Enterprise Social Media Use and Its Impacts on Employee Performance: A Systematic Literature Review

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Abstract

Enterprise social media (ESM) is an internal social media platform used within an organisation to support employees' communication and social interaction. While some organisations have invested in ESM despite the uncertainty of derived benefits on employee performance, other organisations are hesitant to deploy this platform. In addition, scholarly research on the relationship between ESM use and employee performance often shows inconsistent results. Therefore, to offer an understanding of ESM use and how it impacts employee performance that can inform the field of research and practice, this study systematically reviews existing studies on the relationship between ESM use and employee performance. The findings of this study are based on the analysis of 42 peer-reviewed journal articles and conference papers. The results are organised into a proposed framework that shows the relationships between direct and mediating relationships between ESM use and employee performance. In total, 21 antecedent variables (ESM use) are divided into three factors (behavioural factors, technology factors, and perception factors), nine outcome variables (employee performance) are categorised into two categories (performance outcomes and psychological outcomes), and 45 mediator variables are categorised into six factors (ESM as knowledge sources, psychological factors, ESM for knowledge exchange, task structures, social-related advantages, and stressors). Based on variables of behavioural factors from antecedent variables, there are eight main purposes of employees' ESM use, including work-related use, social-related use, social-instrumental use, ESM use, ESM deep structure use, cognitive absorption use, information sharing, and information seeking. In addition, the antecedents of employee ESM use, directly or indirectly through mediators, inhibit or enhance employee performance.

Overall, behavioural factors have direct and indirect relationships with performance outcomes and psychological outcomes. Technology factors have indirect relationships with performance outcomes and psychological outcomes through mediators, whereas perception factors have indirect relationships with only performance outcomes through mediators.

More specifically, ESM use directly increases employee agility, employee creativity, job satisfaction, task performance, and employee belongingness, and decreases cyber-slacking and task performance. Previous studies also report the roles of mediators to explain how ESM use influences employee performance. In particular, ESM use indirectly enhances employee competence, employee creativity, task performance, and employee agility, employee work efficiency, and job satisfaction while indirectly reducing cyber-slacking, employee creativity, task performance, job satisfaction, and employee work efficiency.

This study has some theoretical contributions that further explain the mechanisms behind the relationships between ESM use and employee performance. The study proposes a framework showing the direct relationship between ESM use and its impact on employee performance, as well as the role of mediators. The findings assist scholars in gaining a thorough understanding of the current state of research on this topic. Furthermore, this review provides practical implications for ESM stakeholders, such as allowing managers to leverage the advantages of ESM use while avoiding its drawbacks, enabling employees to use ESM appropriately to increase their performance while avoiding misuse that harms their performance, and permitting ESM designers to strengthen specific ESM features to encourage beneficial ESM use while minimising potential harmful use.

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Attestation of Authorship

"I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor used artificial intelligence tools or generative artificial intelligence tools (unless it is clearly stated, and referenced, along with the purpose of use), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

Author's signature: Date: 31st January 2024

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Chapter 1: Introduction

Internal social media (e.g., Yammer, Jamespot, Jive, etc.), known as enterprise social media (ESM), is a social media platform used within organisations to promote social interaction and internal communication (Leonardi et al., 2013). ESM has garnered widespread attention from businesses for its ability to provide employees with valuable capabilities, including creating, maintaining, and improving their social relationships in organisations (Chen & Wei, 2019; Kane et al., 2014). ESM provides meta-knowledge for employees to acquire specialised knowledge to solve tasks, contact and build relationships with experts based on awareness of conversations between their colleagues, and make inferences about what and whom those colleagues know from the exchanged messages (Treem & Leonardi, 2013). ESM also enables employees to hasten cooperation and increase innovation (Leonardi, 2015), obtain, and exchange work-related information (Cai et al., 2018; Kuegler et al., 2015), and improve decision making and communication across borders (Van Osch et al., 2015). Therefore, many organisations invest in ESM with an aim of increasing employee performance, as human resources are one of the organisation's unique intangible assets providing sustainable competitive advantages (Kavanagh & Johnson, 2017).

A growing number of businesses have adopted ESM. Nearly all Fortune 500 businesses have fully or partially adopted ESM (Deloitte, 2014). A well-known ESM platform developed by Alibaba in 2015 called Ding Talk has been used by more than 7 million organisations (Mo & Yu, 2017), most notably in China. The global ESM market size was reported at USD 2782.82 million in 2021 and is expected to reach USD 12906.28 million by 2031 (Business Research Insights, 2023). Moreover, some companies have even invested large amounts of money in developing their own ESM platforms, such as the Watercooler created at HP (Brzozowski, 2009) and the Beehive developed at IBM (Steinfield et al., 2009).

However, organisations are perplexed by the problem of "building but not using ESM best" (Ma et al., 2022). Organisations adopt ESM with the intention of bringing potential benefits, but they lack the certainty that using ESM will achieve the desired results. McKinsey (2013) reported from its global seven-year survey that, despite organisations' widespread employ of ESM in their workplaces, a third of them stated that they had not observed any tangible advantages from employees utilising these ESM tools to carry out their tasks. That is because, although organisations deploy ESM platforms, users are the ones who determine how much of it is used. Fadel (2012) indicates that the benefits of ESM often fall below expectations, and insufficient use of this resource is a commonly cited cause of these failures. Moreover, due to the voluntary nature of ESM use, both employees and management need to be persuaded that utilising ESM is worth the time and effort (Kügler & Smolnik, 2013) as Devaraj and Kohli (2003) highlight that IT will not positively influence performance if it remains unused.

In addition, although there is a growing body of research on ESM, considering, for example, its value for organisations regarding knowledge management and internal communication (Von Krogh, 2012) and motivational

factors to use ESM (Asdecker et al., 2020), there is a lack of comprehensive understanding of how ESM impacts employee performance because research findings show inconsistent results. For example, some scholars have found that ESM plays a crucial role in knowledge sharing by supplying high-quality and relevant work-related content and fostering cooperation through effective communication between managers and employees or between employees in different departments, which eventually enhances employee performance (Cai et al., 2018; Chen et al., 2020; Deng et al., 2021; Kwahk & Park, 2016), whereas other studies have argued that employees' extensive interactions and information exchange either on work-related or social-related matters in ESM lead to information overload and social overload (Chen & Wei, 2019), increase time wastage (Turban et al., 2011), and reduce productivity (Lu & Pan, 2019). This is because widespread employee involvement in ESM can lead to abuse and misuse of Internet resources (Turban et al., 2011).

As a result, although some organisations have adopted ESM, whether the use of ESM among employees is beneficial remains questionable (McAfee, 2009). Thus, to offer an understanding of the relationship between ESM usage and employee performance that can support the field of research and practice, this study systematically reviews existing studies on ESM use and its impacts on employee performance. To address the research aim, research questions are proposed:

1. How do employees use ESM in organisations?
2. What are the antecedents of employees' ESM use and their impacts on their performance?

The rest of the dissertation is organised into five chapters. Chapter 2 gives an overview of previous studies on ESM and its impact on employee performance. Chapter 3 presents the methodology by outlining detailed steps to conduct the systematic literature review. Chapter 4 shows the findings from the systematic analysis of the previous studies. Finally, Chapter 5 presents the discussion and conclusions drawn from the results of the findings, including theoretical and practical contributions, limitations, and future research.

Chapter 2: Literature review

Chapter 2 provides a literature review on the related topics, including an overview of ESM and the relationship between ESM and employee performance.

2.1 ESM

Leonardi et al. (2013) define ESM as web-based platforms that enable employees to (1) communicate with specific coworkers or send out messages to the entire organisation, (2) indicate or imply particular colleagues as communication partners, (3) post, edit, and arrange documents and files with links to themselves or others, and (4) view the conversations, connections, texts, and files shared, posted, sorted, and updated by anyone else within the organisation at any time. ESM is inspired by public social media, but it is operated by the organisation's servers, protected by a firewall network, and restricted to employees only (Jarrahi, 2011). ESM platforms integrate a wide variety of collaboration and social media tools, such as blogs, wikis, and social networking sites (Kügler et al., 2015). Moreover, ESM differentiates itself from traditional information systems (IS) by allowing collaborative creation and editing of information with the potential to promote collective intelligence (De Hertogh et al., 2011).

Treem and Leonardi (2013) propose four affordances of ESM: visibility, association, editability, and persistence, and emphasise that earlier computer-mediated technologies, such as teleconferencing, email, and instant messaging, did not offer many of these affordances. Visibility affordance refers to the capacity of ESM to give workers the ability to make previously invisible knowledge, preferences, behaviours, and network connections apparent to other employees in organisations (Treem & Leonardi, 2013). Visibility enables all users who have access to ESM to observe an interaction between individuals through posts, statuses, votes, or comments (Treem & Leonardi, 2013). According to Lee et al. (2001), exchange partners are more likely to understand, be attracted to, and empathise with each other when commonalities such as interests, values, or experiences are observed. Thus, visibility affordance can encourage social bonding among workers by assisting employees in identifying other colleagues who share their interests, activities, and backgrounds (Treem & Leonardi, 2013). Visibility affordance also helps develop meta-knowledge throughout the organisation as it discloses who knows what within the workplace to assist other employees in gaining access to specialised information (Leonardi, 2014). Association affordance refers to the established connections between employees, and between employees and content shared on ESM (Treem & Leonardi, 2013). According to Ellison et al. (2014), association affordance discloses, gives access to, and keeps track of coworkers with similar interests or activities, enabling them to transmit more social information and foster stronger, more effective social relationships. In addition, association affordance not only allows employees to locate experts but also keeps them updated with the activities of other employees, thereby providing workers with a quick channel to communicate work-related information (Ellison et al., 2014). Editability affordance refers to ESM's capacity to allow users to edit, add, and modify shared content (Treem & Leonardi, 2013). Editability affordance not only makes it easier for workers to manage how others see their content by deleting or editing, which improves the quality of shared information (Arazy et al., 2009), but also fosters trusting relations by allowing the open editing of shared content (Treem & Leonardi, 2013). Persistence affordance refers

to ESM's capability to enable users to permanently access the contents that have been posted previously (Treem & Leonardi, 2013). The information that has been recorded helps employees communicate work-related details more effectively and broadens the network of individuals within the company from whom they can learn, which in turn increases solid social bonds among coworkers (Treem & Leonardi, 2013). Based on these four affordances of ESM, Leonardi et al. (2013) points out that ESM users can efficiently identify and convey specialised information by observing and monitoring other employees' conversations and distinguishing their social connections.

2.2 ESM and employee performance

Knowledge management includes activities such as creation, transfer, storage, and use of knowledge (Alavi & Leidner, 2001). ESM is considered one of the important knowledge management tools based on its affordances of facilitating the creation, sharing, storage, and use of knowledge across organisations (Leonardi, 2014). The literature on knowledge management highlights various benefits of ESM's affordances, offering employees such things as improved cooperation and exchange of knowledge (da Cunha & Orlikowski, 2008), increased wide-ranging relationships, and easy access to knowledge (Farzan et al., 2009), enhanced availability of information and resources that have been acknowledged by experts (Huh et al., 2007), and visibility and enabling the exchange of feedback (Jackson et al., 2007). ESM's researchers also report various advantages for ESM based on these four affordances, such as enhancing collaboration, collective intelligence, and information sharing (Gibbs et al., 2013; Kaplan & Haenlein, 2010), which are essential to improving employee performance (Ali-Hassan et al., 2015).

IS research acknowledged the need to examine the connection between the use of IS and its effects on performance (DeLone & McLean, 1992; Keen & Morton, 1978). Research on IS use with individual-level outcome variables has frequently shown mixed results ranging from positive relationships (Rai et al., 2002) to negative or no relationships (livari, 2005). The relationship between ESM use and employee performance is no exception.

In general, a large amount of research has demonstrated that ESM use improves individual performance (Chen et al., 2020; Deng et al., 2021; Ma et al., 2021; Song et al., 2019; Wang et al., 2022; Wu et al., 2021), employee creativity (Ali-Hassan et al., 2015; Kuegler et al., 2015), employee agility (Cai et al., 2018; Pitafi et al., 2020), and employee commitment (Luo et al., 2018). However, some scholars indicate that ESM use results in adverse outcomes, including cyber-slacking (Luqman et al., 2020), and exhaustion (Yu et al., 2018).

In addition, it is important to recognise that the impact of ESM use on employee performance may vary depending on the intended use. ESM use by employees is broadly classified as work-related use and social-related use (Sun & Shang, 2014). This classification was used by many scholars in their investigations (Ali-Hassan et al., 2015; Chen & Wei, 2019; Fu et al., 2019; Wu et al., 2021). Work-related use refers to employees using ESM for work purposes such as searching and sharing information, and internal communication, while social-work-related use relates to seeking and building relationships with employees within the organisation by conveying self-expression content like entertainment or feelings (Chen et al., 2020; Wang et al., 2021). Prior research has found that using ESM for work-related matters improves employee performance. The reason for that is that using ESM as a

communication channel enables explicit and implicit knowledge to be effectively shared among employees leading to increasing employees' knowledge capacity that supports problem solving and decision making, which ultimately boosts job performance (Cai et al., 2018; Chen et al., 2020; Kwahk & Park, 2016). Elaborating on work-related use, Kuegler et al. (2015) indicate two variants for using ESM for work, consisting of intra-team use (information exchange between employees in the same team) and inter-team use (information exchange between teams within the organisations). By reducing the cost of time and effort spent on interaction, intra-team use provides the ability to exchange information and knowledge effectively among teammates, while inter-team use offers greater exposure to other methods and viewpoints that trigger cognitive processes that promote flexible thinking and creativity, providing employees with a rich foundation of alternative solutions. Kuegler et al. (2015) find that intra-team use has a greater impact on employees' task performance, while inter-team use has a greater influence on employees' innovative performance. In contrast, a study by Chen and Wei (2019) suggests that employees experience information overload when they are exposed to a large amount of information generated on ESM that exceeds their processing capacity, so they lose focus and reduce attention on work tasks, leading to reduced performance. Regarding social-related use, several studies find that ESM is associated with social-related benefits and employee job satisfaction (Alahmad et al., 2018; Chen et al.,2020; Fu et al., 2019). Social-related use of ESM reflects its use to socialise and build relationships with coworkers to develop social support and trust among employees, thereby improving their job satisfaction (Alahmad et al., 2018). However, Lu and Pan (2019) argue that the large amount of social-related entertainment and relaxation information that employees communicate on ESM has a negative impact on their performance because these activities often consume too much work time.

In sum, previous research on ESM use and employee performance contributes significant insights into the positive impacts of ESM use on employee performance, such as enhanced employee creativity (Ali-Hassan et al., 2015; Kuegler et al., 2015), individual performance (Deng et al., 2021; Ma et al., 2022; Song et al., 2019; Wang et al., 2022; Wu et al., 2021), employee agility (Cai et al., 2018; Pitafi et al., 2020), and job satisfaction (Alahmad et al., 2018). However, some studies also acknowledge the negative impacts of ESM use on employee performance, including exhaustion (Yu et al., 2017) due to social-related use, and cyber-slacking (Luqman et al., 2020). Therefore, by providing a systematic literature review, this study thoroughly examines the literature on ESM use and its effects on employee performance to provide insight into the relationship between these two factors that can benefit the field of research and practice.

Chapter 3: Methodology

To address the research questions and assess the state of the art of research on ESM use and employee performance impacts, this study conducts a systematic literature review following the guidelines by Paré et al. (2016). There are seven types of literature reviews that have been used in IS research, including theoretical review, narrative review, meta-analysis, descriptive review, hybrid review, critical review, and coping review (Paré et al., 2015). This research uses a narrative review to summarise previous studies on ESM use and its impact on employee performance, carried out by following a procedure for conducting a literature review from Paré et al. (2016). The method consists of six steps: (1) developing a review plan; (2) searching the literature; (3) selecting studies; (4) assessing the quality of included studies; (5) extracting data or key aspects from included studies; (6) analysing, interpreting, and synthesising data, and formulating conclusions.

In the first step, the review plan was developed for the supervisor to review and evaluate before the research was conducted. The plan included the aim of the study, research questions, criteria for inclusion, techniques for searching, standards for assessing and screening procedures, strategies for data extraction, synthesis, and reporting, and a project timetable to ensure the project would meet the research objective and make positive progress. According to Paré et al. (2016), formulating research questions is the most important activity, as a well-formulated research question presupposes a thorough comprehension of the body of literature to be reviewed and determines the selection of analysis and the genre of reviews. The research questions of this dissertation were formulated as follows: how do employees use ESM in organisations? What are the antecedents of employees' ESM use and their impacts on their performance? These questions help determine the scope of the review of the literature and guide the identification of relevant studies.

In the search for the literature step, to ensure the quality of the search for research articles, the researcher selected the top IS journals included in the Senior Scholars' Basket of Journals (*Decision Support Systems*, *European Journal of Information Systems*, *Information & Management*, *Information and Organization*, *Information Systems Journal*, *Information Systems Research*, *Journal of the AIS*, *Journal of Information Technology*, *Journal of MIS*, *Journal of Strategic*, *Information Systems*, and *MIS Quarterly*) and the top leading IS conferences' proceedings (ICIS, ECIS, HICSS, AMCIS, and PACIS). Then the researcher used electronic databases as the sources to find relevant studies. There are two main databases: Scopus and EBSCOhost. Scopus is the first primary research database as it is the largest database of peer-reviewed journals, providing approximately 20% higher coverage in citation analysis than its main competitor, Web of Science, and in every field, Scopus has more exclusive journals than Web of Science (Falagas et al., 2008). EBSCOhost is another main database as it is integrated with other major databases such as Emerald, Science Direct, etc., which is useful for systematic literature reviews. In addition, some well-known databases in IS research, including IEEE, ACM Digital Library, ProQuest, and SAGE, are utilised to ensure full coverage of published articles related to ESM.

Regarding search terms, because of the nature of the IS field and the rapid advancement of technology, keywords used in IS literature have a short lifespan that may lead researchers to underreport articles (Levy & Ellis, 2006). To avoid this issue, this study includes different keywords regarding ESM consisting of its singular and plural forms and synonyms. The research keywords are ("enterprise social media" OR "enterprise social media platforms" OR "enterprise social network" OR "enterprise social networks" OR "enterprise social network sites" OR "enterprise social network systems" OR "enterprise social networking" OR "enterprise social software" OR "enterprise social platforms" OR "internal social media" OR "corporate social software" OR "corporate social network" OR "enterprise 2.0") AND ("employee performance" OR "employee outcomes"). The search time frame is from 2004 to 2023 since 2004 is the first year an empirical study on ESM was published (Wehner et al., 2017). In addition, backward and forward searches were used to identify publications that could not be retrieved by keyword search. The first search results returned 348 articles; after removing duplicates, there were 281 articles (Details in Figure 1).

In the third step, all selected articles have been screened to exclude articles with content that does not align well with the research problem based on inclusion and exclusion criteria. Firstly, there are two inclusion criteria identified in the research. The first inclusion criterion is that peer-reviewed journals are the major type of articles to seek as they offer adequate theoretical background and links to more references on the specific topic, thereby validating the existence of the research issue (Levy & Ellis, 2006). Many studies have been conducted on ESM, but research on how ESM use impacts employee performance, especially empirical research, is still scarce (Kwahk & Park, 2016; Luo et al., 2018), so this study also includes peer-reviewed conference papers because conferences provide an effective platform to discuss new findings in a young research field (Wehner et al., 2017). The second inclusion criterion is that only empirical studies are selected, and the articles must explicitly show the consequences affecting employee performance when using ESM. Secondly, exclusion criteria include non-English publications, commercial publications, and articles with general social media content, as there is a difference between public social media and ESM. Following the application of inclusion and exclusion criteria, 59 articles were identified for further evaluation.

In the fourth step, Paré et al. (2016) suggest that each study needs to be assessed using risk of bias. Each study was evaluated to determine whether study results had been impacted by bias or methodological flaws. It was assessed based on the use of criteria to develop questions about the study's sampling and recruitment methods, the balance of characteristics between respondents and non-respondents or compared groups, and the methods used to measure structures or results, etc. In this step, 17 articles from the previous step were eliminated. These included, for example, studies examining participants with the use of both public social media and ESM, but where the results show that employees almost only used public social media (Aboelmaged, 2018; Chen et al., 2021), those where the title was about ESM, but the participants used public social media (Kahil, 2021; Shami et al., 2014), the platforms used within organisations were not ESM (Lu et al., 2015; De Michele et al., 2018; Wen et al., 2012), or where the results are only applicable to lecturers in educational environments (Kazemian & Grant, 2023), etc.

In the fifth step, the remaining 42 articles, with 35 peer-reviewed journal articles and seven peer-reviewed conference papers, were extracted and organised before analysis and synthesis to answer the research questions. Table 1 presented the list of selected articles for this review. These articles span 10 years, from 2013 to 2023. It is noted that there are four qualitative studies (Kügler & Smolnik, 2013; Ma et al., 2022; Patroni et al., 2015; Patroni et al., 2016) in the reviewed studies. For example, Kügler and Smolnik (2013) followed a qualitative approach using interview data to develop a conceptual model that hypothesises relationships between ESM use and its benefits for employees. Therefore, this review codes independent variables in quantitative research and antecedents in qualitative research as antecedents. Dependent variables in quantitative studies and results in qualitative studies are coded as used outcome variables.

Key characteristics of each study were extracted and entered into a spreadsheet with information such as article title, type of article, year of publication, research context, theoretical foundation, research method, antecedents, and outcome variables. Then the researcher combined variables with similar meanings into a category. For example, employees who use ESM for work purposes, such as defining job objectives, organising task assignments, monitoring work progress, and sharing work-related professional information, were coded as work-related use (Ali-Hassan et al., 2015). In some reviewed studies, the authors used different labels to refer to similar variables. For instance, Luqman et al. (2021) examined "employee creativity" while Chen et al. (2020) used the variable "innovative performance" to examine a similar outcome related to the capacity of employees to identify and use creative ideas to increase the organisation's profitability (Luqman et al., 2021). In this case, the researcher coded both variables as employee creativity. In sum, 21 antecedents were identified and classified into three categories: behavioural (e.g. information seeking), perception (e.g. perceived innovation possibilities on ESM), and technology (e.g. visibility) factors, and nine outcome variables were identified and classified into two categories: performance outcomes (e.g. employee agility) and psychological outcomes (e.g. job satisfaction). In addition, the relationship between an antecedent and an outcome variable (e.g. the relationship between work-related use and employee creativity) was identified in each study. There were 30 direct relationships between an antecedent and an outcome variable and 95 indirect relationships between an independent variable and an outcome variable through a mediator, of which 95 were positive and significant, 21 were negative and significant, and nine were not significant.

The findings that show nuanced understanding of the role of ESM in employee performance are reported in Chapter 4.

Figure 1. Flowchart of article selection

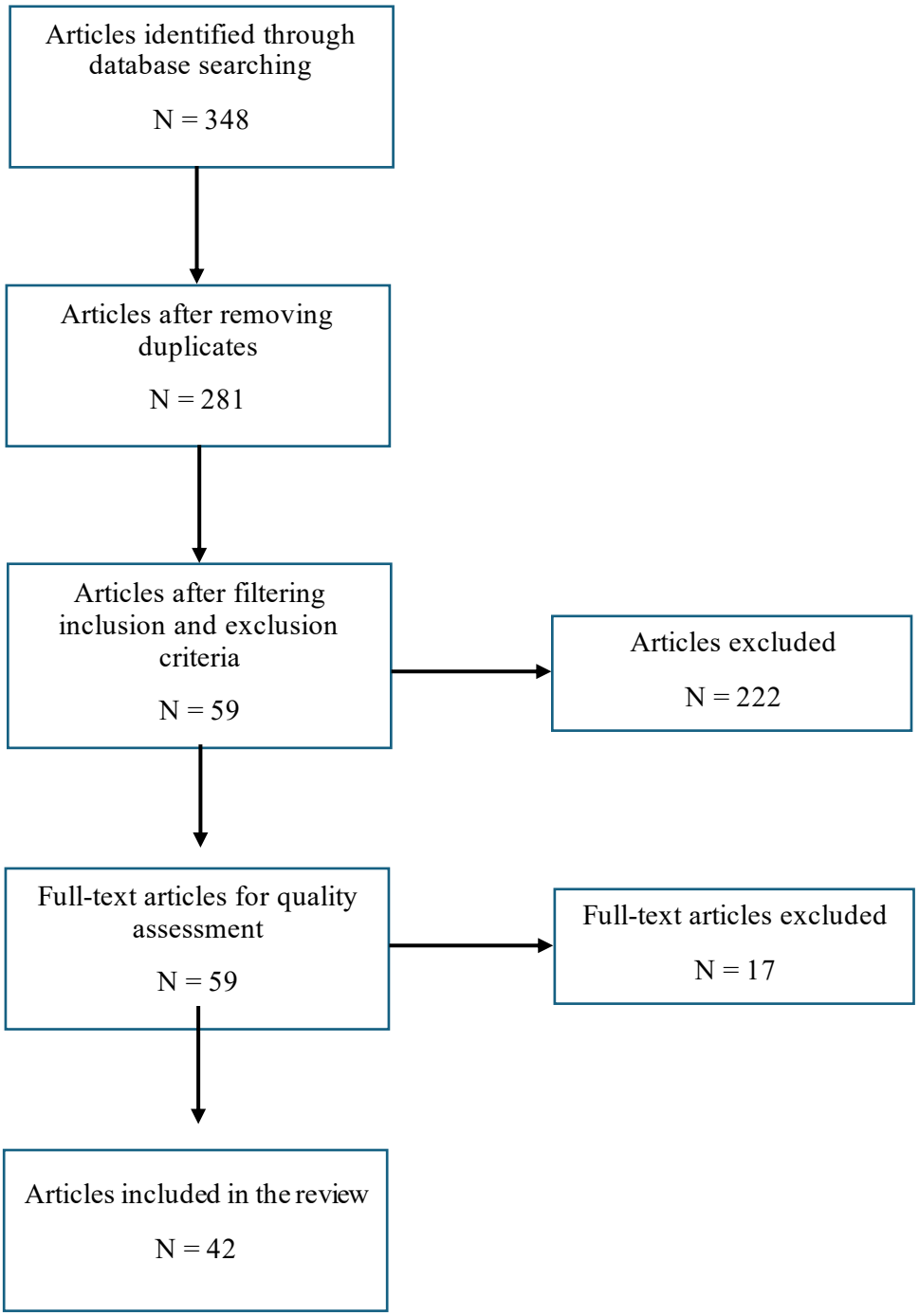


Table 1. List of articles used in the review

#	Article title	Author	Year	Country/ Region	Study method	Theoretical foundation
1	A moderated mediation model linking excessive enterprise social media usage with job performance	Li, H.; Ali, M.; Amin, M. W.; Liang, H.	2022	China	Quantitative	Status quo
2	Analyzing the impact of enterprise social media on employees' competency through the mediating role of knowledge sharing	Chen, M.; Babar, M.; Ahmed, A.; Irfan, M.	2023	Pakistan	Quantitative	Social capital
3	Does enterprise social media use promote employee creativity and well-being?	Luqman, A.; Talwar, S.; Masood, A.; Dhir, A.	2021	China	Quantitative	Conservation of resources and regulatory focus
4	Effect of enterprise social media on employee creativity: social exchange theory perspective	Wang, Z.; Hangeldiyeva, M.; Ali, A.; Guo, M.	2022	Global	Quantitative	Social exchange
5	Effect of use of enterprise social media (ESM) on employee agility	Indiarmeta, N.; Suyono, J.	2022	Indonesia	Quantitative	N/A
6	Effects of enterprise social media usage on task performance through perceived task structure: the moderating role of perceived team diversity	Deng, M.; Liu, H.; Ding, G.; Huang, Q.	2021	China	Quantitative	Communication visibility
7	Employee agility and enterprise social media: the role of IT proficiency and work expertise	Pitafi, A. H.; Rasheed, M. I.; Kanwal, S.; Ren, M.	2020	China	Quantitative	Information processing
8	Enterprise social media (ESM) use and employee belongingness in US corporations	Randall, P. M.; Lartey, F. M.; Tate, T. D.	2020	USA	Quantitative	Social capital
9	Enterprise social media adoption: its impact on social capital in work and job satisfaction	Fu, J.; Sawang, S.; Sun, Y.	2019	China	Quantitative	Social capital
10	Enterprise social media affordances as enablers of knowledge transfer and creative performance: an empirical study	Sun, Y.; Wang, C.; Jeyaraj, A.	2020	China	Quantitative	N/A
11	Enterprise social media and cyber-slacking: a Kahn's model perspective	Nusrat, A.; He, Y.; Luqman, A.; Waheed, A.; Dhir, A.	2021	China	Quantitative	Kahn's theory of employee engagement
12	Enterprise social media and cyber-slacking: an integrated perspective	Luqman, A.; Masood, A.; Shahzad, F.; Imran Rasheed, M.; Weng, Q.	2020	China	Quantitative	Social bonding

13	Enterprise social media use and impact on performance: the role of workplace integration and positive emotions	Moqbel, M.; Nah, F. F. H.	2017	USA	Quantitative	Social capital and the broaden-and-build theory of positive emotions
14	Enterprise social media within Malaysian company: usage impacts among employees	Yasse, N. S. B.; Husin, M. H.	2017	Malaysia	Quantitative	Unified theory of acceptance and use of technology
15	Facilitating or inhibiting? The role of enterprise social media use in job performance	Shang, Y.; Pan, Y.; Richards, M.	2022	China	Quantitative	Job demands-resources model
16	How do enterprise social media affordances affect social network ties and job performance?	Chen, X.; Wei, S.; Davison, M. R.; Rice, M. R.	2020	China	Quantitative	Affordance
17	How enterprise social media can facilitate innovation	Patroni, J.; Von Briel, F.; Recker, J.	2016	Australia	Qualitative	N/A
18	Improving employee agility using enterprise social media and digital fluency: moderated mediation model	Wei, C.; Pitafi, A. H.; Kanwal, S.; Ali, A.; Ren, M.	2020	China	Quantitative	N/A
19	Improving the agility of employees through enterprise social media: the mediating role of psychological conditions	Cai, Z.; Huang, Q.; Liu, H.; Wang, X.	2018	China	Quantitative	Kahn's theory of employee engagement
20	Instrumental ties or expressive ties? Impact mechanism of supervisor-subordinate ties based on enterprise social media on employee performance	Wang, C.; Yuan, T.; Feng, J.	2021	China	Quantitative	Social exchange
21	Investigating the consequences of the socio-instrumental use of enterprise social media on employee work efficiency: a work-stress environment	Wu, S., Pitafi, A. H., Pitafi, S., & Ren, M.	2021	China	Quantitative	Transactional theory of stress
22	Just for the fun of it? towards a model for assessing the individual benefits of employees' enterprise social software usage	Kügler, M.; Smolnik, S.	2013	USA	Qualitative	N/A
23	Leveraging enterprise social media for agility performance of employees: the mediating role of psychological condition	Wang, X.; Cai, Z.; Liu, H.; Zheng, X.	2016	China	Quantitative	Self-determination
24	Moderating roles of IT competency and work cooperation on employee work performance in an ESM environment	Pitafi, A. H.; Kanwal, S.; Ali, A.; Khan, A. N.; Ameen, M. W.	2018	China	Quantitative	N/A

25	Open innovation starts from home: the potentials of enterprise social media (ESM) in nurturing employee innovation	Abhari, K.; Zarei, M.; Parsons, M.; Estell, P.	2023	Global	Quantitative	Advanced technology use theory
26	Predicting the factors of employee agility using enterprise social media: moderating effects of enterprise social media-related strain	Pitafi, A. H.; Ren, M.	2021	China	Quantitative	Communication visibility
27	Predicting the factors of employee agility using enterprise social media: the moderating role of innovation culture	Zhang, L.; Xu, Y.; Chen, C.; Zhao, R.	2022	China	Quantitative	Relational capital
28	Social media in the workplace: influence on employee agility and innovative behavior	Bala, H.; Massey, A.; Seol, S.	2019	US, India, and Europe	Quantitative	Social learning and communication visibility
29	The effect of employee participation in enterprise social media on their job performance	Lu, Y.; Pan, T.	2019	China	Quantitative	N/A
30	The impact of enterprise social media identity on job performance and job satisfaction	Alahmad, R.; Carter, M.; Pierce, C.; Robert, L.	2018	USA	Quantitative	IT identity
31	The impact of enterprise social media on task performance in dispersed teams	Suh, A.; Bock, G. W.	2015	Global organisations	Quantitative	Theory of virtuality and the structure-content framework of social networks
32	The impact of enterprise social media usage on employee creativity: a self-regulation perspective	Deng, M.; Zhu, J.	2023	China	Quantitative	Self-regulation
33	The impact of enterprise social media use on employee performance: a grounded theory approach	Ma, L.; Zhang, X.; Wang, G.	2022	China	Qualitative	N/A
34	The moderating role of enterprise social media functionalities on employees' social-related use during work time	Zhang, J.; Jiang, R.; Wu, X.; Jiang, J. J.	2023	China	Quantitative	Conservation of resources
35	Towards a digital work environment: the influence of collaboration and networking on employee performance within an enterprise social media platform	Dittes, S.; Smolnik, S.	2019	Germany	Quantitative	N/A
36	Understanding the relationship between enterprise social media user adaptation, post-adoption use and employee performance	Zhang, X.; Xu, Y.; Ma, L.	2022	China	Quantitative	Coping model of user adaption

37	What role does enterprise social network play? A study on enterprise social network use, knowledge acquisition and innovation performance	Xiong, J.; Sun, D.	2023	China	Quantitative	N/A
38	What's in IT for employees? Understanding the relationship between use and performance in enterprise social software	Kuegler, M.; Smolnik, S.; Kane, G.	2015	Global organisations	Quantitative	N/A
39	Why and how to use enterprise social media platforms: the employee's perspective	Yee, R. W.; Miquel-Romero, M. J.; Cruz-Ros, S.	2021	China	Quantitative	Motivation-opportunity-ability
40	How does enterprise social media help retail employees innovate?	Patroni, Joanne F.; Recker, Jan; and von Briel, Frederik,	2015	Global retail organisations	Qualitative	N/A
41	Investigating the employee work performance in task interdependence and ESM environment	Pitafi, A. H., Kanwal, S., Akhtar, S., & Irfan, M.	2018	China	Quantitative	N/A
42	Effect of enterprise social media and psychological safety on employee's agility: mediating role of communication quality	Pitafi, A. H., Kanwal, S., & Pitafi, A.	2019	China	Quantitative	Information processing

Chapter 4: Findings

The findings of this systematic literature review are discussed as follows. Firstly, the descriptive summary of all reviewed articles is shown by types of articles (peer-reviewed journal and conference articles), year, and method. Next, different definitions of ESM and theories used in the literature are presented. Finally, an integrative framework is proposed to highlight antecedents, outcome variables, and mediators examined in previous studies to develop a comprehensive understanding of the literature, followed by an analysis of relationships between antecedents and outcome variables as well as mediators used in the reviewed studies.

4.1 Overview of reviewed studies

The researcher identified 42 papers published from 2013 to 2023. Out of 42 papers, there are 35 journal articles and 7 peer-reviewed conference papers.

The first journal article was published in 2015. From 2015 to 2019, a total of 10 journal articles investigated the relationship between ESM and task performance, job satisfaction, employee agility, and employee creativity. The number of articles has increased significantly in recent years, with 25 articles published in the four-year period from 2020 to 2023, nearly triple the number of the previous period. A total of 33 out of 35 journal articles used quantitative methods (Table A1 in the Appendix presents the descriptive findings of the journal articles).

The first conference was published in 2013, and then the conferences were published continuously from 2015 to 2019. However, since then, there have been no additional conference articles. Moreover, similarly to the peer-reviewed articles, the quantitative research method was the most used in the conferences: five out of seven peer-reviewed conference papers used quantitative methods (Table A2 in the Appendix presents the descriptive findings of the conference articles).

Table 2 illustrates the descriptive attributes of articles used. Most studies use a quantitative approach using surveys (38 out of 42 articles). A smaller number of studies (four out of 42 studies) use a qualitative research method using semi-structured interviews.

Table 2. Descriptive attributes of studies

		Frequency	Percentage
Method	Quantitative	38	90%
	Qualitative	4	10%
Study context	China	27	65%
	USA	4	10%
	Germany	1	2%
	Australia	1	2%
	Malaysia	1	2%
	Indonesia	1	2%
	Pakistan	1	2%
	Multiple countries	6	15%
Participants	Employees	41	98%
	MBA students	1	2%

In terms of the study context, most studies were conducted in China using quantitative methods with participants mainly being employees. This may be because public social networks are blocked in China, so their employees use ESM as a tool for communication and collaboration (Cai et al., 2018; CNNIC, 2019). The remaining articles including six articles were studied in multiple countries, four articles in the US, and the rest scattered in Asian countries such as Australia, Malaysia, Indonesia, and Pakistan.

Most studies rely on employees as research participants to understand employee performance from ESM use. However, one article (Pitafi et al., 2020) relies on MBA students from a Chinese university under the condition that students must have at least one year of work experience to meet the study's requirement.

4.2 Definitions of ESM and theories used

4.2.1 Definitions of ESM used

Among the 42 reviewed articles, there were three different definitions of ESM used by the authors. Table 3 summarises the definitions of ESM and the associated studies. Except for the two definitions of ESM used by Patroni et al. (2015) and Kügler and Smolnik (2013) in their own research, all the remaining articles draw on Leonardi et al.'s (2013) definition of ESM.

Table 3. Definitions of ESM used in the reviewed studies

Concept	Study	Definition
Enterprise social media (ESM)	Patroni et al. (2015, p. 2)	"Enterprise social media (ESM) platforms are bounded within a particular organization and allow employees to (1) construct (semi-) public profiles within the organizationally bounded system, (2) articulate lists of other employees with whom they are connected, and (3) view and traverse both their lists and those made by others within the organization."
Enterprise social software platforms (ESSPs)	Kügler & Smolnik (2013, p. 3615)	"ESSPs are a mix of social networking sites and social media sites with which to share various media types."
Enterprise social media (ESM)	Leonardi et al. (2013, p. 2)	"We define enterprise social media (hereafter, ESM) as: 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 particular 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 has been a subject of research for some time, it was not until 2013 that Leonardi and his colleagues proposed a comprehensive definition of ESM, which is now widely accepted and used by other scholars. Leonardi et al. (2013) defined ESM as "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 particular 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." (p. 2).

In addition, there are two other definitions of ESM, which are based on the definition of social network sites and social websites, and only used in Kügler and Smolnik (2013) and Patroni et al. (2015). Patroni et al. (2015) drew the definition from how boyd and Ellison (2007) defined social network sites. Boyd and Ellison (2007) define social network sites as "web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system" (p. 211). Drawing on this definition, Patroni et al. (2015) define as follows: "Enterprise social media (ESM) platforms are bounded within a particular organization and allow employees to (1) construct (semi-) public profiles within the organizationally bounded system, (2) articulate lists of other employees with whom they are connected, and (3) view and traverse both their lists and those made by others within the organization" (p. 2). Finally, Kügler and Smolnik (2013) base their definition of ESM on Kim et al.'s (2010) definition of social websites as "Web sites that make it possible for people to form online communities and share user-created contents (UCCs)" (p. 216). Thus, Kügler and Smolnik (2013) define ESM as "a mix of social networking sites and social media sites with which to share various media types" (p. 3615).

4.2.2 Theories of ESM used

There are 24 different theories used to explain the relationship between ESM use and employee performance. Communication visibility theory (three studies) and social capital theory (three studies) are the most used. Kahn's theory of employee engagement, information processing theory, conservation of resource theory, and social exchange theory are used in two studies, and the remaining theories are only used in one study each. Table 4 presents the theories used in the reviewed studies.

Table 4. Theories used in reviewed studies

Theories	Frequency
Advanced technology use theory	1
Affordance	1
Conservation of resource	2
Communication visibility	3
Coping model of user adaptation	1
Information processing	2
IT identity	1
Job demands-resources model	1
Kahn's theory of employee engagement	2
Motivation-opportunity-ability	1
Relational capital	1
Regulatory focus	1
Self-determination	1
Self-regulation	1
Social bonding	1
Social exchange	2
Social capital	3
Social learning	1
Status quo	1
The broaden-and-build theory of positive emotions	1
The structure-content framework of social networks	1
Theory of virtuality	1
Transactional theory of stress	1
Unified theory of acceptance and use of technology	1
Total	32

There are five articles that use behavioural theories to examine the relationship between ESM and employee performance. These theories are status quo theory, social learning theory, unified theory of acceptance and use of technology (UTAUT), coping model of user adaptation (CMUA), and self-regulation theory.

Lewin (1947) proposes that the status quo refers to a condition described by a balance of positive and negative aspects. Studies that use status quo theory investigate user behaviours by considering the positives (or enablers) and negatives (or inhibitors) that influence their usage decisions and their outcomes. Li et al. (2022) used the status quo theory and found that employees reduce their excessive ESM usage when they experience ESM usage regret (inhibitor), which gives them more time to concentrate on their work and improves performance. Conversely, employees increase their excessive ESM usage when they experience ESM usage inertia (enabler), which values excessive use of ESM and reduces performance.

Bandura's (1977) social learning theory argues that human behaviour is acquired by observing other people to gain ideas about how to perform new behaviours and using that information as a guide for action. In one of the reviewed studies, Bala et al. (2019) employed social learning theory to propose that ESM's features allow employees to view, create, and respond, providing opportunities for them to promote collaboration and knowledge exchange by viewing other employees' conversations and communicating and interacting with each other effectively, leading to improving employee agility.

UTAUT identifies four core factors: performance expectancy, effort expectancy, social influence, and facilitating conditions that influence users' behavioural intentions toward technology adoption (Venkatesh et al., 2003). One of the articles (Yasse & Husin, 2017) used UTAUT to examine employee perspectives on ESM to understand their usage behaviour and whether the platform increases or decreases their work performance. The findings showed only performance expectancy mediates the relationship between employees' ESM use and their performance; effort expectancy, social influence, and facilitating conditions do not mediate ESM use and employee performance (Yasse & Husin, 2017).

CMUA explains adaptation strategies based on a combination of two assessments: user assessment of the expected consequences of an IT event (primary appraisal) and user assessment of their level of control in the situation (secondary appraisal) (Beaudry & Pinsonneault, 2005). Beaudry and Pinsonneault (2005) proposed that there are four adaptation strategies, including benefits satisficing, disturbance handling, benefits maximising, and self-preservation, leading to three different outcomes at the individual level: regaining mental stability, reducing the perceived threats associated with technology, and increasing user efficiency. Expanding on the concept that employee performance is affected by their behavioural intentions of ESM use, Zhang et al. (2022b) used CMUA to examine the impact of post-adoption ESM use on employee performance and found that employees only start integrating ESM into their daily work in the post-adoption stage when they have some use experience, such as using ESM more often and using more functions to achieve effective ESM use, thereby improving their performance.

IS literature has seen an increase in the use of self-regulation theory, which has proven helpful in explaining proactive employee behaviour in a digital work environment (Khan et al., 2021). Self-regulation theory is a system of intentionally managing one's own ideas, behaviours, and emotions to achieve goals (Bandura, 1991). Deng and Zhu (2023) used self-regulation theory and found that ESM use provides employees with an efficient tool to interact and form bonds with coworkers, such as seeking feedback from peers to manage their own creative outcomes.

Some studies use motivational-oriented theories to investigate the relationship between ESM use and employee performance. These theories are regulatory focus, advanced technology use theory (ATUT), and motivation-opportunity-ability (MOA).

Higgins and Pinelli (2020) argue that human behaviour is motivated by two different types of regulatory focus consisting of promotion-focus and prevention-focus. Promotion-focused people are increasingly committed to producing positive outcomes while people who prioritise prevention follow security and well-being demands, which include honouring duties, responsibilities, and commitments (Arazy & Gellatly, 2012; Liang et al., 2013). Luqman et al. (2021) used regulatory focus theory to theorise different motivations for strengthening or weakening the use of ESM between promotion-focused employees and prevention-focused employees. Promotion-focused employees, who are willing to take chances to maximise their goals of success and advancement, confront higher psychological transition by using ESM for work tasks and social interactions with their colleagues while prevention-focused employees, who prioritise job completion to improve job security, experience lower psychological transitions due to avoiding using ESM to focus on assigned responsibilities and avoid failure at work.

ATUT suggests that the use of technology-mediated social interactions in organisations is determined by users' decisions in regard to why, how, and for what purpose the technology is used rather than the design and functions of the technology itself (DeSanctis & Poole, 1994). ATUT identified three key attitudes that drive the use of technology, including belief in the utility, value, and potential of technology use. Abhari et al. (2023) adopted ATUT and applied these attitudes to the context of ESM use to promote employee innovation. The findings showed that perceived innovation possibilities and perceived innovation values on ESM justify the ESM use of employees, which results in encouraging employees to participate in a range of ideation and collaboration activities. In addition, perceived innovation support on ESM also increases employees' willingness to join in creativity activities because when employees feel supported and rewarded for sharing innovative ideas they are more inclined to do so on ESM (Abhari et al., 2023).

MOA, a meta-theory that makes extensive generalisations about the three elements that influence human behaviours: motivation, opportunity, and ability (MacInnis & Jaworski, 1989). According to this theory, a person will behave in a particular way if the person is motivated to perform that behaviour and has the opportunity and capacity to do so. Yee et al. (2021) adopted MOA to examine two motivation factors (perceived reputation and enjoyment in helping others), two opportunity factors (task complexity and connectivity), and one ability factor

(self-efficacy in knowledge sharing) that may motivate employees to use ESM resulting in increased performance. Yee et al. (2021) found that employees use ESM because they work on complicated projects and believe sharing knowledge via ESM will improve their reputation, which in turn enhances their task performance.

Some studies attempted to explain the relationship between ESM and employee performance through employees' relationships with colleagues in the organisation. Six different theories related to social-related factors are used, namely social exchange, social capital, social bonding, relational capital, theory of virtuality, and structure-content framework of social networks.

Social exchange theory presents the behaviour in short-term and long-term relationships that involve the exchange of both tangible and intangible resources (Blau, 1964). In particular, the social exchange norm of reciprocity means that employees are driven to pay back resources in a way that benefits the resource suppliers (Adams, 1963). Wang et al. (2021) and Wang et al. (2022) applied the social exchange theory to indicate that, to preserve the exchange relationship with subordinates through ESM, supervisors not only provide required work-related knowledge, counsel, and experience but also care about their emotional needs. As a result, employees pay back to their supervisors by delivering high work performance.

Nahapiet and Ghoshal (1998) define social capital as "the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit" (p. 243). Drawing on social capital theory, Chen et al. (2023) proposed that an employee's network of family, friends, and coworkers helps enhance their capabilities through knowledge sharing; therefore, the more employees engage socially, the higher the employee performance. In another study, Randall et al. (2020) used social capital theory to examine the role of ESM use in the formation of social networks and connections inside the organisation, thereby increasing belongingness. Fu et al. (2019) argue that employees who use ESM for social purposes help build strong workplace relationships with colleagues who share common interests and goals, leading to increased job satisfaction via social and emotional support. From the social capital theoretical perspective, Moqbel and Nah (2017) found that ESM is a powerful tool employees can use to enhance their performance through connections with colleagues by encouraging information exchange among them and generating resources necessary to process tasks.

Social bonding theory describes how a person who feels attached to a group will use his or her time properly and refrain from engaging in deviant behaviour (Hirschi & Stark, 1969). Luqman et al. (2020) adopted social bonding theory and found employees build strong relationships with co-workers through their ESM use, leading to compliance within their organisation, which reduces deviant behaviours such as cyber-slacking.

Relational capital theory argues that friendship, respect, and trust are developed from interaction between close partners (Capello & Faggian, 2005). Zhang et al. (2022a) adopted relational capital theory and found that ESM use enhances communication quality and reliability in work processes, thereby improving employee agility.

According to Suh et al. (2011), the theory of virtuality explains that people use various media tools in different ways, resulting in various impacts on the characteristics of the users' social networks. For example, users who use personal media to foster one-to-one interactions are more likely to broaden their social networks outside their team, while users who use communal media to promote team interaction are more likely to create social bonds within their team. By deploying the virtuality theory, Suh and Bock (2015) posited that employees' social networks, both inside and outside of their teams, can be impacted by the use of ESM. In addition, Suh and Bock (2015) applied the structure-content framework of social networks to examine the variation in employees' performance within the network. The structure-content framework suggests there are two explanatory mechanisms that underlie how well people function in networks, including structural capital (how to get into a better position in a network) and resource access (Kane et al., 2014).

Conservation of resource (COR), the broaden-and-build theory of positive emotions, transactional theory of stress, Kahn's theory of employee engagement, and self-determination theory are the theories related to psychological factors used to explain the relationship between ESM use and employee performance.

COR is a stress theory that explains the motivation behind people's pursuit of new resources as well as their maintenance of existing resources (Hobfoll, 1989). According to Hobfoll (1989), three situations of psychological stress include: when resources are threatened with loss, when resources are lost, and when no resources are obtained after use and, therefore, people behave accordingly given their current circumstances in order to protect themselves from additional loss. Drawing from this perspective, Zhang et al. (2023) applied COR to examine two mechanisms of collaboration and information overload to indicate how resource loss from ESM use during work hours affects employee performance. The findings show that social-related ESM use during working hours creates significant pressure on employees' ability to absorb information, resulting in information overload and hindering collaboration; these consequences further negatively impact their task performance (Zhang et al., 2023). Luqman et al. (2021) applied COR and found that, to fulfill the socio-instrumental demands on ESM, employees experience interruption overload and psychological transition that drains their resources such as time and energy leading to worsening their tiredness and having a detrimental effect on their creativity.

Positive emotions like happiness, interest, satisfaction, and love, can boost individuals' well-being and personal resources by enhancing their attention span, cognitive function, and instant thought-action repertoire (Fredrickson, 1998). Based on the broaden-and-build theory of positive emotions, Moqbel and Nah (2017) found that ESM use at work can help employees feel more integrated into the organisation and experience positive feelings, which can increase their personal resources and help them perform their tasks successfully.

Transactional theory of stress is defined as a person's ability to deal with and adapt to difficulties and problems as a result of transactions that occur between an individual and their environment - a psychological process that links work-related stressors to work performance (Lazarus & Folkman, 1984). Deploying the transactional theory of stress, Wu et al. (2021) examined how the use of ESM by employees shapes the impact of the two work stressors (challenge, hindrance) on their performance. The findings showed that employee use of ESM lessens the

detrimental impact of work stressors by providing work-related information, social support, and communication visibility (Wu et al., 2021).

According to Kahn's theory of employee engagement, psychological conditions determine individuals' psychological engagement levels in their organisations. Three different kinds of psychological conditions include meaningfulness, availability, and safety (Kahn, 1990). Cai et al. (2018) used this theory and proposed that employees' psychological conditions (i.e. psychological availability, psychological safety, and psychological meaningfulness) are essential in conveying the significant role of ESM in three dimensions of employee agility (proactivity, adaptability, and resilience). In particular, psychological availability mediates the relationships between ESM use and all three dimensions of employee agility; psychological safety mediates the link between ESM use and two dimensions of employee agility (proactivity and adaptability); and psychological meaningfulness only mediates the relationships between ESM use and one dimension of employee agility (proactivity) (Cai et al., 2018). Nusrat et al. (2021) applied the theory and indicated that employees who use ESM are driven and focused on their work since ESM use: improves psychological safety by fostering social cohesion, trust, and harmony among employees; enhances psychological availability by allowing the exchange of success stories and receipt of appreciation and motivation from coworkers; stimulates psychological meaningfulness by identifying employees' work, thereby leading to reduced cyber-slacking.

Ryan and Deci's (2000) self-determination theory suggests that people's fundamental psychological demands and growth tendencies drive them to engage in activities. Wang et al. (2016) used self-determination theory and suggested that ESM use satisfies essential psychological demands, which in turn positively impacts agility performance.

Other studies use communication visibility theory, information processing theory, the job demands-resources model, affordance theory, and IT identity to study the relationship between ESM and employee performance.

Communication visibility theory indicates that third-party observers can enhance their meta-knowledge as regards "who knows whom" and "who knows what" by observing the content of communications people send with one another and the directionality of those words on ESM (Leonardi, 2014). Two studies used communication visibility theory to examine employee agility (Bala et al., 2019; Pitafi & Ren, 2021) and one study used communication visibility theory to examine task performance (Deng et al., 2021) with the idea that because of ESM's communication visibility, employees can quickly identify and learn about existing knowledge in the workplace to enhance their meta-knowledge, leading to an increase in their task performance and agility.

Information processing theory focuses on the cognitive process that a person uses to collect, organise, analyse, and interpret new information to make decisions (Tushman & Nadler, 1978). Accordingly, Pitafi et al. (2020) employed information processing theory and found that ESM enables employees to gather, analyse, and use information from others to make well-considered decisions, leading to increased employee agility.

According to Bakker and Demerouti (2017), all forms of job characteristics can be categorised as either job demands (the organisational, social, or physical components of the work that demand constant mental and physical effort) or job resources (job-related elements that encourage and assist people in attaining their goals). Shang et al. (2022) applied the job demands-resources model to show that ESM use results in higher job demands, such as the requirement to respond to demands linked to work at all times and overexposure to media communication that exceeds the employee's capacity for processing, resulting in a low level of job performance. However, ESM use also improves job resources by providing informational support for employees, such as offering a quick way to find specialists in their organisation, leading to enhanced job performance (Shang et al., 2022).

Affordances theory was proposed by Gibson (1977) to examine the interactions between animals and their habitats. According to Gibson (1986), an animal or a person primarily senses an object's utility for one or more actions, called affordances. Accordingly, Treem and Leonardi (2013) proposed four affordances enabled by ESM, including visibility, association, editability, and persistence. Chen et al. (2020) adopted affordances theory to examine the role of ESM's affordances when employees use it, particularly in terms of how they impact social network ties (instrumental ties and expressive ties), which in turn impact their performance. Chen et al. (2020) found that all four ESM affordances are positively related to instrumental ties; however, only two affordances (i.e. association and editability affordances) are positively associated with expressive ties, thus having a positive influence on task performance and innovation performance.

Carter and Grover (2015) define IT identity as individuals identifying themselves with technology so the distinction between one's own resources and those made possible by technology is impossible to detect. Alahmad et al. (2018) use the concept of IT identity and find that employees who self-identify with ESM are quickly recognised by colleagues and more inclined to obtain support from others due to the significant reliance on ESM to connect with others and to perform work tasks.

4.3 Proposed integrated framework

Figure 2 shows the proposed framework for the relationship between ESM use and employee performance directly and indirectly through mediators. ESM use (antecedents) is categorised into three factors, including behavioural factors, technology factors, and perception factors. Employee performance (outcome variables) is divided into two categories, including performance outcomes and psychological outcomes. Six mediator variables are identified: task structures, ESM as knowledge sources, psychological factors, ESM for knowledge exchange, social-related advantages, and stressors. Overall, only behavioural factors have direct and indirect relationships with performance outcomes and psychological outcomes. Technology factors have indirect relationships with performance outcomes and psychological outcomes through mediators, whereas perception factors have indirect relationships with only performance outcomes through mediators. The behavioural factors variable is the most examined variable with all six mediator variables, followed by the technology factors variable which tested two mediator variables (i.e. ESM for knowledge exchange and social-related advantages). The perception factors variable is examined only with one mediator variable (i.e. ESM for knowledge exchange).

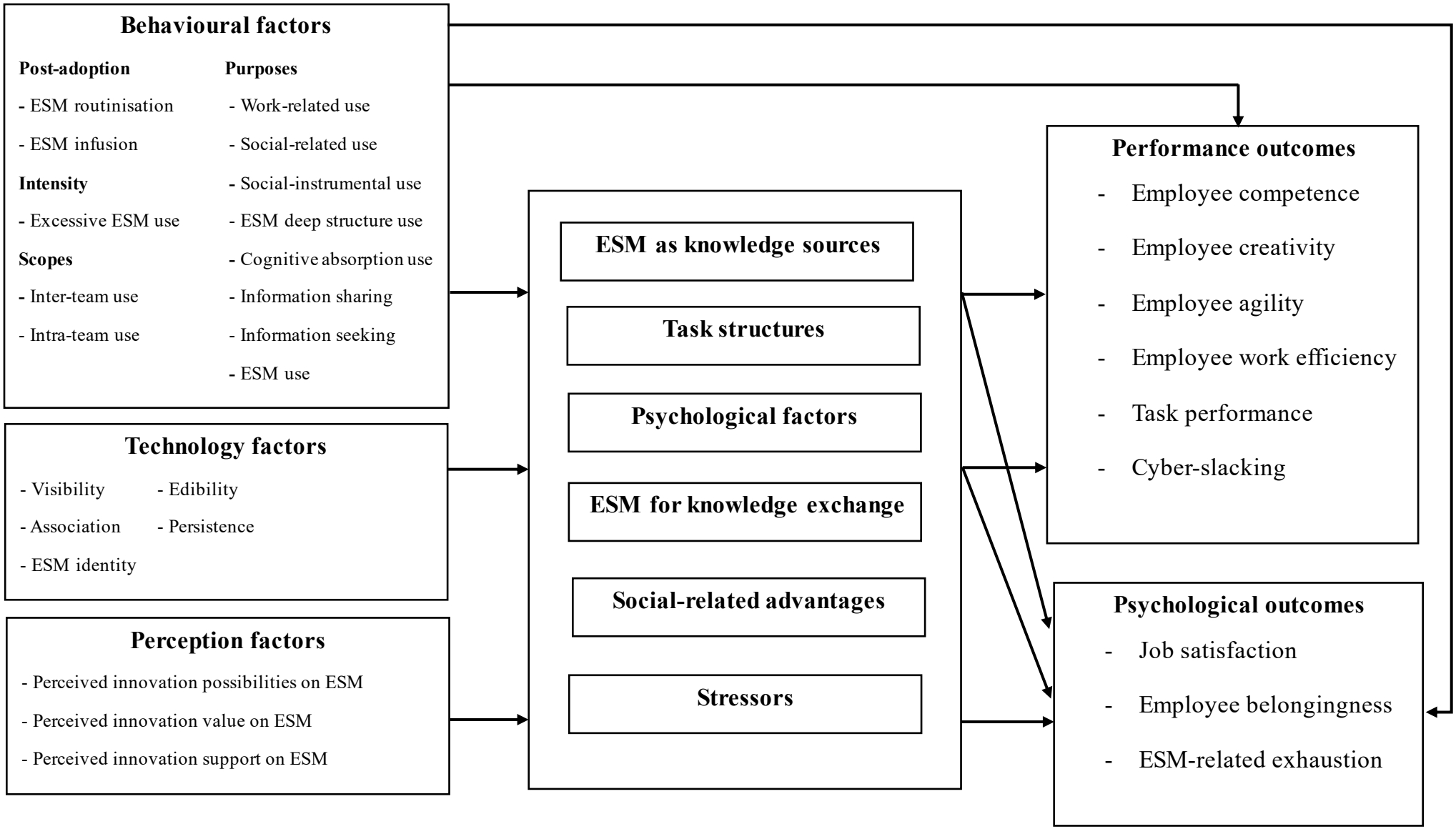


Figure 2. Proposed framework

4.3.1 Findings on outcome variables

There are a total of nine outcome variables studied. The outcome variables are organised into two categories of employee performance: performance outcomes and psychological outcomes. Performance outcomes has received more attention from scholars, with 45 occurrences, than psychological outcomes, with five occurrences. Table 5 presents dependent variables used in reviewed studies.

Table 5. Outcome variables used in reviewed studies

Performance outcomes	Definition	Frequency	Positive	Negative	Mixed
Employee competence	The authors do not provide a definition of employee competence.	1	1 (Chen et al., 2023)	0	0
Employee creativity	"Creativity refers to the ability of employees to find and use creative solutions to enhance the profitability of the organization." (Luqman et al., 2021, p. 44)	12	11 (Abhari et al., 2023; Deng & Zhu, 2023; Dittes & Smolnik, 2019; Kügler & Smolnik, 2013; Kuegler et al., 2015; Patroni et al., 2015; Patroni et al., 2016; Sun et al., 2020; Wang et al., 2022; Xiong & Sun, 2023; Zhang et al., 2022b)	1 (Luqman et al., 2021)	0
Employee agility	"It refers to the ability of an employee to promptly and appropriately react and adapt to changes and take advantage of changes to benefit the firm." (Wang et al., 2016, p.2)	9	9 (Bala et al., 2019; Cai et al., 2018; Indiarmeta & Suyono, 2022; Pitafi et al., 2019; Pitafi et al., 2020; Pitafi & Ren, 2021; Wang et al., 2016; Wei et al., 2020; Zhang et al., 2022a)	0	0
Task Performance	"Defining employee performance, we draw on	20	16	0	4

	Hunt (1996) and Campbell et al. (1990) who theorize employee performance as actions performed by employees that are relevant to the organizational goals. By transferring this concept to an employee's individual performance and to the ESM platform context, we draw on Kuegler et al. (2015) to introduce the concepts of task performance impact and innovative performance impact. They define task performance impact as how an ESM platform influences an employee's performance in completing daily tasks." (Dittes & Smolnik, 2019, p. 1221-1222)		(Alahmad et al., 2018; Chen et al., 2020; Deng et al., 2021; Dittes & Smolnik, 2019; Kügler & Smolnik, 2013; Kuegler et al., 2015; Ma et al., 2022; Moqbel & Nah, 2017; Patroni et al., 2016; Pitafi et al., 2018a; Pitafi et al., 2018b; Suh & Bock, 2015; Wang et al., 2021; Yasse & Husin, 2017; Yee et al., 2021; Zhang et al., 2022b)		(Li et al., 2022; Lu & Pan, 2019; Shang et al., 2022; Zhang et al., 2023)
Employee work efficiency	The authors do not provide a definition of employee work efficiency.	1	0	0	1 (Wu et al., 2021)
Cyber-slacking	"Cyber-slacking, defined as personal usage of the internet at the workplace." (Luqman et al., 2021, p. 1426)	2	0	2 (Luqman et al., 2020; Nusrat et al., 2020)	0
Total		45	36	3	6
Psychological outcomes	**Definition**	**Frequency**	**Positive**	**Negative**	**Mixed**
Job Satisfaction	"Job satisfaction is defined as the extent of the positive	3	2	0	1

	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." (Fu et al., 2019, p. 4).		(Alahmad et al., 2018; Ma et al., 2022)		(Fu et al., 2019)
Employee belongingness	"The employees' sense of belongingness within the company where they worked." (Randall et al., 2020, p. 119)	1	1 (Randall et al., 2020)	0	0
ESM-related exhaustion	"ESM-related exhaustion refers to the depletion of employees' emotional and mental resources that result from fulfilling the ESM-based socio-instrumental demands." (Luqman et al., 2021, p. 43)	1	1 (Luqman et al., 2021)	0	0
Total		5	4	0	1

Mixed: The results of their research have both positive and negative impacts on outcome variables

Outcome variables related to performance outcomes include employee competence, employee creativity, employee agility, task performance, employee work efficiency, and cyber-slacking. Among various performance outcomes variables, the most frequently researched variable is task performance, which was studied 20 times. For example, Deng et al. (2021) found that ESM use makes it easier for employees to communicate and understand each other's task-related requirements. Thus, when they encounter problems during work, other team members can provide timely and effective support. This process allows learning from colleagues, so workers accumulate job-related knowledge, thereby increasing their task performance. The second most studied outcome variable is employee creativity, which was studied 12 times in previous studies. For example, by promoting and facilitating better connections and interactions among colleagues, the use of ESM enhances employees' confidence in discussing with each other, thus creating a supportive environment where they encourage each other's ideas and stimulate

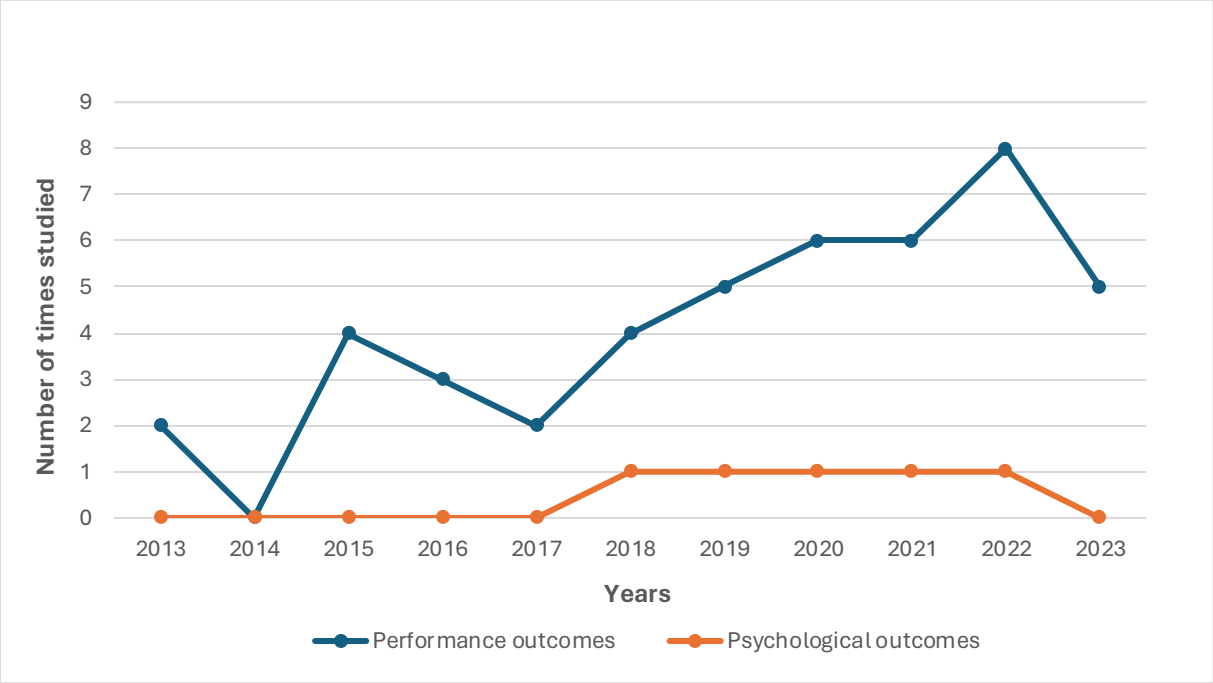
innovation (Wang et al., 2022). The third most studied outcome variable is employee agility, which was researched nine times. For example, Wei et al. (2020) suggest that ESM use creates meta-knowledge of employees through viewing other co-workers' information, enhancing communication quality and their level of knowledge and expertise, therefore improving employee agility to respond appropriately to market changes. The remaining performance outcomes, including employee competence (one occurrence), employee work efficiency (one occurrence), and cyber-slacking (two occurrences), are the least studied outcome variables. A study by Chen et al. (2023) finds that ESM platforms foster high levels of collaboration, provide real-time feedback, and facilitate the sharing of ideas and critical information, all of which contribute to employee competence. Another study finds that ESM use reduces the negative impact of challenge stressors and hindrance stressors when solving work-related problems by strengthening their ability to connect with colleagues and their access to work-related information, thereby increasing employee work efficiency (Wu et al., 2021). In addition, ESM use not only decreases boredom but also brings employees closer together by creating a social bond, thereby lessening the desire to use the internet for personal purposes or to participate in external social networking sites during working hours (Luqman et al., 2020).

Psychological outcomes variables consist of job satisfaction, employee belongingness, and ESM-related exhaustion. While job satisfaction was studied three times, employee belongingness and ESM-related exhaustion were studied only once. By way of illustration, employees who identify themselves with ESM, viewing ESM features as integral to their sense of self, are likely to receive more assistance from co-workers because they rely heavily on the platform to complete tasks and build networks with others, thereby improving job satisfaction (Alahmad et al., 2018). In addition, employees who use ESM to share work-related information can gain the advantages of social interaction, such as influence, status, and career advancement, thus giving them a sense of inclusion and belonging to a social part of the organisation (Randall et al., 2020). However, employees who regularly interact with their coworkers via ESM often receive many ESM-related demands such as technical support, recommendations, and guidance regarding work-related issues as well as personal matters, therefore creating an overload that leaves them feeling exhausted and emotionally drained (Luqman et al., 2021).

Outcome variables over time

Figure 3 illustrates outcome variables in reviewed studies over time. In general, the number of times that examined performance outcomes tended to increase over the years, while the number of studies that examined psychological outcomes remained mostly the same.

Figure 3. Outcome variables in reviewed studies over time



Notably, performance outcomes was first studied in 2013, when it was studied twice, and this reduced to one instance in 2014 before rising to four times in 2015. Then there was a decrease over three years from 2015 to 2017, from four instances to two. However, after that, research on performance outcomes increased sharply each year, finishing at six instances in 2020. In the period from 2021 to 2023, it fluctuated and reached a peak of eight times in 2022.

In contrast, there was no research on psychological outcomes from 2013 to 2017. Moreover, the frequency of times psychological outcomes was researched stayed constant at once per year from 2018 to 2022 before reducing to zero times in 2023.

4.3.2 Findings on antecedents

There are 21 antecedent variables used to study the relationship between ESM use and employee performance. These variables are divided into three categories: behavioural factors, perception factors, and technology factors. Table 6 shows each category, its frequency, and its relationship to outcome variables.

Table 6. Antecedent variables used in reviewed studies

Antecedent variables	Frequency	Positive	Negative	Not significant
Behavioural factors				
Scopes of ESM use				
Inter-team use	4	x		
Intra-team use	4	x		
Intensity of ESM use				
Excessive ESM use	2	x	x	
Purposes of ESM use				
Work-related use (Instrumental ties)	9	x	x	x
Social-related use (Expressive ties)	11	x	x	x
Social-instrumental use	4	x	x	
ESM deep structure use	2	x	x	
Cognitive absorption use	2	x	x	
Information seeking	1	x		
Information sharing	1		x	
ESM use	45	x	x	x
Post-adoption of ESM use				
ESM routinisation	2	x		
ESM infusion	2	x		
Total	89			
Perception factors				
Perceived innovation possibilities on ESM	2	x		
Perceived innovation value on ESM	2	x		
Perceived innovation support on ESM	2	x		
Total	6			
Technology factors				

Visibility	7	x	x	x
Association	7	x	x	
Edibility	7	x	x	
Persistence	7	x	x	x
ESM identity	2	x		
Total	30			

Behavioural factors

In general, since usage patterns have a great impact on users' experiences (Ellison et al., 2007), the antecedent variable category - behavioural factors - that researched the behaviour of employees using ESM was the most studied category. Behavioural factors describe employee behaviour toward using ESM. There are 13 different antecedent variables in the behavioural factors that have been examined 89 times. These variables are sub-categorised into purposes of ESM use, scopes of ESM use, intensity of ESM use, and post-adoption of ESM use.

Purposes of ESM use

The purposes of ESM use refer to the goals that employees use ESM to achieve. There are eight purposes of using ESM by employees that the authors included in their studies as the antecedent variables: work-related use (instrumental ties), social-related use (expressive ties), social-instrumental use, ESM deep structure use, cognitive absorption use, information sharing, information seeking, and ESM use. ESM use was the most frequently studied behavioural factor by scholars at 45 times, followed by social-related use and work-related use, 11 times and nine times, respectively.

Most authors use ESM use as the antecedent variable to evaluate the influence of ESM on employee performance without distinguishing the specific purpose of use. Work-related use or instrumental ties refers to employees using ESM for work-related activities through information and resources shared by workmates to complete tasks, including defining job objectives, organising task assignments, monitoring work progress, and sharing work-related professional information (Ali-Hassan et al., 2015). Such ESM use enables workers to access a variety of information effectively and efficiently (Wu, 2013). Social-related use or expressive ties refers to employees using ESM to build and sustain relationships with others through sharing emotions, participating in social activities, and meeting each other's needs, whereby trust and friendship can be built (Fu et al., 2019). Moreover, strong expressive relationships can be sources of social support and a person's feeling of identity and belonging (Chang & Chen, 2017), mutual comprehension (Zhong et al., 2012), and commitment (Luo et al., 2018). Although instrumental ties have a greater impact on specialisation and coordination, expressive ties are more crucial for the development of credibility (Zhong et al., 2012). These three antecedent variables had the most diverse results with employee performance. In particular, while ESM use and social-related use had positive, negative, and not significant impacts on performance outcomes, work-related use only had a positive impact. Although social-related use and ESM use

had a positive influence on psychological outcomes, work-related use had mixed results with both positive and not significant influence on psychological outcomes.

Social-instrumental use is the combined work-related use and social-related use of ESM. It refers to using ESM for socialising by expressing emotions, seeking and sharing work-related information, and social support (Luqman et al., 2021). DeSanctis and Poole (1994) defined deep structure use as the degree to which a person uses ESM features associated with their job duties. Cognitive absorption use indicates the level of user immersion during ESM use (Agarwal & Karahanna, 2000). These variable shows mixed results, which had positive and negative impacts on performance outcomes.

Information seeking on ESM refers to actions taken online in order to gather information, such as looking up useful information or perusing particular online communities to identify interesting subjects (Lu & Pan, 2019). This purpose of use had a positive influence on performance outcomes.

Information sharing on ESM is the behaviour of constituting online activities with the aim of contributing information like posting messages or reviewing other messages (Lu & Pan, 2019). Information sharing had a negative impact on performance outcomes.

Scopes of ESM use

Scopes of ESM use involve intra-team use and inter-team use. Kuegler et al. (2015) define intra-team use as the degree to which employees use ESM to collaborate, communicate, and share knowledge with others in their team. On the other hand, inter-team use is defined as the degree to which employees use ESM to collaborate, communicate, and share knowledge with others outside their team (Kuegler et al., 2015). Both intra-term use and inter-team use show a positive relationship with performance outcomes.

Intensity of ESM use

Excessive ESM use refers to the degree of using ESM as higher than is necessary or reasonable (Li et al., 2022). A mixed effect, including positive and negative relationships, was reported between excessive ESM use and performance outcomes.

Post-adoption of ESM use

Two variables related to post-adoptive ESM use are routinisation and infusion. ESM routinisation is the extent to which employees adapt and integrate ESM into their routine work while ESM infusion refers to the extent to which employees fully use the ESM functions (Zhang et al., 2022b). These two independent variables had a positive influence on performance outcomes.

Perception factors

Perception factors refer to the factors that predict employees' ESM use behaviour. Among the three categories of antecedents, the perception factors have been the least researched at six times. Perception factors include perceived

innovation possibilities on ESM, perceived innovation value on ESM, and perceived innovation support on ESM. The three variables studied under this sub-category received equal attention, each studied twice.

Perceived innovation possibilities on ESM, perceived innovation value on ESM, and perceived innovation support on ESM focused on the functional affordances of ESM. Perceived innovation possibilities on ESM refers to employees' perception of the possibilities: the more they perceive, the more they are inclined to use ESM to innovate (Abhari et al., 2023). This perception fosters an open, casual work atmosphere where individuals are encouraged to share their creative ideas and assist one another with brainstorming (Pitafi et al., 2019). Perceived innovation support on ESM refers to the benefits of engaging in innovative activities on the ESM as perceived by employees (Abhari et al., 2023). The ability of ESM to facilitate the gathering, discussing, exchanging, and creation of innovation-related knowledge is the source of their perceived value (Mäntymäki & Riemer, 2016) including hedonistic or social values (Sun et al., 2020; Yingjie et al., 2019). Perceived innovation support on ESM refers to employees' participation in innovative activities on the ESM, which is encouraged by the perception of organisational support (Abhari et al., 2023). These supports consist of offering instruction and incentives to the employees, and most significantly, it should guarantee management participation and demonstrate clearly to them that management values their ideas (Chen et al., 2021). These three variables had a positive impact on performance outcomes.

Technology factors

The technology factors refer to the features of the ESM implemented and have been studied 30 times. Technology factors include five variables: visibility, association, editability, persistence as ESM's affordances, and ESM identity.

Visibility describes the capability of ESM to enable employees to view details quickly and easily from other members of the organisation, such as preferences and knowledge that were invisible previously (Treem & Leonardi, 2013). Treem and Leonardi (2013) define persistence as the capacity of an ESM to allow users to permanently access previously contributed and posted content. It supports employees in sharing difficult ideas because the previous communication is stored; employees have a higher probability of understanding the presence of information when it is appropriately contextualised (Treem & Leonardi, 2013). These two variables have diverse results, which had positive, negative, and not significant effects on performance outcomes.

In contrast, association and editability only had positive and negative impacts on performance outcomes. Association refers to relationships that are formed between workers and content, such as knowledge contribution and content tagging made possible using ESM (Treem & Leonardi, 2013). Editability presents the ability of ESM to enable users to edit, add, and modify their uploaded content, thus enabling workers to consider precisely what they want to say and make their ideas easier to comprehend (Treem & Leonardi, 2013).

Alahmad et al. (2018) define ESM identity as the degree to which employees perceive the use of ESM as integral to themself. Identification occurs when features of technology are integrated into a person's perceptions, who

considers the features of the technology as an integral part of who they are (Carter & Grover, 2015). ESM identity had both a positive influence on performance outcomes and psychological outcomes.

Figure 4 shows the grouping of antecedent factors and a summary of the results of their relationships with the outcome variables (i.e. performance outcomes and psychological outcomes).

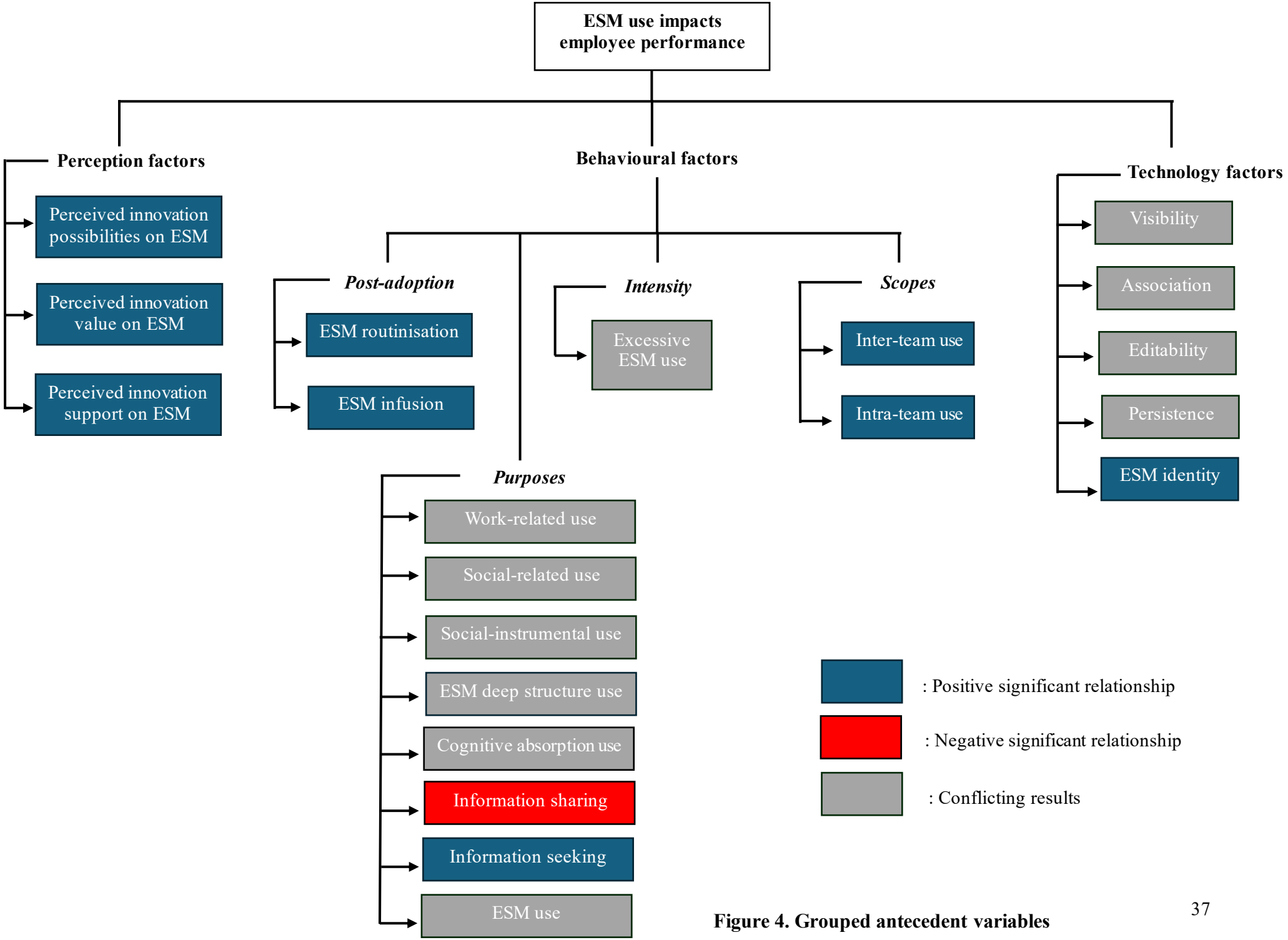


Figure 4. Grouped antecedent variables

4.3.3 Relationship between the antecedents and the outcome variables

Table 7 shows the relationship between antecedent variables and outcome variables directly or indirectly through mediators. It is noted that, although indirect relationships through mediators only apply to quantitative research articles, as mentioned above, the results of this review analysis come from both qualitative and quantitative research articles, so the independent variables are considered antecedents, and the dependent variables are considered outcome variables.

Table 7. Direct and indirect relationships between antecedent variables and outcome variables in reviewed studies

Outcome variables	Antecedent variables	Positive	Negative	Not significant	Mediators
Employee competence	ESM use	x*			- Knowledge sharing
Employee creativity	Social-instrumental use		x*		- Interruption overload - Psychological transition
	ESM use	x			-
		x*			- Leader-member exchange - Support for innovation - Collaboration impact - Networking impact
	Perceived innovation possibilities on ESM	x*			- Ideation - Collaboration
	Perceived innovation value on ESM	x*			
	Perceived innovation support on ESM	x*			
	Work-related use	x*			- Feedback inquiry
				x*	- Feedback monitoring
	Social-related use	x*			- Feedback inquiry
				x*	- Feedback monitoring
	ESM routinisation	x			-

	ESM infusion	x			-
	Inter-team use	x			-
		x*			- Knowledge depth - Knowledge breadth
	Intra-team use	x			-
		x*			- Knowledge depth
				x*	- Knowledge breadth
	Visibility	x*			- Knowledge acquisition - Knowledge provision - Instrumental ties
				x*	- Expressive ties
	Persistence	x*			- Knowledge acquisition - Knowledge provision - Instrumental ties
				x*	- Expressive ties
	Editability	x*			- Knowledge acquisition - Knowledge provision - Instrumental ties - Expressive ties
	Association	x*			
	ESM deep structure use	x*			- Work agility
			x*		- Communication agility
	Cognitive absorption use	x*			- Work agility
			x*		- Communication agility
Employee agility	ESM use	x			-
		x*			- Meta-knowledge

					- Psychological meaningfulness - Psychological availability - Psychological safety - Communication visibility - Communication quality - Trust
				x*	- Communication quality
Employee work efficiency	ESM use	x*			- Perceived challenge stressors
			x*		- Perceived hindrance stressors
Cyber-slacking	ESM use		x		-
			x*		- Psychological meaningfulness - Psychological safety - Psychological availability
	Visibility		x*		- Workplace bonding
	Association		x*		
	Edibility		x*		
	Persistence		x*		
Task performance	ESM use	x			-
		x*			- Informational support - Task interdependence - Intra-team centrality - Collaboration impact - Networking impact - Workplace integration - Positive emotion - Perceived task interdependence

			x*		- Work overload - Extra-team structural holes
				x*	- Perceived task autonomy
	Work-related use	x			-
		x*			- Organisational trust
	Social-related use			x	-
		x*			- Collaboration
			x*		- Information overload - Organisational trust
	Excessive ESM use	x*			- ESM usage regret
			x*		- ESM usage inertia
	Information sharing		x		-
	Information seeking	x			-
	ESM routinisation	x			-
	ESM infusion	x			-
	Inter-team use	x			-
	Intra-team use	x			-
	ESM identity	x*			- Co-worker support
	Visibility	x*			- Instrumental ties - Expressive ties
	Association	x*			
	Edibility	x*			
	Persistence	x*			
Job satisfaction	ESM use	x			-
	Work-related use	x*			- Bonding social capital
			x*		- Bridging social capital

	Social-related use	x*			- Bonding social capital
			x*		- Bridging social capital
	ESM identity	x*			- Co-worker support
Employee belongingness	Work-related use	x			-
	Social-related use			x	-
ESM-related exhaustion	Social-instrumental use	x*			- Information overload - Psychological transition

x: antecedent directly influences outcome variable

x*: antecedent influences outcome variable through a mediator

4.3.4 Findings on mediators

There are a total of 45 mediator variables (the definition of each variable is in Table A3 in the Appendix). These mediators are divided into six categories, including ESM for knowledge exchange, ESM as knowledge sources, social-related advantages, psychological factors, stressors, and task structures. Overall, ESM for the knowledge exchange category is the most studied and it mediated the relationship between all three antecedent variable categories and both outcome variable categories. This is followed by the social-related advantages category as this mediator category mediated the indirect relationship between two antecedent categories, behavioural factors and technology factors, and two outcome variables. In contrast, the remaining categories only mediated behavioural factors, specifically ESM as knowledge sources, psychological factors, and task structures mediated the relationship between behavioural factors and performance outcomes, and stressors mediated the relationship between behavioural factors and psychological outcomes.

ESM for knowledge exchange variables enable employees to contact their colleagues within or outside their team to ask for advice, discussion, and work-related information in order to complete tasks. The 13 variables identified in this category are leader-member exchange, support for innovation, feedback inquiry, intra-team centrality, extra-team structural holes, co-worker support, collaboration impact, instrumental ties, informational support, communication agility, communication quality, ideation, and collaboration.

The ESM as knowledge sources category has nine variables, including knowledge sharing, knowledge depth, knowledge breadth, knowledge acquisition, knowledge provision, meta-knowledge, work agility, feedback monitoring, and communication visibility. This category refers to employees who use ESM as a tool to access stored existing knowledge by giving them access to their colleagues' opinions on how they handle their work through ESM posts and comments, and to search and collect work-related resources such as finding an internal expert to quickly resolve difficult situations or looking for information to solve their tasks.

The social-related advantages category refers to employees who use ESM as a tool to create and maintain professional relationships or close relationships with their co-workers, serving as a valuable resource for seeking advice, help, collaboration on tasks, and emotional support. Bridging social capital, bonding social capital, workplace bonding, workplace integration, expressive ties, and networking impact are six variables included in this category.

The psychological factors category presents employees who use ESM as a tool to gain desirable psychological conditions by enabling employees to be identified within the organisation through their contributed content, be motivated through receiving appreciation from other workers or express their opinions freely and feel a sense of belonging through relationships with colleagues and trust through organisational sources of support. There are nine variables in this category: psychological transition, psychological meaningfulness, psychological availability, psychological safety, ESM usage regret, ESM usage inertia, trust, organisational trust, and positive emotion.

The stressors category refers to work stressors that employees encounter when using ESM, especially emotional exhaustion, tiredness, and burnout due to an overload of ESM-related demands or work- and non-work-related interruptions such as sharing and receiving information for social issues or to planning, organising, coordinating, and reviewing tasks in the workplace. This category has five variables, including interruption overload, perceived challenge stressors, perceived hindrance stressors, work overload, and information overload.

The task structures category presents employee perception of task structure through the use of ESM because ESM makes it easier for employees to communicate and understand each other's requirements regarding tasks such as specific details related to the task's goals and instructions on how to effectively use that information. Three variables under this category are perceived task interdependence, perceived task autonomy, and task interdependence.

Figure 5 shows the grouping of mediator variables and a summary of the results of indirect relationships between the antecedents and the outcome variables through these mediators.

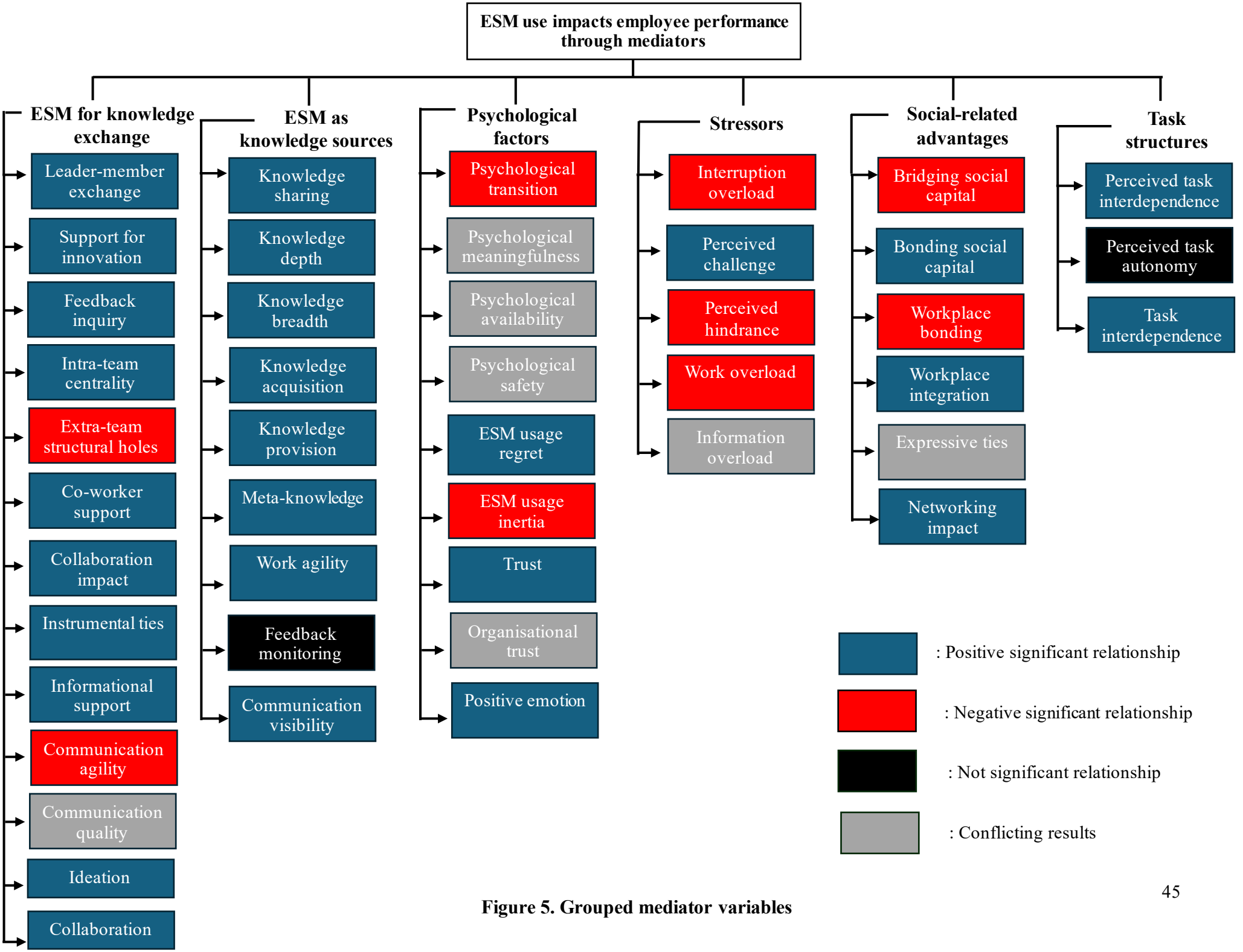


Figure 5. Grouped mediator variables

Chapter 5: Discussion and Conclusions

5.1 Discussion

This review synthesises existing articles on the use of ESM and its impact on employee performance, with the aim of presenting a systematic literature review along with the proposed framework to give a comprehensive understanding of the relationship between ESM use and employee performance. In total, the study has reviewed 42 selected articles and identified 21 antecedent variables, nine outcome variables and 45 mediating variables. The were 30 direct relationships between an antecedent and an outcome variable and 95 indirect relationships between an independent variable and an outcome variable through a mediator, of which 95 were positive and significant, 21 were negative and significant, and nine were not significant. The review found that the antecedents of employee ESM use, directly or indirectly through mediators, inhibit or enhance employee performance.

The findings on the antecedents show that 21 antecedent variables underpinned by different theories can be classified into behavioural, technology and perception factors. Behavioural factors are the most studied factors, followed by technology factors, while perception factors are the least researched factors. Behavioural factors examined in previous studies are further classified into purposes of ESM use, scopes of ESM use, intensity of ESM use, and post-adoption of ESM use. Purposes of ESM use refers to the aims that employees employ ESM to achieve, including work-related use, social-related use, social-instrumental use, ESM use, ESM deep structure use, cognitive absorption use, information sharing, and information seeking. The delineation of various purposes of employees' ESM use answers the first research question: how do employees use ESM in organisations?

The findings on the outcome variables illustrate that nine outcome variables are associated with performance outcomes and psychological outcomes. Among the reviewed studies, performance outcomes has attracted more scholarly attention than psychological outcomes.

In terms of direct relationships, ESM use has a positive direct impact on five outcome variables, including improvement employee agility (Indiarmeta & Suyono, 2022; Pitafi et al., 2019; Pitafi et al., 2020), employee creativity (Kügler & Smolnik, 2013; Patroni et al., 2015; Patroni et al., 2016), job satisfaction (Ma et al., 2022), employee belongingness (Randall et al., 2020) and decreases cyber-slacking (Nusrat et al., 2020). However, previous research shows conflicting results regarding the relationship between ESM use and task performance. Some studies find that ESM use increases task performance (Ma et al., 2022; Moqbel & Nah, 2017; Yee et al., 2021) while one study suggests that ESM use decreases task performance (Lu & Pan, 2019).

The findings on the mediators indicate that 45 mediator variables can be classified into six categories: ESM for knowledge exchange, ESM as knowledge sources, social-related advantages, psychological factors, stressors, and task structures. These mediators yield insights into the mechanisms behind the relationships between ESM use and employee performance. ESM for knowledge exchange is the most studied.

Regarding the mediating effects, ESM use has a positive indirect impact on employee competence and employee agility. More specifically, ESM use improves employee competence through knowledge sharing (Chen et al., 2023); further, it improves employee agility through meta-knowledge (Wei et al., 2020), communication quality (Pitafi & Ren, 2021), and psychological meaningfulness (Wang et al., 2016). In addition, ESM use has a negative indirect impact on cyber-slacking through workplace bonding (Luqman et al., 2020) and three psychological conditions (psychological safety, psychological availability, and psychological meaningfulness) (Nusrat et al., 2021), which helps employees offset the urge to participate in public social media or other personal internet use during office hours.

However, some conflicting results were also found, indicating ESM use indirectly positively and negatively influences employee performance. More specifically, ESM use increases employee work efficiency through perceived challenge stressors (Wu et al., 2021) while decreasing it through perceived hindrance stressors (Wu et al., 2021). ESM use increases employee creativity through feedback inquiry (Deng & Zhu, 2023), knowledge acquisition (Sun et al., 2020), and work agility (Bala et al., 2019) but harms it through interruption overload and psychological transition (Luqman et al., 2021), and communication agility (Bala et al., 2019). Some studies report that ESM use enhances task performance through informational support (Shang et al., 2022), co-worker support (Alahmad et al., 2018), and networking impact (Dittes & Smolnik, 2019); however, ESM use reduces task performance through work overload (Shang et al., 2022), information overload (Zhang et al., 2023), and ESM usage inertia (Li et al., 2022). Finally, ESM use increases job satisfaction through bonding social capital (Fu et al., 2019) and co-worker support (Alahmad et al., 2018) whereas it decreases it through bridging social capital (Fu et al., 2019).

These findings answer the second research question: what are the antecedents of employees' ESM use and their impacts on their performance?

5.2 Conclusions

ESM refers to internal social media platforms within an organisation to support communication and social interaction (Leonardi et al., 2013). ESM allows employees to collaborate, communicate, post, interact, exchange work-related information, and create, maintain, and improve social relationships with colleagues (Leonardi & Meyer, 2015). Many organisations have employed ESM with an aim of enhancing employee performance. Some studies have shown that ESM positively affects employee performance, such as increased task performance (Chen & Wei, 2020; Deng et al., 2021; Ma et al., 2022), agility performance (Cai et al., 2018; Pitafi et al., 2020), and creativity (Ali-Hassan et al., 2015; Kuegler et al., 2015). However, other scholars have found that ESM use negatively impacts employee performance, causing reduced productivity (Lu & Pan, 2019), and information and social overload (Chen & Wei, 2019). The purpose of this study is to review the existing literature on the relationship between ESM use and its impact on employee performance to offer a nuanced understanding of the role of ESM in employee performance. Paré et al. (2015) point out that, when knowledge is already available in a particular research field, systematic literature reviews provide researchers with the opportunity to compile insights on existing knowledge on a phenomenon.

This study conducted a systematic literature review following the guidelines by Paré et al. (2016). After developing a review plan, the research questions were formulated in the first step: how do employees use ESM in organisations and what are the antecedents of employees' ESM use and their impacts on their performance? Next, the researcher identified the keywords and selected the top IS journals in the Senior Scholars' Basket of Journals and the leading IS conferences' proceedings, then searched on Scopus, EBSCOhost, IEEE, ACM Digital Library, ProQuest, and SAGE. In the third step, all chosen articles were screened using inclusion and exclusion criteria to remove articles that did not relate to the research question. In the fourth step, the remaining articles were assessed using risk of bias to eliminate the articles impacted by bias or methodological flaws. In total, 42 articles were identified, with 35 peer-reviewed journal articles and seven peer-reviewed conference papers. In the fifth step, each study was extracted and organised into a spreadsheet, including article title, type of article, year of publication, research context, theoretical foundation, research method, antecedents, mediators, and outcome variables. The final step was to systematically analyse the extracted data, code and classify it into categories, and present the findings meaningfully.

Overall, 21 antecedent variables, 45 mediator variables, and nine outcome variables were identified from previous studies that examine the relationship between ESM use and employee performance. Nine outcome variables were classified into two categories: performance outcomes (i.e. employee creativity, employee competence, employee agility, task performance, employee work efficiency, and cyber-slacking) and psychological outcomes (i.e. job satisfaction, employee belongingness, and ESM-related exhaustion). The 21 antecedent variables were classified into three categories, including behavioural factors, perception factors, and technology factors (see Table 7). Finally, 45 mediator variables were classified into six categories: ESM for knowledge exchange, ESM as knowledge sources, social-related advantages, psychological factors, stressors, and task structures. The results

suggest that antecedents of ESM use either directly or indirectly through mediators impact employee performance. More specifically, behavioural factors, which refer to employee behaviour toward using ESM (e.g. work-related use), enhance employee competence, employee agility, and employee belongingness, and reduce cyber-slacking. However, behavioural factors increase ESM-related exhaustion. In addition, behavioural factors have conflicting results, which positively and negatively impact task performance, job satisfaction, employee work efficiency, and employee creativity. Perception factors, which refer to the factors that predict employees' ESM use behaviour (e.g perceived innovation possibilities on ESM) increase employee creativity. Technology factors, which refer to the features of the ESM implemented (e.g. ESM's visibility affordances), improve employee creativity, task performance, and job satisfaction and decrease cyber-slacking.

5.2.1. Theoretical contributions

This systematic review investigated the relationship between ESM use and employee performance. This study has four theoretical contributions. Firstly, the findings based on the review of empirical articles indicate that ESM use associates with increased employee performance. However, depending on behavioural factors (i.e. work-related use) and technology factors (i.e. ESM's visibility affordance), ESM use can lead to decreased employee performance. Thus, the findings from this study help clarify the proposition by some authors that ESM use was considered a double-edged sword (e.g. Carlson et al., 2016; Landers & Callan, 2014).

Secondly, the review offers a summary of the diversity of theories, contexts, methodologies, and variables (independent, dependent, and mediator variables) across reviewed studies, which is useful for clearly identifying foundations, conditions, and variables that influence ESM use to yield positive or negative results on employee performance. This gives other scholars an overview of plausible underlying theories when choosing their constructs and measurements regarding the research questions that suit their research aim.

Thirdly, the proposed framework offered by this review integrates the antecedent variables, outcome variables, and mediators that are related to ESM use and its impact on employee performance, helping scholars gain a comprehensive insight into the current state of research on this topic.

Finally, the review's finding indicates key mediating variables that shape the relationship between ESM use and employee performance. Thus, this review shows the roles of mediator variables in explaining the relationships between ESM use and employee performance. In particular, depending on the mediators, ESM use can improve or harm employee performance.

5.2.2. Practical contributions

This review has some valuable implications for managers who are interested in the organisational benefits of ESM while avoiding its drawbacks. Similarly, employees can gain knowledge through this review to help them increase their performance and avoid disadvantages that harm their performance when using ESM. In addition, ESM designers can also have information to develop their platforms to bring more benefits to users thus making it more attractive to them.

Firstly, managers often question whether implementing ESM benefits employee performance. The findings show ESM use not only increases employee performance outcomes, such as employee creativity and employee agility, but also their psychological outcomes, such as job satisfaction and employee belongingness. However, to take full advantage of the benefits of using ESM, managers need to pay attention when implementing the platform because ESM can bring disadvantages if not appropriately used, such as ESM use increases the need to respond to work-related at any time, causing employees to feel overwhelmed because those demands are beyond their capability of processing, thereby decreasing their task performance. Therefore, managers should encourage employees to use the platform appropriately to bring positive benefits such as promoting meaningful use of ESM by organising experience-sharing sessions on the use and benefits of ESM and training to support employees to use ESM to help support their work.

Secondly, because of fear of negative consequences from using ESM for non-work purposes, some organisations institute strict policies to mandate ESM use for work-related content only. The review's findings suggest that organisations should refine their ESM use policies because social-related ESM use is associated with similar positive consequences as work-related use. More specifically, social interactions from social-related ESM use help develop emotional intimacy and close relationships with other employees, which can provide the support needed to solve work-related problems. However, it is important to recognise that excessive ESM use, including both work-related and social-related use, can harm employee performance. Thus, to avoid overuse, managers might want to suggest ESM-use guidelines, for example, by setting or allowing a specific time for social-related use and designing filter features for work-related use to help employees quickly find the needed information and only display content related to that employee's scope of work.

Thirdly, employees' adaptation to ESM in the post-adoption stage often improves their efficient and effective ESM use by profoundly integrating the platform into their daily work and using more features, thus increasing employee performance. Therefore, organisations may want to encourage employees to use ESM regularly to gain more benefits from its use and help them perform their tasks.

Fourthly, some studies find that ESM use to fulfill needs such as answering work-related questions and sharing empathy and concern for colleagues causes employees to experience information overload and exhaustion, which subsequently decreases their task performance. Therefore, employees may wish to carefully manage their ESM use and pay attention to the buildup of feelings of information overload and exhaustion to limit those adverse effects. For instance, a possible strategy is only to use ESM to interact with coworkers within working hours and

limit responses outside of working hours while relying on other approaches to meet the demands, such as face-to-face interaction, which can minimise the negative impact of ESM overuse.

Finally, based on the review's findings, ESM affordances (visibility, association, editability, and persistence) positively impact employee creativity and task performance while reducing cyber-slacking. Therefore, ESM designers may enhance or make the actualisation of these affordances possible to help employees develop bonds and seek and share knowledge to help them with their work performance, thereby making the platform more attractive to them.

5.2.3. Limitations and Future Research

Limitations

There are four limitations in this review. Firstly, although research on ESM has received increasing scholarly attention, studies on the impact of ESM use on employee performance are still scarce, resulting in small sample sizes for review. Secondly, the review draws on the findings reported in previous studies. Therefore, although the researcher had an assessment of the quality of the reviewed articles during the searching and filtering process, certain shortcomings in those studies might be reflected in this review (Kitchenham & Charters, 2007). Thirdly, there can be no assurance that all published empirical research on the use of ESM and employee performance is included in the review since searching for articles depends on the search keywords and database s used. However, this review carefully includes backward and forward searches to mitigate this limitation. Finally, studies suggest that culture not only influences how users use IS, such as ESM, but the culture itself is also impacted by the values embedded in IS (Leidner & Kayworth, 2006). Since this review synthesises the findings of existing articles, which were studied in different contexts across different cultures and industries, other researchers should be careful to generalise from the integrated framework presented in this study.

Future research

Three future research recommendations are proposed based on the findings of the review. Most authors used the overarching construct of ESM use without clearly articulating the nature of ESM use as an antecedent to examine the relationship between ESM use and employee performance. However, clearly defining the purpose of using ESM by employees, such as work-related use and social-related use, is essential to develop nuanced insights on the influence of ESM use on employee performance, because, depending on the purpose of use, ESM use will affect employee performance differently. Fu et al. (2019) pointed out the importance of distinguishing employees' purposes for using ESM when examining its impact on employee performance. Therefore, future research should clearly delineate the purpose of employees' ESM use to improve research results.

The findings showed that ESM has a positive impact not only on performance outcomes (e.g. task performance and employee agility, etc.) but also on psychological outcomes (e.g. job satisfaction and belongingness, etc.). These results suggest that psychological outcomes are also a significant performance dimension in dealing with the psychology of employees to help them feel satisfied in life (Oh et al., 2014), feel that they belong and are a part of

the organisation (Randall et al., 2020), and to improve their well-being, and eliminate unpleasant feelings (Teoh, 2010). However, few studies consider psychological outcomes. Luz et al. (2018) found that employee satisfaction, the workplace environment, and a method of supervision that does not meet employees' expectations can lead to turnover intentions. Thus, future research should focus more on examining the relationship between ESM use and psychological outcomes that can help business managers use ESM as a tool to improve employee psychology.

From the review's findings, empirical studies on ESM use's impact on employee performance lack attention to cross-cultural contexts, with only six out of 42 articles examining the relationship between ESM use and employee performance in multiple countries. For example, Patroni et al.'s (2015) work on the impact of ESM on employee creativity showed that culture influences the way employees use ESM, which, in turn, impacts individual mindsets toward innovation. Moreover, Pitafi et al. (2018) also suggested that it is important to examine the influence of different cultures and development on ESM use and its impact on employee performance. Therefore, future research might want to explore how cultural differences impact ESM use and its effect on employee performance.

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Appendix

Table A1. Reviewed studies by journal, year, and study method

No.	Journal	Years of publication												Study method		
		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Tot.	Quant	Qual	Tot.
1	Frontiers in Psychology									1	3		4	4		4
2	Sustainability							1				1	2	2		2
3	Journal of Business Research									2			2	2		2
4	International Journal of Economics, Business and Management Research										1		1	1		1
5	Information Technology & People								1	1	1		3	3		3
6	Technology in Society						1		1				2	2		2
7	Journal of Human Resource Management								1				1	1		1
8	International Journal of Human–Computer Interaction								1				1	1		1
9	Information & Management									1		1	2	2		2
10	AIS Transactions on Human-Computer Interaction					1							1	1		1
11	IT Professional				1								1		1	1
12	IEEE Access							1	1				2	2		2
13	International Journal of Information Management						1						1	1		1
14	Journal of Enterprise Information Management									1	1	1	3	2	1	3
15	Internet Research									1		1	2	2		2
16	Industrial Management & Data Systems											1	1	1		1
17	Journal of Business Economics							1					1	1		1

18	Behaviour & Information Technology										1		1	1		1
19	Journal of Strategic Information Systems			1									1	1		1
20	Telematics and Informatics								1				1	1		1
21	International Journal of Information Systems and Change Management						1						1	1		1
22	International Journal of Agile Systems and Management							1					1	1		1
Total		0	0	1	1	1	3	4	6	7	7	5	35	33	2	35

Quant: Quantitative method; Qual: Qualitative method

Table A2. Reviewed studies by conference, year, and study method

No.	Conference	Years of publication												Study method		
		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Tot.	Quant	Qual	Tot.
1	International Conference on Research and Innovation in Information Systems in Psychology					1							1	1		1
2	Hawaii International Conference on System Sciences	1		1				1					3	2	1	3
3	Pacific Asia Conference on Information Systems				1								1	1		1
4	Americas Conference on Information Systems						1						1	1		1
5	European Conference on Information Systems			1									1		1	1
Total		1	0	2	1	1	1	1	0	0	0	0	7	5	2	7

Quant: Quantitative method; Qual: Qualitative method

Table A3. Definition of reviewed mediators

Mediator	Definition
ESM for knowledge exchange	
Leader-member exchange (LMX)	"LMX, as suggested in the literature is related to the exchange of resources between employees and their leaders." (Wang et al., 2022, p. 2)
Support for innovation (SFI)	"SFI involves an exchange between peers." (Wang et al., 2022, p. 2)
Co-worker support	"Co-worker support has been defined as the degree to which workers receive informational, emotional, and instrumental support from other colleagues." (Alahmad et al., 2018, p. 3)
Collaboration impact	"collaboration impact concept, which refers to the extent to which an ESM platform enables and improves an employee's collaborative activities." (Dittes & Smolnik, 2019, p. 1220)
Informational support	"informational support, which refers to providing helpful information resources for solving problems." (Shang et al., 2022, p. 2341)
Feedback inquiry	"feedback inquiry from colleagues." (Deng & Zhu, 2023, p. 2385)
Intra-team centrality	"intra-team centrality within a work group (internal cohesion)." (Suh & Bock, 2015, p. 1910)
Extra-team structural holes	"external structural holes across work groups (external bridging)." (Suh & Bock, 2015, p. 1910)
Instrumental ties	"Instrumental ties are work-related advice ties, through which workers seek and exchange necessary information, expertise, advice and informal, physical, or financial resources to accomplish a task." (Chen et al., 2020, p. 365)
Communication agility	"We define communication agility as employees' ability to communicate with coworkers quickly and optimize communication load to manage their time efficiently." (Bala et al., 2019, p. 2367)
Communication quality	"Communication quality is the degree to which content or information is exchanged and understood by at least two parties during interaction." (Pitafi & Ren, 2021, p. 1967)
Ideation	"The use of the ESM for new idea generation and dissemination." (Abhari et al., 2023, p. 955)
Collaboration	"Collaboration, the interaction between individuals working together to achieve collective goals." (Zhang et al., 2023, p. 7)

ESM as knowledge sources	
Knowledge acquisition	"Knowledge acquisition is the act of seeking and collecting work-related information and know-how within organizations." (Sun et al., 2022, p. 3)
Knowledge provision	"Knowledge provision is the act of contributing tacit knowledge to other colleagues or compiling and storing existing knowledge into knowledge Repositories." (Sun et al., 2022, p. 3)
Feedback monitoring	"feedback monitoring means employees can observe how coworkers proceed in their work or how others act and react toward them and their work." (Deng & Zhu, 2023, p. 2385)
Meta-knowledge	"Meta-knowledge is an expertise obtained from professional colleagues in a field." (Indiarmeta & Suyono, 2022, p. 205)
Knowledge sharing	"Knowledge sharing is the transfer of information useful for completing a task to another person to assist them in carrying out a specific responsibility or duty." (Chen et al., 2023, p. 3)
Knowledge depth	"Knowledge depth refers to how much knowledge an individual has in a particular domain." (Xiong & Sun, 2023, p. 154)
Knowledge breadth	"knowledge breadth refers to the extent to which an individual's knowledge involves multiple domains." (Xiong & Sun, 2023, p. 154)
Work agility	"we define work agility as employees' ability to find work-related resources (e.g., information, colleagues' opinions, an internal expert, etc.) necessary to resolve an issue promptly." (Bala et al., 2019, p. 2367)
Communication visibility	"Communication visibility exposes routine communication, including questions and problems on work-related information." (Pitafi & Ren, 2021, p. 1968)
Psychological factors	
Psychological transition	"Psychological transition represents the psychological shift between work and non-work demands, resulting in disengagement from one task and moving to another, such as responding to the socio-instrumental demands of ESM during working hour." (Luqman et al., 2021, p. 44)
Psychological meaningfulness	"Psychological meaningfulness is an essential, effective state that influences worker performance." (Nusrat et al., 2021, p. 3)
Psychological availability	"Psychological availability is the belief that employees have the physical, emotional, and cognitive resources to engage themselves at work." (Nusrat et al., 2021, p. 3)
Psychological safety	"Psychological safety is the degree to which employees feel safe and comfortable expressing themselves without fear of negative consequences for their self-images, statuses, or careers." (Nusrat et al., 2021, p. 3)

ESM usage regret	"ESM usage regret as an enabler of employee performance who excessively use ESM." (Li et al., 2022, p. 2)
ESM usage inertia	"we identify ESM usage inertia as an effective status quo experience of employees that keeps them persistent in the excessive use of ESM and decreases their employee performance." (Li et al., 2022, p. 2)
Trust	"Trust is defined as an expectation that the other party can act and perform his or her obligations in a predictable manner, and deal with affairs impartially." (Zhang et al., 2022a, p. 3)
Organisational trust	"Organizational trust, as a relational dimension of social capital, may be generated through structural social capital, such as instrumental ties and expressive ties." (Wang et al., 2021, p. 867)
Positive emotion	"positive emotions, which refer to emotions such as joy, happiness, interest, pride, affection, caring, contentment, and love." (Moqbel & Nah, 2007, p. 268)
Stressors	
Interruption overload	"we characterize interruption overload as the state in which employees receive more socio-instrumental demands from their ESM network than they can easily handle during their working hours." (Luqman et al., 2021, p. 44)
Perceived challenge stressors	"Challenge stressors are workplace requirements that are challenging but achievable." (Wu et al., 2021, p. 3)
Perceived hindrance stressors	"Hindrance stresses are occupational factors that employees perceive as needless barriers to overall achievement and personal development and achievement." (Wu et al., 2021, p. 3)
Work overload	"Work overload is a job demand that refers to perceptions of assigned tasks exceeding an individual's capability or skill level." (Shang et al., 2022, p. 2341)
Information overload	"as individuals possess limited resources when information-processing requirements exceed an individual's cognitive processing resources, the user will perceive information overload." (Zhang et al., 2023, p. 6)
Social-related advantages	
Expressive ties	"expressive ties represent emotional relationships that offer friendship and involve the exchange of care, alliance and social support." (Chen et al., 2020, p. 369)
Bridging social capital	"bridging social capital relates to the relationships of weakly tied people with heterogeneous backgrounds." (Fu et al., 2019, p. 3)
Bonding social capital	"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." (Fu et al., 2019, p. 3)
Workplace bonding	"social bonding at the workplace." (Luqman et al., 2020, p. 4)
Workplace integration	"workplace integration refers to employees' perceptions of connectedness with the organization and their coworkers." (Moqbel & Nah, 2007, p. 268)
Networking impact	"networking impact concept, which refers to the extent to which an ESM platform enables and improves an employee's networking activities." (Dittes & Smolnik, 2019, p. 1220)
Task structures	
Perceived task autonomy	"perceived task autonomy reflects employees' perceptions of having a certain degree of freedom to manage task processes and make decisions regarding task arrangement." (Deng et al., 2021, p. 934)
Perceived task interdependence	"perceived task interdependence reflects the degree to which employees believe that task completion depends on every individual's effort." (Deng et al., 2021, p. 934)
Task interdependence	"Task interdependence is the degree to which the interaction and coordination of employees are required to complete tasks in the workplace." (Pitafi et al., 2018, p. 199)