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A review of Communication Tools and Techniques for Successful ICT Projects

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ABSTRACT

Practitioners have repeatedly mentioned that projects that lack effective communication are doomed to fail. Project communications management involves the generation, collection, and storage of information within a project. Project communication therefore provides vital ingredients for the go-no-go decisions in a project through the effective selection of the minimum essential things that can be done to share the collected information among the stakeholders. A fast growing way to manage software development projects is agile project management, whose focus is balancing between continuous releases of quality deliverables and frequently sharing project progress information. In this editorial, we advocate for research on the approaches, tools, and techniques that are used in agile project management in relation to those used in the more traditional approaches to project management to effectively manage communication in software development projects in Africa. The hope is to bring to surface knowledge on how project management communications is currently being effected, as well as the factors about these communications that are distinctive to this region when contrasted with the rest of the world.

Keywords

INTRODUCTION

By definition, project communication management refers to the set of activities concerned with the generation, collection, presentation, distribution, and secure storage of information within a project and its environment. Project communication management is thus the backbone to effective decision making during the lifespan of a project. Since project management is one of those areas of management that cuts across many business units in an organization, the responsibilities of a project manager necessitate coordination of tasks and resources that may be spread across various business units - most of which the project manager may have no direct control of. Thus project communication management becomes an essential and necessary skill-set for effective coordination of any project and all involved stakeholders. Ineffective project communication management may doom a project into failure (Schwalbe, 2010; Mephyans-Robinson, 2010).

To communicate effectively, the project team employs a set of tools and techniques that are relevant to a given project and its environment. Tools in project communication management refer to the software applications and devices used to aid in the collection and distribution of project information. Techniques are the methods used to enable communications within a project and among its stakeholders (Schwalbe, 2010). The selection of which tools and techniques to use is a nontrivial task that is affected by a number of variables. Some of these variables include cost, tool availability, skill set, and type of project (Mnkandla, 2008).

Within the realm of ICT systems development projects, a whole host of frameworks and methodologies are employed for managing projects. Each framework usually provides some guidelines concerning project communication management. The two frameworks that we have selected to focus on in this article are the (a) traditional/conventional project framework (hereafter referred to as the traditional approach) and, (b) the agile project framework.

The traditional approach in this article refers to the set of project management approaches that are more aligned towards the Project Management Institute's Project Management Body of Knowledge (PMBOK) and the Association of Project Managers' Body of Knowledge (APMBOK) (Sliger, 2008; Fernandez and Fernandez, 2008). In these approaches, communication management is defined according to project process groups and knowledge areas. A set of tools and techniques that are recommended for communication in projects employing this approach are articulated within the guidelines provided by these professional associations. Examples of tools and techniques used in ICT projects are: project wikis, conflict management, status and progress reports, war rooms, project website, project blog, email, daily meetings, iterations, templates, vision, kick-off meetings, communications management plan, communication media selection, and virtual communication (Schwalbe, 2010; Vermeulen, Brereton, Lofthouse, Smith, Kehagia, Krafft, and Baeten, 2009; Ravid, Shtub, Rafaeli, and Glikson, 2012).

Agile project management, on the other hand, is a recent approach to the management of ICT projects, especially software development projects. The main focus of agile project management is in finding the balance between continuous release of quality deliverables as specified by the customer, frequently sharing the information on the progress or lack of progress with the stakeholders, and getting buy-in and feedback from the relevant stakeholders. Within a project employing the agile project management approach, communications are planned such that they specifically emphasize or focus on (a) daily face-to-face communication, (b) accountability, and (c) commitment (Highsmith, 2002; Fernandez and Fernandez, 2008).

This article calls for more empirical research on ICT project communications management within Africa. The study contributes towards the effective management of projects by eliciting some key research questions pertaining to project communications management. The objective is to espouse greater interest in the investigation of how project management, and especially the communications function within projects is performed in Africa and the issues that the professional and scholarly project management communities in Africa need to focus on in the visible future.

A REVIEW OF PAST RESEARCH AND PUBLICATIONS ON ICT PROJECT COMMUNICATIONS MANAGEMENT IN AFRICA

There isn't much research on project management focused on ICT in Africa. A summary of some of the work in this area is presented in Table 1. A review of this body of work indicates that much focus in this area has been on articulating critical success factors for project management success on the one hand, and espousing the impact of culture on project management practice and success on the other hand. There has been little focus on how communications are conducted within ICT projects or how they are managed and the impacts that such management has on the project's eventual outcomes. Further, not much exists to inform us about which project management approaches – traditional or agile – tend to be selected for ICT projects in Africa and the factors or reasons that determine the approach of choice. We also see a lack of papers on how communications management differs (or does not differ) within agile ICT projects as contrasted to traditional ICT projects. Answers to some of these questions would not only allow us to better understand what is going on pertaining to the management of ICT projects in Africa, but also begin to establish a common body of "best-practice" knowledge that is specific to Africa when it comes to the management of ICT projects in general, and the management of communications within these projects in particular.

According to the PMBOK guide (Institute, 2008), project communications management is defined as:

> "…the processes required to ensure timely and appropriate generation, collection, distribution, storage, retrieval, and ultimate disposition of project information."

The generation of project information is a spontaneous output of all the processes involved in carrying out the project work. Because of the tendency to focus on technical minutiae within ICT projects, other dimensions of information generation that are also pertinent for project success, such as economic and managerial dimensions, may be easily overlooked. Thus several research questions emerge: What are the best practices for information gathering within an ICT project setting? In what ways does information gathering within an agile ICT project setting differ from ways this activity would be conducted within conventional ICT project settings? Which of these practices are evidently in use across Africa and why? What are the nuanced factors that impact these practices as applied within ICT projects across Africa? Are these observable differences in ICT projects across sectors or countries pertaining to information gathering strategies, techniques, tools, and/or procedures?

Source	Identified themes in project communications	Authors	Year
International Journal of Project Management	There is a strong link between project success and trust, communication, and cooperation between stakeholders.	Diallo, A., and Thuillier, D.	2005
International Journal of Project Management	Identifies cross-cultural communication as an important success factor in multicultural construction projects.	Ochieng, E.G. and Price, A.D.F.	2010
South African Journal Of Industrial Engineering	Identifies communication skills as one of the critical success/failure factors within a project team.	Barry, M and Uys, L.	2011
Information Technology For Development Journal	Identifies communication as one of the critical success factors for ICT projects in developing countries with a special context of South Africa.	Pade-Khene, C. C., Mallinson, B. B., and Sewry, D. D.	2011
South African Journal Of Industrial Engineering	Identifies communication behavior as a key cultural issue that affected the success of projects.	Jiang, D. D., and Pretorius, L. L.	2011
South African Journal Of Industrial Engineering	Recognizes a balanced mixture of both formal and informal communication as important for improved interaction within the project team and proposes a contact center managed communication system among team members.	Bond-Barnard, T. J., and Steyn, H. H.	2013
Proceedings Of The European Conference On Information Management & Evaluation	Based on an investigation of Scrum teams in IT projects in Johannesburg and Cape Town, project communication emerged as one of the six primary themes that were leading sources of disturbance during a project.	Tanner, M., and Mackinnon, A.	2013

Table 1. An analysis of project communications management in Africa

Similar concerns pertain to the collection of project information. It is not practically possible to collect all the information necessary for an ICT project. Therefore, the choice of what information to collect is important in project communication management. For example, there is no need to write down everything that people say in every project planning workshop. However, all major planning decisions will need to be documented. There is a big difference between the traditional approaches and agile approaches in this component. The traditional approaches demand the delivery of a number of documents and other outputs of the various project management processes as part of the information collected. Agile approaches are better known for going light on documentation (Highsmith, 2002), meaning that the production of documents is avoided as much as possible and the effort is put on the delivery of working code. This begs the question, how is the situation within Africa? Which approaches are in vogue and which ones are not concerning ICT project information collection? Are these observable differences in information collection when one contrasts agile ICT projects to conventional

ones? What are the effects of these differences, if any, on the observed and or reported project success rates?

The issue of culture may also inform the current practices used to collect information within ICT projects. A key aspect about Africa is its heterogeneity in cultures and to a lesser degree in value-systems. One wonders how the various cultures and value-systems impact project communications management and whether they inform a project manager's choice to use agile ICT approaches or conventional ICT approaches when undertaking a new ICT project.

Concerning distribution of project information, the most important considerations are the tools and technologies used to distribute that information. Throughout human history, technology and tools of communication have helped to fuel revolutions (Sohn, 2011) as seen in the 2011 case in Egypt. Facebook, YouTube, Twitter, and other social networks fueled the revolution. The challenge remains in ensuring that the information gets delivered to the right decision-maker or stakeholder in the right format at the right time regardless of access method or location. In the era of internet-speed, this challenge becomes even more magnified. Further, the open nature of our current global communications environment could lead to project participants receiving information from informal sources or external sources prior to that information being received via the formal channels. Managing the "grape-vine," "rumor-mill," and extant informal information sources becomes a key issue within project communications management. According to Hanakawa (2004), the final product of a project can be greatly compromised by the way communication is done. For example, unplanned distribution of information could lead to communication overload (Tobak, 2010), resulting in sub-par productivity or substandard outputs. Hanakawa (2004) therefore proposed a rather technical management model based on communication logs among project team members, but stops short of addressing how communications between the project team and external stakeholders ought to be managed. The questions that come to surface concerning dissemination of project information are: What approaches have been proven to be most effective within the context of Africa? Are these approaches different when one contrasts agile ICT projects to conventional ICT projects? How does Africa's lag in high-speed ICT infrastructure as compared to the advanced nations, impact the efficacy of ICT project information dissemination? How does culture impact the methods selected to distribute ICT project communications?

Finally, it would be beneficial to find out how Africa's ICT project managers are storing project information and what they are doing with that information. A key benefit deriving from a repository of information is the ability to leverage a team's or organization's capabilities through continuous learning and continuous improvement. Are Africa's ICT project managers doing this? If yes, to what extent? What new "best-practices," standards, procedures, and techniques for information management have we, the project management practitioners in Africa, developed owing to our learning from past experiences as articulated in the project management repositories? It would also be beneficial if we could contrast the learning and organizational-capability-enhancements deriving from agile ICT project as contrasted to those deriving from conventional ICT projects.

In summary, success in projects is all about the way communication is planned and implemented (Hodgkinson, 2009; TechRepublic, 2000). A lot has been said about a good project communications plan being key to project success (Charvat, 2002, 2003; Freedman, 2000; Mephyans-Robinson, 2010); the plan presumably includes a good selection of project communication tools and techniques. However, the area of project communication tools and techniques is not stagnant. It is dynamically impacted both

by ever newer technologies, and by the context within which the project is implemented. When project managers and their teams plan project communication management, it is very important for them to seriously consider the most preferred and convenient tools and techniques for communication. The use of tools which are not preferred by team members and stakeholders may cause unnecessary impediments to the project (Hodgkinson, 2009). Likewise, the context, or environment within which a project is undertaken will have a huge impact on the project's life and its success. Examining how project management and especially project management communications is being conducted in Africa, with a view to unearthing best practices, nuanced differences across agile ICT and conventional ICT projects, and issues (if any) of project management communications that may be unique to Africa or particularly magnified within the African setting, will contribute greatly to the leveraging of ICT project success in Africa. Hence my plea for increased empirical research on issues specific to ICT project management and the management of project communications within ICT projects.

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