disadvantages**
Social Capital Formation	Easy to "keep up" with others Strengthen communities Establish common ground Initiate new connections and maintain existing connections "Background check" prior to face-to-face meetings	Limit contributions out of fear of knowledge spillovers and loss of power Risk of balkanization and forming of echo chambers Too much social information (overload)
Boundary Work	Break down knowledge silos Ability to forge alliances Improved cross-departmental understanding/coordination Discovering personal similarities due to presence of social information Ease of communication Feeling connected to remote or "invisible" locations Information Search and Representation	More generic communication due to visibility Loss of proprietary information; Privacy concerns Strengthen boundaries to avoid spillovers Context collapse Differences in communication styles across cultures; creating unequal opportunities Limited opportunities for true coordination and collaboration
Attention Allocation	Attend to underrepresented groups or unknown individuals Public nature of information may improve accuracy Threaded and temporally ordered nature eases attention allocation Unique and relevant content	Cognitive overload Information may be perceived as representative of the entire organization Sub-optimal attention allocation strategies Increases absentmindedness Counter-Intuitive Content Organization What (Not) To Share?
Social Analytics	Managers can use digital traces to understand informal information economy Better understanding of communities (informal organization) Conversation-starter materials Easier to connect with unknown others	Increased ability for surveillance and control People may refrain from use due to fear of management watching Only one-sided perspective of communities (within ESM) Encourages strategic self-presentation
Adoption and Use Incentives	Unique functionalities (not offered by other computer-mediated workplace tools)	Gamification – Untied to Real Performance
Governance and Control	Democratization of organizational interactions (bottom-up) Virtual communities-of-practice (outside of organizational control)	Invisible control

Table 1.   *Enterprise Social Media: Advantages and Disadvantages (adapted from Leonardi et al., 2013 and Van Osch et al., 2015)*

Through a case study of the adoption and use of ESM, we expect to provide a more in-depth and contextualized understanding of the challenges and opportunities ESM can bring to small companies.

3 Research Design

In what follows, we discuss the case context and details about data collection, sample, and analysis.

3.1 Case Setting

Our case organization is a cross-national software company developing mobile application products. The company has approximately 60 employees distributed in Korea, Taiwan, China (Hong Kong), Thailand, Japan, and Brazil. The Company is headquartered in Korea and operation office is located in Taipei, Taiwan, where it was originally founded in 2010.

In January 2015, the organization launched an ESM tool – Slack (https://slack.com/), to replace its prior internal communication tool – Facebook. Slack is a communication tool designed for companies to integrate all kinds of internal communications in one place, and one of Slack's best features is allowing software engineers to add almost any kinds of plug-in tools with the platform.

3.2 Sampling Approach and Interview Participants

A purposive sampling approach was used for recruiting participants, focusing on "appreciative" cases in order to learn from success stories or unique experiences with the use of the ESM tool (Schultze and Avital, 2011). Furthermore, we tried to add further credibility to the sample by selecting respondents who span different functional departments and geographic locations in the company. The final list of participants is presented in Table 1.

Participant	Role	Functional Department	Location
1	CEO	Management	Taiwan
2	Business Director in Thailand	Business	Thailand
3	CTO	Technical service	Taiwan
4	Co-founder & CFO	Management	Taiwan
5	Mobile Engineer	Mobile	Taiwan
6	VP of Sales & Marketing & Special Assistant to CEO	Business	Taiwan
7	Business Product Development	Business	Taiwan
8	Marketing Specialist	Business (Marketing)	Taiwan
9	Business Development Specialist	Business (Sales)	Taiwan
10	Mobile Director	Mobile	Taiwan
11	Service Planner (Android/iOS team)	Planning	Taiwan
12	QA Engineer	Quality Assurance	Taiwan
13	Service Planner (Android team)	Planning	Taiwan
14	Country Manager in Hong Kong	Business	Hong Kong
15	Country Manager in Brazil	Business	Brazil

Table 2.   Overview of Interview Participants

3.3 Appreciative Interviewing Approach

The appreciative interviewing method is grounded in the positive discourse in the social sciences (Avital et al., 2009) and involves a search for the best in people and the relevant world around them, thereby highlighting positive change with respect to organizations and technologies (Schultze and Avital, 2011).

The appreciative interviewing process alternates between retrospective and prospective reflection, eliciting high points in "what is" and emerging possibilities for "what might be" (Schultze and Avital,

2011). Although inherently focusing on the positive, appreciative interviewing does not deny deficiencies and criticism, but rather posits them as opportunities for positive change. Hence, the interview process provides respondents an opportunity to share unique personal experiences, thoughts about what works well, and desired future aspirations and states.

The appreciative interviewing method is particularly well-suited for examining core capabilities, design requirements, and success factors of novel IS and their implementation and use (Schultze and Avital, 2011; Avital, 2003). The appreciative interview allows for the identification of unrehearsed high points and success stories of the situated use of these novel IS tools. Hence, as such, the appreciative interview method was deemed most appropriate for this study where we aimed to understand the opportunities associated with ESM use in an organizational setting as well as potential avenues for positive change in their future design and use.

Hereto, the interview protocol started out by asking people to share a particular unique personal experience of interaction or collaboration—i.e., an appreciative critical incident—describe the significance of this event to them personally, as well as the role or importance of the ESM in this event. Following this unique opportunity for positive story-telling and personal reflection, the interview protocol continued to focus on questions regarding (i) their usage of the ESM, (ii) advantages of the tool, (iii) its effects on their workplace interactions, sense of connectedness, and visibility of their individual or team activities, (iv) ideal use situations, and (v) desired future changes to the platform and its functionalities to improve its potential for use in small enterprises.

3.4   Data Collection and Analysis

Interviews were conducted in the Spring of 2016 and lasted anywhere between 40 and 65 minutes. To compare the perspectives from managers and regular employees, three of the interviews (high-level management team) were being asked additional questions related to management. Interviews with Taiwanese employees were conducted in Mandarin; whereas those with employees working from satellite offices around the globe were conducted in English. All English interviews were transcribed verbatim using a paid service (Scribie.com) and all interviews in Mandarin were transcribed and translated simultaneously using a professional translation service from Taiwan. All transcripts were subsequently imported into a qualitative analysis software application, NVivo, for coding and further thematic analysis.

The coding included a sequential process of selective, open, and axial coding and was conducted by one of the authors on this paper. That is, initial coding was done selectively, by drawing on the themes identified by Leonardi et al. (2013) and Van Osch et al. (2015) regarding the four communication-related processes that are affected by ESM. Open coding was used to identify additional workplace activities that were impacted by ESM, but were not captured in previous studies. Finally, axial coding was used to cluster novel themes from the open coding into meaningful and higher-level categories.

As a pruning criterion, a 20% threshold was set, which meant that marginal themes that were not addressed by at least three participants were disregarded for axial coding. Additionally, relevant interview excerpts were selected that could provide concrete illustrations of identified categories and themes. This coding and sorting process resulted in a final set of six categories of opportunities and challenges associated with ESM.

4   Findings

In what follows, we present the results from our qualitative case study with respect to our two central research questions, namely what are the challenges and opportunities associated with ESM use in small enterprises and what are the implications for the design and development of ESM for the small enterprise setting.

4.1 Opportunities and Challenges of ESM Use in Start-Ups and Small Companies

Our interviews reveal both opportunities and challenges associated with the use of Slack at the Taiwanese mobile app development company. A summary of the interview themes is provided in Table 3 below. The bolded themes are those that revealed important differences and novel findings vis-à-vis the conceptual themes proposed by Leonardi et al. (2013) and those found by Van Osch et al. (2015).

Interview Themes	# of mentions
1. Social Capital Formation	
1.1 Network/ communication benefits	7/15 (47%)
1.2 Relationship building	4/15 (27%)
1.3 Conversation starter	3/15 (20%)
2. Boundary Work	
2.1 Information flow	4/15 (27%)
2.2 Collective intelligence	4/15 (27%)
2.3 Cross department/ offices communications and Collaboration	4/15 (27%)
2.4 Change of communication process	4/15 (27%)
3. Attention Allocation	
3.1 Split work from private life	9/15 (60%)
3.2 Information search	9/15 (60%)
3.3 The integration of tools for workplace	5/15 (33%)
3.4 Keep official information posted	3/15 (20%)
4. Social Analytics	*4/15 (27%)*
5. Adoption and Use	
5.1 Language use	7/15 (47%)
5.2 Company core value: Engineering Culture	6/15 (40%)
5.3 Credential-sensitive information	6/15 (40%)
6. Management: Control vs. Freedom	*3/15 (20%)*

Table 3.   Categories and Themes in Interviews

Some themes emerged simultaneously as advantages and disadvantages. Furthermore, some of the themes paralleled the themes theorized by Leonardi et al (2013) and those empirically validated by Van Osch et al. (2015); specifically, those that were relevant with adaptation included: Social Capital Formation, Boundary Work, Attention Allocation, as well as Adoption and Use. In addition to these overlapping themes, several important differences also emerged that will be discussed in detail below.

Social Capital Formation: Almost half of the interviewees mentioned that the Slack offers networking and communication benefits, primarily by offering a useful, convenient or time-saving way of communicating within the company. *"People can work without logging in many systems at a time; bots bring data/ info from other plug-in services, which is time-saving, and it allows people to do more important tasks." "Interpersonal relationship improved and thus benefit future collaboration. Overall communication and interaction with colleagues is increased which is helpful."*

Though people show positive attitude toward how Slack benefits communication, paradoxical opinions also being mentioned at same time. The idea that ESM(Slack) increases employees' working productivity or efficiency is consistently being accepted, but some participants emphasized that the communication benefits from Slack is limited because people matter much than tools do when it comes to communication. People might not be able to use the tool to the best, also sometimes the tools themselves hinder the communication among people. For example, there are things can only be settled through face-to-face discussions (in person or virtually) while many tend to rely on typing messages

without considering the conditions. *"For example, all the engineers prefer typing but not talking, so I have to wait… I would walk from here to there and get the answer in 30 seconds, but now I have to wait for one minute. …Of course, some of them are and clear and straight-forward(responding), but some of them… they describe everything and the causality." "…we actually prefer face to face (communication). Slack is for matters which is very clear…, we use it almost every day…. …bigger projects which require longer time for preparation, discussion, design, plan and operation, they need to be communicated face to face."* With respect to relationship building, the visibility of information within Slack helps individuals within the company to have a better understanding of other teams—what they do and who they are—thereby facilitating improved communication and possible collaboration. In addition, *"communities or associations"* created in ESM also makes people get closer. Those communities are mostly used for leisure purposes, such as "Sports" or "Games." While ESM allows users to build relationship, it also leaves room for individual employees to decide how deeply they want relationships with their colleagues to develop. *"ESM is the only one tool remaining in the company, for it's easy to use. It is somehow a 'safe' tool that people don't need to exchange their personal Line account."*

One major difference with the large enterprise setting is that the relevance of Slack as a conversation starter is rather limited, since within small companies, people actually know each other more or less. Yet, one of the employees from a satellite office expressed that Slack is still beneficial if they need to request someone from an unfamiliar engineers based in the main office (Taipei); because Slack makes the conversations more legitimate and efficient: *"…in the past, I would use Line to first greeting for a while like 'hi, how's doing lately?' 'Oh, your son is cute! … But in ESM you don't need to do so at all. That is like, 'hi, I have a request.' So I think things like this help the communications more efficient, because you won't feel like you're disturbing in others' personal space."*

Boundary Work: Overall, the majority of interviewee comments can best be categorized under the theme of boundary work. Popular sub-themes that emerged frequently pertained to information flow, collective intelligence, cross-department communication and collaboration. Furthermore, two major challenges associated with using Slack for Boundary Work included information overload and noise/distraction.

With respect to the flow of information and improved communication, participants mentioned that Slack helps people obtain multi-dimensional information that helps them feel more prepared in their work and learn things holistically. An important theme in this context was also the convenience of using Slack. ESM helps employees to know what is going on in other projects and teams, without wasting time discussing questions repeatedly, thereby also speeding up problem-solving through company-wide engagement. *"The most convenient portion of [ESM] I found so far is that you can review what others had talked about and you can catch up with it." As we are separated into several different projects, we need to sync what is in our product in order to avoid conflict. And we might discuss some risks; So we are aware of something easier even though [we do] not belong to that project (team)."*

One intriguing point participant mentioned is that the openness of information helps them know more about other projects' current plans or progress, not only helping them get prepared for future collaboration but most importantly, preventing conflicts in internal resource allocation, such as avoid requesting for engineering team's support or try to ask for the priority of resource; *"… for example... within their (other functional team) channel, I would see they mention something relating to the planning of the product, then I would probably say on my side that 'if you designed it in this way, it might affect us to a certain extent on our team'... I might find out that... for example, in order to develop the function, it would require a lot of our engineers' time. They (engineers) might then have no time to help us on our portion of work. Right, so this would be like a situation where resources are snatched away. I would look for my department head, and then invite him to communicate directly with their leader."*

Participants mentioned that ESM encourages collective intelligence, primarily through instant voting or polling. These mechanisms allow employees and teams to derive at decision more quickly and solve problems collectively. One major design challenge for the company is cultural appropriation; given that there are employees in satellite offices, Slack has enabled the company to quickly tap into em-

ployees in other geographic areas to obtain their input regarding cultural appropriation of products or advertisement. "*For example, they (employees) were talking about some copies (for advertisement) and then suddenly one guy answered - actually this guy is from the [a functional] team and not relevant to these copies – to the question 'is it quite popular in Hong Kong?' Then he said 'it's really out of date, really!' Another guy is from Hong Kong, he then said "yes, I think it's out of day as well….".*

The "reaction" feature of Slack was considered to be useful in this regard to assist with voting for ideas and identifying a general opinion towards discussed topics in ESM, while simultaneously making the conversations more fun and engaging. "*To reply and express feeling making the conversation in channels more fun and easy. People can make use of it to vote ideas in channels.*" Another important feature of Slack that was emphasized in this context as being particularly important is the "mention" feature, which allows people to tag (using @) a specific person or group. More than half of the participants mentioned this feature as the most useful feature of slack to ensure information is delivered to the right person or group and thereby increasing the overall efficiency of communication. "*Because there are too many messages, (if without the 'mention' function) the efficiency of instant message is not effective as it should be.*"

Furthermore, an interesting theme that emerged is that the implementation of ESM has changed the way employees communicate in the company; specifically by decreasing the amount of email and the amount of face-to-face meetings. The latter are now only reserved for discussing more complex issues; whereas any other immediate and simple problems are solved through the direct message function of Slack. "*Slack does change the communication procedure as sharing information is easier than before and some conventional companies. People don't need to be present at same time to respond to each other, they can join [and] respond when they are free, thus overall interactions increased.*"

Contrary to the communication benefits mentioned, one third of the participants also focused on the negative side-effects associated with the open availability of information; specifically, in terms of information overload. Participants repeatedly mentioned receiving too much information following the adoption of Slack and that the immediacy of information is not always required and positive. Related to this, there was also general awareness that given the ease of communication through Slack, conversations can easily spiral out of control and become "*distracting and time-wasting*".

Attention Allocation. In general, ESM integrates more information and communication tools within a company into one platform, helping employees to work more conveniently on the one hand and allowing the company to manage the company information more easily. In our study, we found that both senior management and regular employees appreciated Slack as it helps to (i) maintain a high level of focus and productivity, by clearly separating work from private life (less distraction), (ii) integrate almost all the tools needed at work into a single umbrella platform, (iii) search for all work-related information/ discussions in one location, and (iv) keep official information posted permanently. The integration of tools for workplace communication within one place—Slack—was perceived to reduce the amount of effort and time spending on switch between different working platforms;

Since Slack is intended to be the communication platform for the workplace, colleagues can connect with each other and do not need to exchange personal social networking accounts such as Facebook or Line for work-related matters. Some mentioned this further helps them separate on and off-duty time (e.g., weekdays vs. weekends) and limits the amount of filtering one needs to do in terms of separating private from work-related messages. "*I think its advantage is to help my private life separated from work life; and if it is work-related matter, I can sort it accordingly.*" "*Erm... the whole point is to separate work and personal matters.*" This also seems to be a direct consequent of the fact that—prior to Slack—employees were using Facebook as an internal communication platform, however, this made employees feel either forced to establish personal relationships with other colleagues or feel distracted. Hence, it actually seems that Slack helps to avoid context collapse. "*In fact, you usually open a stack of conversation windows on Facebook, [...] your messages come from both work and personal sides, so your thoughts can be interrupted easily.*"

Slack also helps to keep people informed of important tasks that need to be completed so that project deadlines are not missed. "*…It means when you finish a task and forget it (to inform other team mem-*

bers) later, ...it will cause lots of troubles. And someone may ask 'hey, have you solved it?', then you say ";I have finished it two days ago.', and 'why didn't you tell me about that?' ... Now, it is like a well-connected digital nerve system. Everyone knows who's done something. And if you want to know more about a project, you just need to join the project (channel), that's it."

Almost half of the participants mentioned about there are no secret in the company, including two high-level management team members, and they don't think there are/ will be inappropriate information shared on Slack. Not only managers but also employees pointed that it is appreciative that the company keep things open and transparent, particularly how the company is doing right now.

Finally, it was also mentioned that senior management has adopted Slack as the designated channel for posting official information through the creation of an official announcement channel for important company-wide updates, such as "*the company health check policy*". This "announcement channel" is also the only channel that forbids chatting on the ESM, i.e., is exclusively reserved for announcements. ***Adoption and Use.*** Whereas large companies typically have language policies, no such policies exist in our case company. Furthermore, since the company emerged as a purely Taiwanese start-up, the dominant language in Slack became Mandarin, thereby limiting opportunities for employees from satellite offices to engage with the conversations in Slack. As a result, colleagues in satellite offices— particularly those in the Korean offices—therefore started using other communication tools, mostly Line. *"As for colleagues from Korea, they just... actually maybe they are not accustomed to Slack, so I communicate with them via Line mostly."*

A related factor that may limit the company-wide adoption of Slack is the strong engineering culture of the organization that drove the decision to adopt Slack—a tool designed primarily for technology organizations. One third of participants who mentioned the advantage of integration that Slack brings to the company also brought up that Slack may only benefit or benefit more the engineering team other than themselves. It shows that even the initial goal of ESM adoption for this company seemed to improve communication among employees and help people stay focused at work, the choice of tool, in our case is engineers' preference, inevitably limited the advantages ESM can bring to the company. Interestingly, some supervisors we interviewed with mentioned that fact that they do use Slack to keep in touch with other members in the company, they don't really use it as the main communication tool within their own teams. That is, the fact that engineering presents the core value of the organization limits the extent to which non-engineering employees engage with the tool.

Management: Control vs. Freedom. In general, all participants show very little concern about being monitored by senior management, which may be as a result of the fact that the company is a start-up and so hierarchy and power distances may be less visible. Hence, employees in the company in general seemed to demonstrate large amounts of trust in the company's senior management.

High-level managers, on the other hand, did appear aware of the possibilities for monitoring employees through Slack, in particular as a result of having access to conversation histories that enables them to check the performance of employees. "*I have to know what they (employees) are doing; and I can have a look at the history in Slack... The public channel like this [ESM] allows me to enter and have a look. ...I'll join [the channels] and offer some help to projects. I guide them (employees), and when I think 'why their performance is so bad?' then I will check how they made decisions before in the Slack (channels).*" One also considers the conversations on Slack channels as reference when he needs to make some judgements over personnel issues. "*People might say someone is passive, and the other is proactive, and I will get the truth (through Slack). I can differentiate who's right and who's wrong through the (conversation) history, but not just rely on their judgements.*"

4.2　Implications for the Design of ESM for the SME Setting

The interviews revealed several features within Slack that were considered useful—and which appear to be absent in ESM tools designed for larger companies, such as Jive—but also features that do not currently exist, yet could make ESM more suitable for small enterprises (see Table 4).

From the existing features, the most useful one according to the interview participants is the "mention" (@)feature (this feature is soon being applied in many other instant messengers such as Facebook

messenger and Line in 2016), which allows people to indicate who they are talking to in a group. The feature does not only improve team communication, but also make cross-space communications more like face-to-face communication as people in face-to-face meetings are aware of who is talking to whom. Also, as all people within the conversation threads will know exactly whom is the one being pointed and talked to, it ensues the effectiveness of the communication.

The "channel" feature of Slack was also considered to be useful, as it creates an environment in which people are relatively equal as anyone is allowed to create as many communities as he or she wants and on any topic, work-related or not. The channel feature also helps to improve the overall connections between employees and to increase opportunities for establishing virtual communities-of-practice.

The "pin" is another key feature that many participants liked, which helps users to "pin" the information that they consider important and would like to revisit later. The pinned information will be displayed in a specific area on the interface where users can easily access it in the future. The feature is important because one of the key complaints of Slack is "*information overload*" and the overall difficult in finding useful information amongst the large amounts of available information.

Finally, employees and particularly senior managers like that Slack affords three communication channels within one tool with different levels of visibility: the public channel, the private channel and direct message. Managers leverage public channels to keep tabs on what teams are working on and how projects are evolving, while they can create their own private channel on Slack for higher-level managers to communicate about strategic decisions. Direct message further enables one-on-one conversations whether for work-related matters or not.

Functionality Mentioned	General Feedback	(Potential) Advantages
Mention (@people/ @group)	Positive	Communication Benefits
Channel (public/private)	Positive	Communication Benefits
Pin	Positive	Information Search
Search	Room for improvement	Information Search
Guide	Room for improvement	Adoption and Use
Language	Room for improvement	Communication

Table 4.   Overview of ESM Design Features and Implications

Beyond these already available features that were highlighted as particularly important, other features were proposed that could increase the usefulness of Slack. The first was a language translator, much like the "Translate" function on Facebook. Language forms the major barrier for communication, in particular as the company emerged in Taiwan. One employee mentioned copying content from Slack into Google Translate to keep up with information related to his work; hence, the instant translate feature would remove the language obstacle.

Second, participants also emphasized the importance of improved search functionality. Currently, Slack—like other ESM platforms—has a general search function that will search the entire platform for a particular keyword. However, participants mentioned that being able to designate in which channel (e.g., group) you want to search allows one to filter through information more efficiently. Furthermore, the search function could be improved through a preview function. In its current form, search results do not reveal any clues for users to judge if the information is what they are looking for or not. A preview function would increase search efficiency by allowing users to evaluate the relevance of a search result before opening it up. Participants seemed to share the opinion that a well-designed search functionality, could turn the risk (i.e., information overload) of visibility in ESM into a benefit.

Finally, although most participants mentioned that being a technology company, the employees are supposed to know how to use a platform like Slack without too much guidance, the non-technical employees often expressed difficulty in using Slack. Hence, they proposed to have a simple orientation or tutorial feature that can help users understand the possibilities of Slack. Especially, since many start-

up companies are technical, there may be a bias against the non-technical employees, something which a tutorial function could safeguard against.

5 Discussion

This study set out to move beyond the dominant focus on large enterprises in ESM research by presenting findings from a qualitative case study of a start-up technology company's use of Slack. Our findings from 15 interviews in a Taiwanese mobile app development start-up company reveal that although some of the communication benefits and challenges that large companies face, following the implementation of ESM, are also faced by small enterprises, some of the advantages and disadvantages seem unique to the small enterprise setting.

The unique opportunities associated with the use of ESM in our case organization include:

- ***Social Capital Formation – Communication Benefits:*** The opportunity to mimic face-to-face interactions through the use of mentions, allowing you to address specific individuals in a group setting. This again is something that may be more salient for small organizations that are strongly accustomed to face-to-face meetings and discussions and hence, desire a tool that mimics face-to-face communication. Larger, multinational organizations, due to their very distributed nature, are more accustomed to computer-mediated communications.

- ***Boundary Work – Collective Intelligence:*** The advantage of involving the entire company—all employees—in a single problem-solving or decision-making situation; i.e., the opportunities for collective intelligence afforded by ESM was something that was uniquely emphasized within out case organization. Collective intelligence involving the entire company is something which is not feasible in a large organization;

- ***Attention Allocation – Split Work/Private Life:*** The benefit of keeping work and personal life more separated; again a challenge that may be more salient for those in small companies where personal involvement with colleagues is perhaps expected more than in large companies. ESM allows them to separate professional interactions from personal interactions occurring on Facebook. This finding is actually in conflict with findings by Van Osch et al. (2015) regarding the use of an ESM by a large multinational corporation, where the blurring of the personal life and work—i.e., context collapse—was considered a positive side-effect of ESM, so that people felt they had better opportunities to share their personal experiences and stories with colleagues. However, in this context it is also important to keep in mind that cultural differences play a role here as Van Osch et al. (2015) emphasized that Asian employees in the multinational case organization were less likely to share personal information on ESM. Similarly, whereas ESM was considered a great means for a conversation starter in the study of Van Osch et al., (2015), this was not mentioned within the Taiwanese start-up. Perhaps the need for conversation starters is more salient in large organizations where there is a need for knowledge transfer with unknown others (Majchrzak et al., 2012).

At the same time, we find that ESM poses several workplace *challenges*:

- ***Adoption and Use: Language and Engineering Culture*:** The strong engineering and Taiwanese origins of the start-up resulted in the fact that Slack was selected as the ESM for the company—perhaps less appropriate for non-engineering employees—and that Mandarin became the dominant language on the platform, thereby limiting both the usefulness for and subsequent engagement by non-Taiwanese employees of the company. This is something that conflicts with the findings from Van Osch et al. (2015) and Steinfield et al. (2009) regarding ESM implementation in large companies, which is usually accompanied by language policies (i.e., English as the dominant language), although regional groups may exist.

- ***Management Control vs. Freedom:*** There seems to be strong differential views between general employees and senior management about the use of Slack for monitoring and control. Whereas employees seem to be relatively unaware of managerial monitoring and control, senior management admits to leveraging Slack for this very reason. This is in sharp contrast to the findings from

Van Osch et al. (2015), where the case organization purposely implemented the ESM for fostering a more open communication climate.

Finally, the study also shed light on some functionalities that would improve the functionality of Slack, in particular, and ESM, in general, from the perspective of employees from the Taiwanese start-up:

- A "***Translate***" function to overcome the language barrier.
- An improved "***Search***" function with a "***Preview***" option to help avoid information overload and facilitate more efficient and effective information search.
- A "***Tutorial***" function; especially for non-technical employees that have a harder time understanding how to use Slack.

Interestingly, the second feature—an improved Search function—also emerged as one of the greatest barriers to effective adoption and use at the multinational organization researched by Van Osch et al. (2015). The inherent messiness and randomness of newsfeeds and limited opportunities for effective search may impede users' ability to efficiently locate relevant information, individuals, or groups.

Our theoretical contribution is twofold. First, we empirically validate the conceptual classification of organizational processes that are affected by ESM as outlined by Leonardi et al. (2013) and empirically validated in the context of a multinational organization by Van Osch et al. (2015) in a small start-up organization, thereby shedding light onto the differences in challenges and opportunities associated with ESM use in small companies and revealing additional novel themes and subthemes (see bolded themes in Table 3), as outlined above. Second, unlike previous studies, this study aimed to shed light onto design functionalities that may improve the usefulness of ESM within the small enterprise context. Interestingly, the suitability of the identified features and functionalities seems to extend beyond the small enterprise context and apply to larger organizations as well.

From a strategic perspective, each of the opportunities and challenges that have been identified and summarized can be a starting point for managers in their decision-making regarding whether or not to implement ESM in small enterprises. ESM represent relatively expensive systems, hence, a holistic understanding of likely challenges and opportunities can help make adoption and implementation decisions in a more informed manner. Furthermore, the identified challenges can help managers in small companies that have already implemented ESM and designers of such tools to guide the design and management of ESM in its most productive and impactful manner.

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