

# AN OVERVIEW OF PROJECT COMMUNICATION MANAGEMENT IN CONSTRUCTION INDUSTRY PROJECTS

<sup>a</sup>Hala Taleb, <sup>a</sup>Syuhaida Ismail, <sup>a</sup>Mohammad Hussaini Wahab, <sup>a</sup>Wan Nurul Mardiah  
Wan Mohd Rani, <sup>a</sup>Rohayah Che Amat

<sup>a</sup>UTM Razak School of Engineering and Advanced Technology  
Level 7, Menara Razak Universiti Teknologi Malaysia  
Kuala Lumpur, Malaysia



Received 11 March 2017  
Revised 12 April 2017  
Accepted 19 April 2017

## Abstract

Communication is the heart of implemented projects of the construction industry, where project managers consume 90% of their time communicating with project participants. However, some barriers occur during this significant process of transferring project information. Therefore, this review paper highlights these constraints and guide project managers to take proper action to avoid them. Furthermore, as project communication needs to be carefully managed, this paper introduces communication management due to its high value, all long with the communication management plan as one of the main elements of the overall project management plan that aims to meet the stakeholders' requirements by delivering successful projects eventually.

**Keywords:** communication, communication management, construction industry, project communication management plan

## Introduction

Communication is a wide-mentioned term that attracts major attention throughout the literature, where studies confirmed that it is the foundation of every human interaction between different parts of the dialogue, and it gives meanings and solidity to the conducted activities. First and foremost,

Torain Publishing Limited

Corresponding authors:  
hussaini.kl@utm.my

the dictionary defines the word communication as the process of imparting and interchanging ideas, viewpoints or information, by speaking, writing or signals (Folland 1983). Basically, communication is transferring any information between people (Luiten and Tolman 1997). Metaphorically, communication can be the pipeline that transfers information from one individual to another (Axley 1984). However, studies concluded to the barriers that may occur during the implementation of the project. These barriers can be verbal, environmental, emotional or interpersonal (Fox 2001). Moreover, to effectively communicate, proper communication management schemes must be adopted to set the path for accurate distribution and sharing of the project information. Communication management is the essential component of the project management that defines the required processes of proper planning, collecting, distribute and retrieve project information among the project participants (PMI 2013a). It was widely mentioned in literature due to its significance of developing an approach of information sharing between the individuals in different levels. On top of that, the stage of planning the project communication management is fundamental through developing a communication management plan that assists the project manager to defines the involved parties, determine the information to be shared, and allocate the most convenient methods of communicating to fulfil the project requirements and clients' needs.

### *Communication*

To better understand communication process, Figure 1 depicts the process of communication according to Kliem (2007). It is consistent with the sender, receiver, message and medium. First, the sender develops the message to be sent to the receiver, while the receiver is informed and then deals with the message accordingly. Furthermore, the medium of communication can be in any format that is relevant to the project environment, and finally, the message is the core of this process as it initiates the relationship between the sender and the receiver.

In terms of projects, to communicate is to exchange and emphasise the project-related information and data to create mutual understanding between the participants (Caltrans 2007). Communication is a leading key to maintaining project parties well-informed of the progress, as well as to keep them on track to achieve project objectives (Muszynska 2015). It was confirmed by many researchers that communication plays a major role for projects, and effective communication is an essential factor of project success (Zulch 2014). Construction projects are no exceptions.

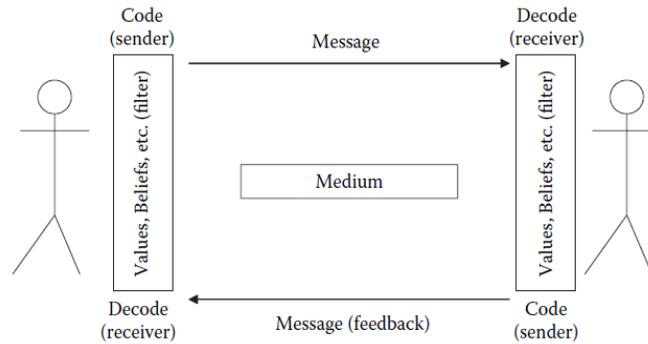


Figure 1: Process of communication

Source: Kliem (2007)

Effective communication is to assure the previously mentioned four elements of the communication process are well-functioned (Van der Walt et al. 1996), the message is well-understood by the receiver (Talukhaba, Mutunga, and Miruka 2011), and the required needs and results are eventually met (Norouzi et al. 2015). This is also applicable to the construction industry's projects, as it highly depends on the crucial component of effective communication between project participants (Coughlan and Macredie 2002). Folland (1983) demonstrated that effective communication is the result of all project participants being aware and efficiently accomplishing their tasks and responsibilities to meet project goals. Applying active and effective communication skills by project managers is a well-established manner to overcome issues and tough junctures during the project. According to Dinsmore and Cabanis-Brewin (2014), it is the project manager's responsibility to specify what the messages to be sent properly and to whom, and to interpret these messages in an understandable language for the receiver are.

### *Barriers of Communication*

Carvalho (2008) declared that the process of communication is simple in understanding. However, it is a complex and complicated process when it comes to practices. These complications, in addition to ineffectiveness, give rise to communication barriers. In different types of projects, it is common that some troubles take place between the project participants during different project phases, which cause delays and conflicts. These issues can be caused by improper communication and incorrect exchanged messages. Reports revealed how the lack of communication could affect the project progression, where it was found that nearly 74% of the problems occurred in the project were caused by ineffective communication (Komi- Sirviö and Tihinen 2005).

Barriers that often interfere within a project were classified by Fox (2001) into four categories; verbal, environmental, interpersonal and emotional reactions. Therefore, this categorization is used as a foundation to present communication barriers in literature and according to several studies, as demonstrated in Table 1.

**Table 1: Barriers to communication**

<b>Author</b>	<b>Verbal</b>	<b>Environmental</b>	<b>Interpersonal</b>	<b>Emotional reactions</b>
Fox (2001)	- Speaking fast - Speaking with slang - No proper attention was given	- Noise - Diverse interruptions	- Language differences - Defective assumptions	- Anger - Embarrassment
Casey and Richardson (2008)	- Late replies - Different terms used - Absence of language skills		- Lack of interpersonal relationship - Little feedback	- Little mutual trust
Carvalho (2008)		- cultural environment - Education	- Sender-receiver relationship	- Individual experiences
Dinsmore and Cabanis-Brewin (2014)	- No evaluation prior to response - Communication tone - Lack of feedback	- Cultural bias		
Carvalho (2008)		- Inappropriate communication venue	- Knowledge differences - Not enough information sharing	- Lack of trust

In terms of projects, Fox (2001) listed the lack of face-to-face meetings as one of the major communication obstructions, in addition to depending on the formal methods while not performing enough informal communication methods, as well as the unclear structure of the project communication, without determining how communication will take place. This is further supported by Flicker (2002), who claimed that sometimes in projects, goals and outcomes are not properly set, whereas unrealistic work completion durations are scheduled, inconvenient planning, changing or additional clients' demands and too frequent time-consuming meetings.

### *Communication in Construction Industry*

In the construction industry, project information is extensively and inclusively exchanged throughout the duration of project planning and executing. It was outlined that communication is highly required whenever a project is implemented by and involves humans. Studies confirmed that project managers spend about 90% of their time communicating with the involved parties to the project (Čulo and Skendrović 2010). To Dinsmore and Cabanis-Brewin (2014), the project's final results are directly affected by the communication and coordination of the project processes that seek to meet client's expectations, cost resources and completion date. Thus, PMI (2013c) indicated that 55% of project managers identifies effective communication as the main pivotal factor for project success. Therefore, it is a major need to manage and coordinate the exchange of this information among participants (Melzner et al. 2015). Additionally, is it critical to improve communication in the construction industry to increase innovation and positive decision making

(Hoezen, Reymen, and Dewulf 2006), and to avoid misunderstanding that causes conflicts of incorrect messages exchanged that result in project failure (Zulch 2014).

### *Communication Management*

Communication management is this substantial area of project management, as it designates the heart of project management, that has been emerging notably due to the significant effect on the projects, including construction projects. PMI (2013a) defined it as the fundamental knowledge area of project management that determines the required processes to be carried out to properly generate, collect, distribute, store and retrieve the project information in a timely manner. Prior to that, van Riel and Blackburn (1995) outlined the communication management as an instrument of managing all the harmonised forms for internally and externally communicating, used altogether to achieve effective results. Literature indicated the nature of project communication management as a systematic process, while it systematically performs, controls and reviews the used communication channel of the project, and it accurately organises and distributes the instructions of communication (Elving et al. 2012).

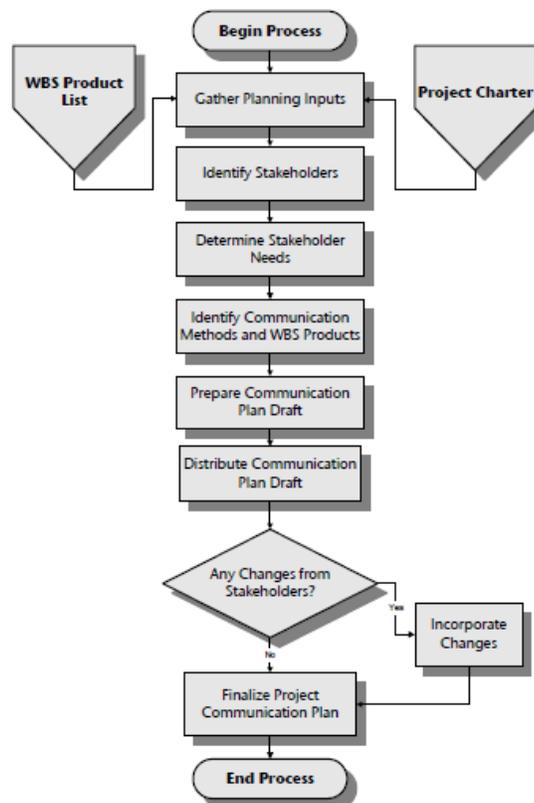
The processes of communication management help to approach a key connection between the involved individuals and the needed information for fulfilling communication success (Caltrans 2007). As a result, studies illustrated how project communication management be useful and the project, where it was indicated that it assists in developing a project communication plan, effectively use relevant methods to disseminate information and to document the project records for future needs (Caltrans 2007, Ahuja and Priyadarshini 2015).

### *Communication Management Plan*

As indicated, the construction projects need to be planned to keep project processes on track to obtain success and fulfil the requirements. Project information is mainly provided and distributed through the overall project management plan. Subsequently, and as a significant influence of the project body, planned project communication will eventually bring the successful project to existence. Planning communication management is the practice of establishing an adequate approached plan of project communication in accordance with the requirement, needs and expectations of the client (PMI 2013a). Accordingly, a project communication management plan is the project document that is seen as a key element of the project management plan, which focuses on the way how to plan, arrange, observe and control the project communication, as well as to set the project communication goals and requirements (Kliem 2007, PMI 2013a). Moreover, Bilczynska Wojcik (2014) illustrated that the communication management plan elaborates the frequency of communication occurred during the project duration between the project participants, as it also comprises the participants' contact information.

Communication management plan is the developed document by the project manager (Čulo and Skendrović 2010), which allocates who is the responsible for effectively communicating each format of project information accurately and on time with the correct format (Kliem 2007). The communication management plan generally guides the project participants in regards of how communication information proceed, and directs them on the changing communication processes, specify the relevant communication methods, techniques, and frequency, and perform convenient efforts to reduce the effect of occurred obstacles on the communication flow DES (2014).

According to Dinsmore and Cabanis-Brewin (2014), in order to initiate a communication management plan, five essential inquiries need to be pointed up during the project planning stage; the persons-in-charge of decision-making, the developer of the list of tasks and actions, the time interval of completion and reporting, the methods of distributing information, the recipient of shared information. Additionally, PMI (2013a) highlighted the type of information that would be consisted in the communication management plan. This information includes client’s requirements, requested information to be communicated, frequency and time frame of the communicated information, sender, receiver and responsible individuals, communication technologies and methods, information flow process, limitations, resources, guidelines and meetings. Caltrans (2007) demonstrated the flowchart of developing a project communication management plan, as depicted in Figure 2.



Communication management plan is first initiated with collecting the project inputs through the product list of work breakdown structure (WBS) and the project charter that allocates the responsible individuals of the project. Further, the project stakeholders or clients are identified all along with their needs, expectations, and how to communicate with them, to assure the project success by meeting these requirements. Next is to determine the best communication methods to be used during the different project stages with different participants to communicate different types of information. After that, a draft of the communication plan is delivered, which contains the previously mentioned elements and a project brief and background, list of project participant on different levels and tasks, employed communicating methods, and reporting of the project performance. Once the draft is approved by the project stakeholders and managers, it is then finalised and submitted. Taking into consideration that the project communication management plan is an evolving document throughout the working period of the project, as it can be updated when required.

However, despite the fact of the significant role of project communication management plans, conducted studies proved the lack of implementing this essential project document among different types of projects and fields. Carvalho (2008) proved the absence of proper planning of project communication, which caused ineffective communication during the project. Additionally, in their study, Čulo and Skendrović (2010) highlighted the negative consequences of paying little attention to the critical stage of planning project communication, which leads to serious conflicts of delivery delays of the project information, messages sent the wrong receivers or no enough communication when needed, which can cause profession amateurishness. Therefore, it is substantial for project managers to carefully pay attention to the communication management plan and give enough time to prepare it in the early stages of the project, otherwise, failed communication will cause project failure, insufficient outcomes and client dissatisfaction.

## **Conclusion**

This review paper carefully introduced the significant act of communication in construction projects, where researchers confirmed that communication is a must whenever humans are involved. As communication is widely mentioned in literature, studies illustrated that during information exchange among project participant, some obstacles take place which affect the flow of the project. This paper highlighted the different types of barriers mentioned in literature. This can raise the project managers' awareness towards these barriers and help them to perform suitable acts to assure the correct information is being correctly transferred to the right receiver. Moreover, communication management as a leading element of the project management was introduced by this paper. Subsequently, this paper presented the essential act of developing a communication management plan of the construction project, to determine how communication will be effectively practiced during the project life. As a result, this paper recommends for further studies of

communication management knowledge and practice among the various construction industry players.

### **Acknowledgment**

The authors would like to express their sincere gratitude to the Ministry of Education Malaysia, Universiti Teknologi Malaysia (UTM) and the Research Management Centre (RMC) of UTM for providing the financial support for this paper to be published. This paper is financed by the Grant for Research University (GUP) Tier 2 of UTM for research funding under Cost Centre No. Q.K130000.2640.11J98.

### **References**

- Ahuja, Vanita, and Shalini Priyadarshini. 2015. "Effective Communication Management for Urban Infrastructure Projects." Project Management National Conference, India.
- Axley, Stephen R. 1984. "Managerial and organizational communication in terms of the conduit metaphor." *Academy of Management Review* 9 (3):428-437.
- Bilczynska Wojcik, Aneta. 2014. "Communication management within virtual teams in global projects." Dublin Business School.
- Caltrans. 2007. Project Communication Handbook. edited by Office of Project Management Process Improvement. 1120 N Street, Mail Station 28 Sacramento, CA 95814  
USA: Office of Project Management Process Improvement.
- Carvalho, Marly M. 2008. "Communication issues in projects management." Management of Engineering & Technology, 2008. PICMET 2008. Portland International Conference on.
- Casey, Valentine, and Ita Richardson. 2008. "The impact of fear on the operation of virtual teams." Global Software Engineering, 2008. ICGSE 2008. IEEE International Conference on.
- Coughlan, Jane, and Robert D Macredie. 2002. "Effective communication in requirements elicitation: a comparison of methodologies." *Requirements Engineering* 7 (2):47-60.
- Čulo, Ksenija, and Vladimir Skendrović. 2010. "Communication management is critical for project success." *Informatologia* 43 (3).
- DES, Department of Education and Skills. 2014. Communication Management Plan. edited by Seán Ó Foghlú. Marlborough Street, Dublin 1. D01 RC96  
Ireland: Department of Education and Skills.
- Dinsmore, Paul C, and Jeannette Cabanis-Brewin. 2014. "The AMA Handbook of Project Management."
- Elving, Wim, Betteke van Ruler, Michael Goodman, and Christina Genest. 2012. "Communication management in The Netherlands: Trends, developments, and benchmark with US study." *Journal of Communication Management* 16 (2):112-132.
- Flicker, Barry. 2002. "The four myths of project breakdown (and how to transform them into breakthroughs)." Engineering Management Conference, 2002. IEMC'02. 2002 IEEE International.
- Folland, Raynold O. 1983. "Project Management Communications." *Journal of Professional Issues in Engineering* 109 (1):39-44. doi: doi:10.1061/(ASCE)1052-3928(1983)109:1(39).
- Fox, S. 2001. "Effective communication: stone age to e-comm." Proceedings of the Project Management Institute Annual Seminars & Symposium.

- Hoezen, MEL, IMMJ Reymen, and GPMR Dewulf. 2006. "The problem of communication in construction."
- Kliem, Ralph L. 2007. *Effective communications for project management*: CRC Press.
- Komi- Sirviö, Seija, and Maarit Tihinen. 2005. "Lessons learned by participants of distributed software development." *Knowledge and Process Management* 12 (2):108-122.
- Luiten, Gijsbertus T"Bar", and Frits P Tolman. 1997. "Automating communication in civil engineering." *Journal of construction engineering and management* 123 (2):113-120.
- Melzner, J., I. Feine, S. Hollermann, J. Rütz, and H. Bargstädt. 2015. "The influence of building information modelling on the communication management of construction projects." The 15th International Conference on Construction Applications of Virtual Reality, At Banff, Banff, Canada, October, 2015.
- Muszynska, Karolina. 2015. "Communication Management in Project Teams-practices and Patterns".
- Norouzi, Nima, Maryam Shabak, Mohamed Rashid Bin Embi, and Tareef Hayat Khan. 2015. "The architect, the client and effective communication in architectural design practice." *Procedia-Social and Behavioral Sciences* 172:635-642.
- PMI, Project Management Institute. 2013a. *A Guide to the Project Management Body of Knowledge: PMBOK Guide*: Project Management Institute.
- PMI, Project Management Institute. 2013c. The Essential Role of Communication In *PMI White Paper*, edited by Project Management Institute: Project Management Institute.
- Talukhaba, Alfred, Timothy Mutunga, and Collins Ogutu Miruka. 2011. "Indicators of effective communication models in remote projects." *International Journal of Project Organisation and Management* 3 (2):127-138.
- Van der Walt, A, JW Strydom, S Marx, and CJ Jooste. 1996. "Marketing management." *Kenwyn: Juta* 22:3-60.
- van Riel, C.B.M., and C. Blackburn. 1995. *Principles of Corporate Communication*: Prentice Hall.
- Zulch, BG. 2014. "Communication: The foundation of project management." *Procedia Technology* 16:1000-1009.