

IMPROVING COMMUNICATION THROUGH A SOCIAL PROJECT MANAGEMENT APPROACH – A CAR INDUSTRY CASE STUDY

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KEYWORDS

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ABSTRACT

This paper describes the results of a qualitative study for improving communication in New Product Development (NPD) projects through a social project management approach. Through a case study research strategy, the main communication problems in a Car Industry section, dealing with NPD projects, were identified and four important initiatives were established to solve these communication problems: (i) standardize an integrated project management process focused on social interaction; (ii) select the most appropriate information tools for an 'open' and continuous communication environment; (iii) standardize the information disclosure for each information tool; and (iv) create/improve the visualization of the disclosed information.

INTRODUCTION

Nowadays, if companies want to be competitive they are forced to innovate constantly (Leber, Bastič, Mavrič & Ivanišević, 2014). New product development (NPD) provides future business opportunities and hence it is a significant activity in organizations. However, NPD projects involve technical, marketing, and financial risks, which require management decision-making under uncertainty. As argued by Silva, Tereso, Fernandes, and Pinto (2015), it is fundamental to have efficient project management systems to help organizations to anticipate, respond and change constantly.

Project management (PM) has become an important element of increased value to organizations (Eskerod & Riis, 2009; Thomas & Mullaly, 2007). Regardless of the industry in which organizations operate, they continuously strive to improve their systems and business processes, to maintain a competitive advantage (Jamaluddin, Chin & Lee, 2010). The components of success in PM include not only the adoption of best practices but also maturity (how well the system does what it does) and diffusion (how widely and how often the organization performs the best practice) (Dooley, Subra & Anderson, 2001).

NPD projects have a medium to high complexity (Hobday, 1998) in industrial environments, which increases the complexity of team communication. Therefore, PM processes standardization becomes essential (Andersen & Vaagaasar, 2009; Shi, 2011;

Fernandes, Ward & Araújo, 2015). As argued by Kerzner (2013), the standardization of PM processes is a critical factor to PM success. According to Milosevic and Patanakul (2005), the factors that may have an impact on project success are standardized PM tools and processes, as well as project leadership. The higher standardization of PM processes and tools contributes to increase project success.

With the increasing need to integrate people, share information more intuitively and streamline and treat the information in order to adapt it to the different stakeholders, the importance of a Social Project Management approach becomes evident (Merwe, 2016). Projects have social processes with some unpredictability, control requirements and an increasing need for collaborative interaction between the various participants (Winter, Smith, Cooke-Davies & Cicmil, 2006). Social PM approaches make the project's processes visible to everyone, increasing transparency and giving visibility to the project's community, in order to enable smarter, quicker and more efficient collaboration (Silvius, 2016).

Therefore, PM practices are seen as a social conduct that is defined by history, context, individual values and different structural frames. Thus, the research focuses on social processes and how professionals think about the activities that they develop daily (Winter, Smith, Cooke-Davies & Cicmil, 2006), since, "*projects are more than ever at the heart of every organization's survival and success*" (Silvius, 2016, p.297).

Social media has become an easy alternative to traditional communication channels, which has increased speed and volume of daily communication and exchange of information. With social media tools, it is possible to share, interact, co-create, facilitate information flows, discuss and modify content, etc., which provides an important improvement to communication.

In summary, organizations need innovative approaches to address project communication challenges. The new concept of social PM provides great opportunities to enable teams to collaborate and share information, enhancing project collaboration and coordination, in order to achieve the project and organization's goals (Silvius, 2016).

The research context for this study is a complex industrial company, managing NPD and industrialization projects for the automotive sector. Therefore, the research reported in this paper examines the problem of improving communication through a social PM approach based on a case study research strategy, in order to answer the

following research question: How to address NPD projects' communication issues, under an industrial context, within a social PM perspective? In order to answer this question, it is firstly necessary to identify the main communication issues of NPD projects within the case under study. The remaining of this paper is organized as follows: the second section introduces concepts such as communication and social PM; the third section presents the case study background and describes the research methods adopted. The fourth section details the problem analysis and the results discussion. Lastly, conclusions and final considerations are presented, as well as suggestions for future work.

LITERATURE REVIEW

Communication in Projects

According to Dokkum and Ravesteijn (2016), setting up information and communication channels is crucial for the success of the project. However, success can vary from project to project according to the context and the different stakeholders' interests (Berssaneti & Carvalho, 2015; Milosevic & Patanakul, 2005).

Communication allows projects and the organization to work efficiently (PMI, 2017). Moreover, communication is not a unidirectional flow of information, which means that, in projects, communication requires a reciprocal interaction between the team members and other project stakeholders, in which, information and intelligence are transmitted and shared (Nazari, 2016).

According to PMI (2017), project communications management encompasses three different processes: plan communications management, manage communications, and monitor communications.

Good communication management engages everyone who interacts with the project, from executives and end users to project managers and their teams; it clearly makes stakeholders understand the role they play in the project. The project manager assumes an important role in the project communication: he or she has the responsibility to lead the communication with all the project's stakeholders. However, as the projects differ from each other, information needs and distribution methods among project teams and stakeholders may vary widely (PMI, 2017).

Social media can play an essential role in improving communication, bringing important factors of success, such as affordability, trust and ease of use (Dokkum & Ravesteijn, 2016).

Social Project Management

Projects are becoming more complex and dynamic (Kerzner, 2013). In response, technologies and techniques related to PM, collaboration and communication, have been developed in order to support teams in their work and project managers in supervising projects (Taylor, 2015). Over the last few years, social media and social networks have been growing. Initially, social tools were created for friends to stay connected,

but quickly evolved into a method for business to communicate internally and externally. Social media is changing the way that project members communicate, thus affecting the processes involved with information services supporting PM (Remidez & Jones, 2012).

Social Project Management Concepts

PM needs to change into concepts and images which focus on social interaction among people (Winter, Smith, Cooke-Davies and Cicmil, 2006). However, traditional PM tools are complex and often lack real time communication and collaboration capabilities (Nach, 2016). These traditional PM tools promote a centralized type of control and a localized access to information, which, once again, goes against the objective of ease of use and total sharing of information (Kerzner, 2013).

Social processes are seen as a form of interaction established between individuals or teams (Winter et al. 2006). One example of social processes is cooperation.

Project managers have been using email as the referential tool for communication, exchanging information such as reminders, assignments, meeting minutes, reports, etc. However, some companies have started using social tools to promote interaction between team members and customers. Because of their ease of use, social methods are an efficient tool for communication and collaboration. Being these concepts crucial in projects, it is expected that social media can also offer opportunities for its application in project teams (Silvius, 2016).

Social PM is meant to facilitate traditional PM process through the use of social media tools that enable team collaboration process and enhance communication among team members (Manzoor, 2016).

Social PM sometimes can be confused with the concept of PM 2.0. However, social PM goes far beyond PM 2.0 because it builds on the gains made by PM 2.0 by enabling teams to bring their core PM process online (Trilog Group, 2010).

Outside of organizations, social media has provided opportunities to share ideas, information and social interaction without time and geographical barriers. However, social PM is not the same as social networking. Social networking is developed around the goals of an individual user and social PM tools are developed around the goals of a project community and organization (Manzoor, 2016).

Functionalities of Social Media Tools

Based on the studies developed by Harrin (2016), Chui, Manyika, Bughin, Dobbs, Roxburgh, Sarrazin, Sands and Westergren (2012) and Merwe (2016), the major social media tools are: 1) wikis (web application that allows content edition in a collaborative environment), discussion forums; shared workspace (virtual space that allows accessing all information about the project); social networks (provide collaboration inside the organization and improve trust in relationships between users; file and media sharing; blogs; and instant messaging (promotes real time communication).

Social media tools are very helpful and easy to use, having great influence in several aspects of teamwork, such as communication, coordination, mutual support, balance of member contribution, effort and cohesion (Molendijk, 2016). Social media has, thus, a diversity of functions, and each one adds value depending on the organization environment. Sponselee (2016) used the honeycomb of Kietzmann, Hermkens, McCharthy and Silvestre (2011), which divided the social media functionalities into seven: identity, presence, relationships, sharing, conversations, groups and reputation, and identified several usage areas for each functionality. For example: 1) creation of profile pages, useful to know the backgrounds and competences of project team members and who is responsible for what within the project; 2) creation of project pages, the project is brought to the spotlight which will contribute to a more positive image and atmosphere surrounding the project; 3) allowing remote working, bringing people together despite the geographical distribution of project team members and stakeholders; 4) insighting into relationships, by knowing who is related to whom; and 5) sharing project content, documents can be shared on social media so that team members can work together, despite location and time.

Benefits and Barriers of Social Project Management

The use of social media tools brings several benefits to PM, not only for communication and collaboration, but also for supporting knowledge management, training, and innovation (Chui, Manyika, Bughin, Dobbs, Roxburgh, Sarrazin, Sands and Westergren, 2012). Boersma, Diks, Ferguson and Wolbers (2016) even argue that social tools are useful in response to project emergencies. The delivery of information in real time through social media, when strategically integrated with other management data, can help to attain a better crisis management (e.g., adequate actions by the project team). Social media allows to create a “*distributed collaboration environment where the team can share ideas, collaborate, communicate, and pool resources regardless of geographical constraints*” (Nach, 2016, p.4). Nevertheless, collaboration tools tend to virtualize interactions, which is a phenomenon of nearing (of who is away) and distancing (of who is near).

The adoption of social PM is seen useful for project team members (team empowerment) and for the overall project stakeholders (easier to involve and inform them). However, some concerns about the use of social media on projects still exist. Based on the literature review performed, the following topics summarize the benefits and barriers of social PM.

Benefits: real time project information; iterative and incremental PM; improve project efficiency; simplify remote working; facilitate project branding and stimulate related discussions.

Barriers: overwhelming number of social media applications; data security; negative publicity; lack of

proven business value; information overload; fading of the line between work and private spheres.

CASE STUDY ANALYSIS

Case Study background

The research strategy used was the case study. This strategy is of particular interest if the researcher wants to gain a rich understanding about the research context and processes (Yin, 2014).

A Car Industry organization, in particular a section involved in NPD projects, has been chosen by convenience. The researchers had professional contact with the company. The organization was established in 1990, in Portugal. It develops and produces a wide portfolio of products, such as navigation systems, instrumentation systems, car radios, steering angle sensors, and electronic controllers, exporting 99% of its production. In 2016, the total number of employees was around two thousand.

Research Methods

The study followed a multi-method research since the data were collected through three different methods: semi-structured interviews, to understand the main problems and difficulties that projects' team members deal with in their daily work; observation, to collect information, opinions and perspectives from projects' team members; and document analysis, through content analysis of multiple documents, to acquire a large amount of information and simultaneously obtain more knowledge of the subject.

Due to the importance of collecting the opinion of the projects' stakeholders on the main problems of communication in NPD projects, the first research method applied was the semi-structured interviews. Therefore, four semi-structured interviews were conducted, with each of the leaders of the four different areas of the organization section where the research was performed. The interviews allowed to obtain different opinions and understanding about the current problems faced while managing projects. The time spent on each interview was approximately one hour, discussing PM workflow and the information/documents management. After the semi-structured interviews, a document analysis was carried out analyzing the documents and the information available in the internal network of the company. The main objective of this document analysis was to understand the type of information managed and the documents produced within the projects life cycle.

Main Communication Issues

The data collected through the research methods were analysed, and the main communication problems and difficulties identified are presented below:

Information sharing: difficulties in understanding the information flow. Not everyone has access to the information that they need to perform their work. For example, there are many information tools with scattered

information, and the team members do not necessarily use the same information tools throughout a project; thus, when a team is working in a project, sometimes the information is not accessible to everyone.

Document storage: difficulty on finding documents/information due to the fact that collaborators of the same team, or working in the same project, store documents in different locations, with no standardization.

Workflow: processes are not standardized. Interviewees highlighted the difficulty in understanding inputs, outputs and in which direction the work should flow.

Responsibilities and access levels: lack of defined responsibilities. There is a need to understand which project members may and should have access when certain information arises.

Growing number of collaborators: new collaborators face difficulty in understanding the processes. There is no available time to train new collaborators and there is a lack of documented and structured processes/activities; therefore, the new collaborators cannot learn by resorting to explanatory documents.

Team location: the project team is distributed over different geographic locations, bringing issues, namely related with time zone, travelling, and the need for information accessibility anywhere and anytime.

High number of information tools: a lot of different tools are in use and there is an information overload.

RESULTS AND DISCUSSION

From the research case study, four major initiatives, described in the following subsection, were identified to improve the communication between NPD project teams, adopting a social project management approach.

Standardize an integrated project management process – Focus on social interaction among people

As proven by the literature review, having a standardized PM process is crucial to define the use of social tools associated to PM and improve communication. From the analysis, the undefinition of the work flow was identified as the rootcause for all problems related with the PM process, which should be the first to be worked out by any company.

The standardization of PM processes is one of the improvements with greatest impact on project performance (Fernandes, Ward & Araújo, 2014; Shi, 2011; Andersen & Vaagaasar, 2009). Therefore, the (re)definition of an integrated PM process should be proposed, with a special focus on the social interaction among people, illuminating the flow of events and human actions and the framing of projects within a social agenda, practices, stakeholder relations, politics and power (Winter et al. 2006).

Based on the redefinition of the PM process, a document was developed that includes the flowchart of the process activities, inputs (methods/documents/templates) and outputs (process performance/work results) of each project phase, a responsibility matrix (RASIC) and a column intended for comments that are expected to

clarify particular situations. Additionally, the activity of describing and mapping the information flow through the different project's phases keeps a record of the information exchanged and documents produced during the project life cycle.

Select the most appropriate information tools – Focus on an 'open' and continuous communication

Usually, companies have several solutions available for employees to communicate and share information. Data is essential for business. This is why significant amounts of budget are spent on storage, collaborative and management solutions. Performance, capacity and reliability are features that characterize ideal solutions but may differ depending on the needs.

During the selection of the most appropriate information tools for the organization, companies should focus on an 'open' and continuous communication (Remidez & Jones, 2012). However, firstly, the organizations should investigate within all already available solutions for document and information storage, tracking and managing projects and collaborative environments, in order to evaluate if it has already the necessary tools or if more investment in new tools is required.

In this particular case study, the following information tools were selected from the lot available in the company (for anonymity reasons, the exact designations of the information tools were not used). The selection process was based on the advantages and disadvantages of each tool regarding its use in project communication:

Inside Docupedia is an internal tool for documentation; for example, project goals, technical documentation and any other kind of information that needs to be shared, easily maintained online, and available for communication. In general, it is easy to use, increases efficiency, enables knowledge sharing and allows integration with other applications.

Professional Social Network is an internal collaboration platform for transparent, cross-divisional, and cross-location cooperation and for simplified communication, which transcends hierarchy levels and organizational boundaries. This collaborative platform can be used by everyone in the company to share ideas, opinions and informal content. It also encourages cooperation between associates from different locations and operating units.

Document Management is an up-to-date collaboration platform, currently focusing on collaboration. It makes cooperation between the company members easier and more efficient by providing key features like: easy sharing of documents; co-editing (working with multiple colleagues on one document at the same time); synchronization of documents (online/offline).

PM software is a web-based application which allows professional, systematic and effective management of project tasks. It captures and organizes team's issues, prioritizing and taking action on what is important, and staying up to date with what is going on. It provides powerful reporting functionalities (e.g., monitor progress

of project tasks, cost overview) and notifies about changes and updates as well.

Email Management is a personal information manager with a user friendly interface. Additionally, it includes contact, calendar and task management functionalities.

Shared folders allow the employees to have access to the same documents, despite location but only within company network access.

The first four tools have the highest importance; emailing cannot be removed from daily work and the use of a local folder for document management also cannot be discarded, which is why it was also integrated in the tool set selected for communication in NPD projects.

Standardize the information disclosure for each information tool

After selecting the information tools set, it is of the utmost importance to standardize and integrate the information disclosure, for both projects and operational activities, by stakeholder. In this particular case study, this standardization did not exist previously. This necessity was acknowledged by observing the current practices, reinforced by the opinions of the company’s collaborators, which emphasized the difficulty in understanding which type of information should be associated to the different information tools. Therefore, firstly, it was necessary to summarize the main features of each selected information tool (not reported here for a matter of space) in order to match them with the collaborators’ needs. As referred above, six tools were selected, comprising four major tools plus the common email and project folder management tools. Table 1 summarizes for each major tool selected the type of information disclosure.

Table 1: Information disclosure for each tool selected

Information tools	Information disclosure
Inside Docupedia	Project information, consultation, section’s ‘centralized’ information.
Professional Social Network	Disclosure of events, new procedures, organizational changes, share knowledge (inside and outside the organization’s section), etc.
Document Management	Document storage for ongoing work in different operational activities and projects.
Project Management Software	Manage and track activities, e.g., open point list management (OPL) and change management

Besides the four tools described above, emailing cannot be removed from daily work. However, with the embedment of the four major information tools selected, it is possible to reduce the number of emails. As argued by Wijngaard, Wensveen, Basten and Vries (2016) the number of exchanged emails can be decreased by the implementation of social media tools.

Moreover, the main objective is to integrate all information. The tools selected are related to each other which facilitate and allow communication and exchange

of information. It is also possible to set alerts and reminders, import data from one tool to another and create links between them.

Create/ Improve the visualization of the disclosed information arising from each information tool

It was also acknowledged, through semi-structured interviews and observation, that the way information is shared is important. Therefore, for each tool, and according to the type of information, the information disclosure should be adapted. Few examples of the case study are given in the paragraphs below.

For Inside Docupedia, the first section visualized must compile all the information related to the NPD project (e.g. the project’s name, a brief overview of the project’s objectives and content). Right after, it should come the section related with the project’s status (e.g., activities ongoing, next actions, KPIs). The data should be imported directly from the PM software to manage the project’s activities; as mentioned before, the integration of the different information tools is very important.

For Professional Social Network, the main objective was the creation of a project community for stakeholders to give projects a higher visibility. The project community was created based on the needs of the users. This tool is much more dynamic and practical (allowing forum discussions) and must be constantly monitored (needs a community manager).

CONCLUSIONS

Whitin this research, the main challenges of communication in NPD projects in an industrial context were identified. The critical challenges are: information sharing, documents storage, workflow, responsibilities and accesses, growing number of collaborators, team location, and high number of information tools. Additionally, how to address the previous challenges identified in a social PM perspective, became the main objective of this research.

The main contribution of this paper is a clear and simple strategy to improve communication in NPD projects using a social PM approach, which was established and implemented in a real industrial context. The strategy developed can be applied in other contexts where communication improvement is a priority, provided the following guidelines can be followed: (i) Standardize an integrated PM process focusing on the social interaction among people; (ii) Select the most appropriate information tools focusing on an ‘open’ and continuous communication; (iii) Standardize the information disclosure for each information tool; and (iv) 4) Create/Improve the visualization of the disclosed information arising from each information tool.

Despite all benefits, implementing a strategy with such social media resources arises some limitations, such as: (i) new technologies and social media, in general, can make users afraid of their usage and can create security

risks and privacy issues (collaborators can fear storing information over a network instead of a local disk drive or feel afraid of sharing confidential information); (ii) social media tools are constantly developing and changing; (iii) there will be always resistance by some collaborators to new technologies, people can influence their colleagues and, consequently, affect negatively the whole project.

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