

Collaborative model to enhance informal communication within software teams

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Communication is undoubtedly one of the key elements of successful modern software development, which directly influence on the coordination and teamwork in managing complex software projects. Many researchers have stated that informal communication plays a major role within a software organization than formal communication to achieve objectives. Majority of the knowledge and information within an organization will transfer through informal ways such as cubical chatting, informal emails, telephone calls etc. Informal communication is considered the most significant portion of communication for a software organization's internal and external progress. Although most of the previous literature considered formal and informal communication together, to the best of our knowledge, there has been no study which had addressed informal communication in software development extensively. There exist many challenges within a software development team such as difficulties in requirements engineering, poor teamwork, poor sharing of resources etc. due to lack of informal communication. One of the main issues is that the best practices and strategies have not been followed within the informal communication network. Therefore, the main objective of this study is to develop a model to enhance the informal communication within a software team. There can be both horizontal informal communication and vertical informal communication present in an organization, and the employees informally communicating would differ accordingly. Also, the way and the extent of informal communication would differ from co-located software projects to global software projects. Taking these aspects into consideration, initially a survey on literature was conducted and with the use of grounded theory, challenges due to lack of informal communication and the best practices in order to mitigate the challenges were identified. Then an industrial analysis was conducted, and similarly, with the aid of grounded theory the challenges and best practices that were applied to real world companies were identified. A theoretical model to be followed in order to enhance and control the existing informal communication network that was developed by linking the challenges and the best practices that had been identified from both the literature survey and the industrial analysis. Finally, the applicability of the model was computed with a number of interviews that were conducted with the industry experts. The best practices introduced in the theoretical model enhances the software team's informal communication and mitigates many currently existing challenges associated in requirements engineering, teamwork, task allocation etc. It also helps to effectively share knowledge and resources among the software team and increase the transparency among the software team. Further, it is applicable to any type of software team rather than including both local and global software development.

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