

Title : Towards Effective Use of Enterprise Social Networking Tools in Globally Distributed Software Engineering

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Background and Problem Statement

Organizations have been successfully harnessing the power of social media to engage with customer, but they still face challenges when it comes to using Enterprise Social Networking (ESN) internally. It has been reported by many organizations that using ESN has led to some degree of business benefits [1]. Synchronizing work hours, informal communication through formal channels, balanced coordination and constant collaboration has been identified as four important practices for improving communication in agile GSD. As a result, organizations use ESNs for communication between co-workers within the same organization. Virtual teams in Global Software Development(GSD) rely on ESN tools such as Slack, Yammer, Mattermost, Sharepoint, Chatter etc. These tools contribute in making the communication more asynchronous and support distributed agile development. However, organization face several challenges in making effective use of these tools and balance the communication with other types of communication such as face-to-face meetings, calls and emails. In 2017, Sven et al. [3] presented a case study highlighting challenges of ESN and reported several interventions to positively influence the acceptance of ESN tools. There are quite a few studies that report effective implementation of ESN tools [11][13][14].

It is important to identify and understand the challenges, approaches and solutions for effective use of ESN for communication and coordination in distributed software engineering teams. In the past decade, number of research papers have been published in multiple conferences(ICGSE,ACM,JCMC etc.) reporting findings based on research and industrial experience. As the Global Software Engineering (GSE) community continues to deepen its understanding in use of ESN for GDSE, I believe it is worthwhile to reflect and summarise on the findings reported in literature on the effective use of ESN in software development.

Objective : The study aims to discuss the challenges faced by GDSE teams in industry and then present best-practices reported in literature to solve these challenges and enable effective use of ESN in GDSE. Also, possibly presents a vision for possible future work on challenges that remain unaddressed.

Research Questions

RQ1: What are the challenges of using ESN tools in GDSE teams reported in literature?

RQ2: What are the best-practices for using ESN tools in GDSE teams to solve these challenges?

Brief Research Methodology

Selection of primary studies : Defining search queries and executing on selected digital libraries such as ACM, IEEE Xplore, SpringerLink, Google Scholar, Science Direct etc. The main inclusion criteria would be that the research effort should focus on addressing a challenge or practice for using ESN tools.

After going through primary studies, map the challenges found in the primary studies with appropriate best-practices of using ESN tools.

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2 Background:

- Definition of ESN
- ESN as a communication tool in GDSE

3 Challenges of ESN:

- Acceptance of ESN, Language barrier, communication flow in ESN (personal & group communication)

4 Interventions/Guidelines for Effective use of ESN:

- Discuss the reported Interventions/guidelines for effective use of ESN in GDSE

5 Discussion:

- How the above mentioned guidelines could help tackle the challenges

6 Conclusion

References

Usefull references for the study.

[1] M. Chui, J. Manyika, J. Bughin, R. Dobbs, C. Roxburgh, H. Sarrazin, G. Sands, M. Westergren, "The Social Economy: Unlocking Value and Productivity through Social Technologies," McKinsey Global Institute, July 2012, [link](#)

[2] Balasubramaniam Ramesh, Lan Cao, Kannan Mohan, and Peng Xu. 2006. Can distributed software development be agile? Commun. ACM 49, 10 (October 2006), 41–46. [link](#)

[3] Sven Laumer, N. Sadat Shami, Michael Muller, and Werner Geyer. 2017. The Challenge of Enterprise Social Networking (Non-)Use at Work: A Case Study of How to Positively Influence Employees' Enterprise Social Networking Acceptanc. In Proceedings of the 2017 ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW '17). Association for Computing Machinery, New York, NY, USA, 978–994. [link](#)

[4] Paul M. Leonardi, Marleen Huysman, Charles Steinfield, Enterprise Social Media: Definition, History, and Prospects for the Study of Social Technologies in Organizations, Journal of Computer-Mediated Communication, Volume 19, Issue 1, 1 October 2013, Pages 1–19, [link](#)

[5] C. Schiller and T. Meiren, "Enterprise Social Networks for Internal Communication and Collaboration," 2018 IEEE International Conference on Engineering, Technology and Innovation (ICE/ITMC), Stuttgart, 2018, pp. 1-4,

[link](#)

[6] Alqahtani S.M., Alanazi S., McAuley D. (2014) The Role of Enterprise Social Networking (ESN) on Business: Five Effective Recommendations for ESN. In: Zamojski W., Mazurkiewicz J., Sugier J., Walkowiak T., Kacprzyk J. (eds) Proceedings of the Ninth International Conference on Dependability and Complex Systems DepCoS-RELCOMEX. June 30 – July 4, 2014, Brunów, Poland. Advances in Intelligent Systems and Computing, vol 286. Springer, Cham [link](#)

[7] Viktoria Stray, Nils Brede Moe, and Mehdi Noroozi. 2019. Slack me if you can! using enterprise social networking tools in virtual agile teams. In Proceedings of the 14th International Conference on Global Software Engineering (ICGSE '19). IEEE Press, 101–111. [link](#)

[8] Shiri Kremer-Davidson, Inbal Ronen, Lior Leiba, Avi Kaplan, and Maya Barnea. 2016. Raising your Eminence inside the Enterprise Social Network. In Proceedings of the 19th International Conference on Supporting Group Work (GROUP '16). Association for Computing Machinery, New York, NY, USA, 111–120. [link](#)

[9] Mohammad Hossein Jarrahi. 2012. Social technologies and knowledge sharing within and across organizations. In Proceedings of the 17th ACM international conference on Supporting group work (GROUP '12). Association for Computing Machinery, New York, NY, USA, 287–288. [link](#)

[10] Jennifer Thom, David Millen, and Joan DiMicco. 2012. Removing gamification from an enterprise SNS. In Proceedings of the ACM 2012 conference on Computer Supported Cooperative Work (CSCW '12). Association for Computing Machinery, New York, NY, USA, 1067–1070. [link](#)

[11] Nolte, Ferry et al. "Moderation of Enterprise Social Networks - A Literature Review from a Corporate Perspective." HICSS (2017). [link](#)

[12] Kumar, V., Loonam, J., Allen, J. et al. Exploring enterprise social systems & organisational change: implementation in a digital age. J Inf Technol 31, 97–100 (2016). [link](#)

[13] Chin, Christie Pei-Yee & Evans, Nina & Choo, Kim-Kwang Raymond. (2015). Enterprise Social Networks: A Successful Implementation within a Telecommunication Company. [link](#)

[14] Giermindl, Lisa & Strich, Franz & Fiedler, Marina. (2018). Do Enterprise Social Networks really Enhance our Performance? Exploring the Relationship between Usage Practices and Individual Task Performance . [link](#)