STAKEHOLDER MANAGEMENT IN INDUSTRIALIZATION PROJECTS: AN AUTOMOTIVE INDUSTRY CASE STUDY

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ABSTRACT

Stakeholder management is determinant for the sustainable growth of the organizations, becoming a competitive advantage for them.
This paper aims to help professionals involved in industrialization projects, by presenting a new systematic approach to stakeholder management. This research was carried out in a professional environment, at the company Bosch Car Multimedia in which Project Management Office managers detected a gap in the process of managing stakeholders in the project management area. Given the increasing number of industrialization projects starting in the company, the development of a systematic approach to stakeholder management is highly important. Having an increasingly active, thoughtful and well-structured stakeholder management, contributes to the achieving of the projects' success.

INTRODUCTION

The topic of this research resulted from an industry need, from Bosch Car Multimedia Portugal (Bosch) to improve the management of one of the knowledge areas of project management, according to PMBoK (PMI, 2017): stakeholder management.

At the studied organization, the industrialization project managers are responsible for managing industrialization projects, following the PMBoK's principles and therefore using good project management practices, throughout the projects' life cycle: planning, execution, monitoring and control, and closure.

The need to improve this specific knowledge area was previously identified by the Project Management Office (PMO) responsible for the industrialization projects of the company. Stakeholder management was considered as one of the main flaws in the management of these type of projects. Nevertheless, the importance and linkage of stakeholder management with the remaining knowledge areas was still valued.

Industrialization projects are increasing at Bosch Car Multimedia, which leads to a higher challenge of reaching the highest success in each one of them. To achieve this, an increasingly active and well-structured stakeholder management, supported by a stakeholder management model approach, is required, which will contribute to the success of the project (Huemann, Eskerod, & Ringhofer, 2016).

As a result, this research elaborates an improvement proposal of the existing process at Bosch Car Multimedia, which intends to overcome the existing knowledge deficiencies in the stakeholder management of each industrialization project.

The research objectives were defined and set in sequence. Firstly, the stakeholder management used by Bosch Car Multimedia and its relevance was characterized. Secondly, the goal was to improve the existent practices, hence the need to search for different stakeholder management approaches and to propose a new stakeholder management approach to be used. Lastly, the proposed stakeholder management approach was put into practice on a pilot project. Stakeholder management is a knowledge area which is increasing its importance in the projects' success (Huemann et al., 2016) and has increasing relevance to the company's project management but also is undervalued by most of the team members of the Bosch project management.

A commonly used structure is followed in the remaining of this paper. The second section presents the literature review on some relevant stakeholder management concepts and approaches. The third section presents the description of the case study, as well as the applied research method. The fourth section presents the developed stakeholder management approach and the fifth section discusses its implementation in a pilot project. Finally, the last section addresses the conclusions and final considerations about this study, as well as suggestions for future research work.

LITERATURE REVIEW

Stakeholder Management Overview

Stakeholder is an individual, group, or organization that may affect, be affected or feel affected by a decision, activity, or outcome of a project. Stakeholders can be actively involved in the project or have interests that may be positively or negatively affected by the project's performance or completion. Furthermore, stakeholders can influence the project and its deliverables, in order to achieve results that meet strategic business objectives or other needs. On the other hand, they may have different expectations about the results and benefits of the project, which may cause conflicts within the project (PMI, 2017).

The stakeholder theory, originated in 1984, characterizes stakeholder as a person, group or organization that has direct or indirect interest in a particular company or organization, and which may affect or be affected by all types of actions, decisions, goals or policies taken by the company (Freeman, 1984). With the emergence of the stakeholder theory, focus was given to other groups of people in addition to shareholders or owners of the company, thus leading the organization to have obligations not just for itself, but also for the shareholders (Gibson, 2000).

Some examples of stakeholders are clients, sponsors, the project team itself, vendors, suppliers, subcontractors, business partners, organizational groups (human resources, after-sales service, production, different departments), financial institutions, regulators, consultants, specialists in knowledge areas, among others (Johansen, Eik-Andresen, & Ekambaram, 2014; PMI, 2017).

Donaldson and Preston (1995) describe the stakeholder theory as normative, descriptive and instrumental. Based on this assumption, Huemann, Andratsch and Eskerod (2014) argue that there are two approaches in stakeholder management:

- Management of Stakeholders: a more instrumental approach, which considers stakeholders as a mean to provide resources and that commits them to the organizations' needs.
- Management for Stakeholders: normative or ethical approach, in which stakeholders are considered to have legitimate rights, given their power to influence the organization.

The management of project stakeholders can be defined as all intentional activities aimed at project stakeholders, in order to improve project' success (Huemann et al., 2016).

Nonetheless, successful management of employee relationships by the organizations can lead to improved performance and competitive advantage for the organization. The success of a company is driven by its employees and the way they, alongside with customers, identify impacts on the levels of service provided and customer satisfaction, thus improving the company's performance (Benn, Abratt, & O'Leary, 2016).

From the previous approaches, some proposals to Stakeholder Inclusiveness emerge (Eskerod, Huemann, & Ringhofer, 2016). This inclusiveness increases the likelihood of having stakeholders more involved and satisfied, decreases the danger of losing focus on those stakeholders who have the most critical resources for the project maintenance and progress, and decreases the danger of inducing stakeholders to disappointment due to high expectations and the inability to accept conflicting demands and desires.

Stakeholder Management Approaches

Following PMBoK guidelines (PMI, 2017) the following processes for the stakeholder management have been recognized:

- Identify stakeholders.
- Plan stakeholder engagement.
- Manage stakeholder engagement.
- Monitor stakeholder engagement.

According to PMBoK (PMI, 2017), identifying stakeholders is the process of identifying individuals, groups or organizations that may affect or be affected by a project decision, activity or outcome; is a process of analysis and documentation of relevant information about their interests, engagement, interdependencies, influence and potential impact on the project' success.

Furthermore, planning stakeholder engagement is the process of developing appropriate management strategies to effectively engage stakeholders throughout the project life cycle, based on the analysis of their needs, interests, and potential impact on project' success (PMI, 2017).

Moreover, managing stakeholder engagement is the process of communicating and working with stakeholders to meet their needs and expectations, addressing issues as they occur and promoting the appropriate engagement of stakeholders in project' activities throughout the project life cycle (PMI, 2017).

To conclude, monitoring stakeholder engagement is the process of monitoring relationships among project stakeholders, as well as strategies and adjustment plans to engage stakeholders (PMI, 2017).

However, other authors propose some changes to the PMI model. Bourne (2005) proposes a new approach to stakeholder management called Stakeholder Circle, which consists in three important exercises through two workshops.

The first exercise is related to the identification and analysis of stakeholders, and its content is analogous to the first phase of the PMI model.

The second exercise concerns the prioritization of these stakeholders and uses an approach very similar to the one Mitchel et al. (1997) proposed - Salience Stakeholders Model - which takes into account three attributes: power, legitimacy and urgency. The first workshop is concluded with these two exercises.

In the second workshop, the third and last exercise proposed by Bourne (2005) is carried out, which concerns the strategy adopted for the stakeholder engagement, as well as the monitoring and control of this engagement throughout the project life cycle. Here, the level of interest and support of each stakeholder for the project is identified. The communication plan with the stakeholders is defined next. Finally, it is necessary to monitor this engagement, since it can vary throughout the project life cycle.

Research for alternative stakeholder management models was conducted within automotive organizations. Audi, a car company from the Volkswagen group and a stakeholder for some projects in place at Bosch Car Multimedia, reveals that the way its most relevant stakeholders are treated is a key aspect of the company's sustainability strategy. For this reason, Audi launched a stakeholder management system in 2012 which, according to the company, is based on the International Stakeholder Engagement Standard Accountability 1000 (AA1000SES) and contains the principles of inclusion (the systematic engagement of stakeholders), materiality (identification of significant topics) and reactivity (AUDI, 2017). The most important tools used in stakeholder management are stakeholder conferences, stakeholder surveys (questionnaires and interviews), the social media platform - Responsibility Forum - for workers, conferences and dialogues with local partners, as well as industry initiatives and work groups, including political representatives (beyond the level of project management and more at the organizational level). With this, the company wants to gather in-depth knowledge of the interests and needs of its stakeholders, in order to better align the company's decisions with the stakeholders' expectations.

Despite this research being conducted with focus on automotive organizations, it was not possible to find a model or approach adopted by these organizations to perform their stakeholder management. Only some of the strategic actions used for this management were perceived. As a result, the search was redirected to other larger organizations. Since Bosch is also a large organization, it would be more relevant to compare the different ways of performing stakeholder management in other areas of industry.

In 2014, Galp developed a new corporate practice of engaging and listening to its stakeholders. In this procedure, the main stakeholders are identified and prioritized and the stakeholders' expectations and perceptions regarding sustainability are identified. According to Galp, this practice was aligned with the criteria of Accountability's AA1000 Stakeholder Engagement Standard (Galp Energia, 2017).

The process of engaging and listening to stakeholders encompasses three distinct phases: stakeholders' mapping and selection, stakeholders' listening and results' analysis.

In the stakeholders' listening phase, which intends to assess, among other subjects, the stakeholders'

perception about the company's relationship model with the stakeholders, a focus group is conducted. In this focus group, the topic is defined clearly and accurately and there is an emphasis on interactive discussion between participants. One can associate this term with a group of people who meet to discuss a particular subject, to solve a problem or to suggest ideas. It is a technique used in qualitative research for the most diverse purposes (Saunders, Lewis, & Thornhill, 2009).

CASE STUDY

Case Study Background

Bosch Car Multimedia Portugal (Bosch) is a company which centers its production in the automotive industry. This unit is part of Bosch Group and is located in Braga - Portugal being the main private employer in the area.

Recognized for its know-how, Bosch produces a wide range of electronic products, namely navigation systems, information and entertainment systems, and instrumentation systems for the automotive industry.

The industrialization projects of Bosch aim to implement a production line capable of mass-producing new products, ensuring the quality levels and the costumers' requirements. These can be requested by the costumers themselves or by the Research and Development Department, always according to the company's directives and the Bosch Engineering System (BES) methodology. The objective of such methodology is to secure the company's future through the motto "Passion for Engineering", developing fascinating products that deliver excellent quality at attractive costs (Bosch, 2015a).

The Project Management Office (PMO) responsible for the industrialization projects of Bosch Car Multimedia supports the organization top management, project managers and their respective team members.

At Bosch, the project manager is responsible for the planning of all the industrialization process and the coordination of multidisciplinary teams from several areas of the company, in order to assure that all the requirements necessary to the industrialization of new products are fulfilled. Therefore, stakeholder management is of crucial importance to contribute for the projects' success.

The Bosch Project Life Cycle Model reflects the project management requirements at Bosch and acts as a starting point for organizational development. It describes the project life cycle and the project management processes necessary for the different types of projects. The project life cycle has five phases: Project Request, Project Preparation, Project Conception, Project Implementation and Project Completion.

Bosch Stakeholder Management

The project-oriented culture established at Bosch demands the existence of openness and confidence in the relation with all the stakeholders (Bosch, 2017).

The process of stakeholder management is initiated at the Project Request phase. This first phase starts with the project development kickoff and finishes before the project industrialization kickoff.

Firstly, all possible stakeholders associated to the project are identified, so that they can be invited to the project industrialization kickoff (initiation of the Project Preparation phase). The purpose of this invitation is to gather the expectations and needs of the stakeholders in relation to the project, the impact and influence that they are going to have over the project, their interest in the project according to an influence/interest matrix and their engagement in the project (the current and the expected in the future).

After collecting this data, it is necessary to proceed to the respective registration. The PMO provides a document for this purpose, named "Stakeholder Register" (Bosch, 2015b).

Besides the "Stakeholder Register" document, the project manager has no obligation to perform other types of registrations. The criteria of the project manager will dictate if it is necessary or not to complete other documents, or generate dashboards or reports, related to the expectations and needs of the stakeholders.

Research Methods

The chosen research methods applied to this case study were participant observation and document analysis.

Observation is a complex research method and played an important role in the context of this research by driving the researchers to have a closer contact with the object of study in its native environment (Baker, 2006; Saunders et al., 2009). Observation is characterized by being participative, since the researcher was inserted in the Bosch organization as a project manager and participated in the activities observed (Saunders et al., 2009). The researcher observed industrialization projects stakeholders in naturally occurring situations, namely during regular meetings. Therefore, through participative and systematic observation, analysis and interpretation of behavior, it was possible to realize and perceive the organizational context and better understand how stakeholder management should be conducted.

The analysis of several industrialization projects documents was also conducted to better understand the case study context, particularly the case study efforts on stakeholder management. Among the most relevant documents analyzed we can point out the existent stakeholder register.

STAKEHOLDER MANAGEMENT APPROACH PROPOSAL

Specific models or approaches that could effectively be adapted to the Bosch reality were not found in the literature.

The main theoretical framework used to develop the stakeholder management approach proposal is based on PMBoK (PMI, 2017). Therefore, the processes of the current stakeholder management approach proposal are:
1. Identify stakeholders.
2. Plan stakeholder engagement.
3. Manage stakeholder engagement.
4. Monitor stakeholder engagement.

For each of the four processes of the stakeholder management approach, different proposals are made (see Table 1), which culminated in the creation of an artefact (an Excel template) named "Stakeholder Engagement". This new template encompasses all the information related to the stakeholder management, in all the distinct phases of the project.

Table 1: New stakeholder management approach

Processes	Proposals
Identify stakeholders	• Perform a stakeholders workshop after stakeholders' identification • Inclusion of a "Work History" column in the "Stakeholder Register" document • Inclusion of a link in the "Notes" column that redirects to the new document "Stakeholder Notes" • Development of an Interest (I) x Power (P) matrix (10x10) (see Figure 2)
Plan stakeholder engagement	• Development of a table with the deviations between the current and the desired commitment of the stakeholders with the project
Manage stakeholder engagement	• Introduction of new communication channels, such as "Meeting, PT Meeting, Workshop, Bosch Connect" in the "Type of Communication" column • Development of a diagram concerning the stakeholders' influence in relation to the project • Development of a table with the five project management phases, where each stakeholder has a color that defines the type of current commitment
Monitor stakeholder engagement	• Development of a cover sheet in the "Stakeholder Engagement" document which includes all previously created charts and tables and acts as a working environment for the project manager

A stakeholders workshop was introduced in this new approach. This type of focus group, which works without a rigid structure and through free-flowing discussions,

counts with the largest number of project's primary stakeholders. The purpose is to identify the needs, interests and concerns of these stakeholders in relation to the project.

The "Stakeholder Engagement" artefact contains a sheet regarding the stakeholder register, which is an improvement to the template provided by the Bosch PMO. Nevertheless, the main modification is the introduction of a cover sheet in this artefact. This sheet serves as working environment to the stakeholder management, with the existence of dynamic charts and tables which are directly updated according to the inputs given in the stakeholder register.

DISCUSSION

The feedback of project managers regarding the artefact template "Stakeholder Engagement" was very positive and constructive, from which is possible to highlight:

- a clean and visually pleasing appearance with few colors.
- a cover sheet containing the main relevant information, available in a quick and intuitive way, regarding the stakeholders and their status in the project.
- introduction of the column regarding the work history of the stakeholders in other companies or other departments within the company, indicating the different knowledge that stakeholders obtained throughout their professional life. This information may be useful namely in supporting problem solving, critical points and cases of stakeholder absence (forced or due to vacation).

A specific project, named Lamborghini URUS 636, was used as a pilot project in which the stakeholder management approach proposal was implemented and tested, trying to verify its usefulness and ease of use in order to propose improvements.

The Stakeholders Workshop aims to understand stakeholders' expectations, interests and apprehensions concerning the project, clarify possible existing doubts, and, at the same time, record this important information in the stakeholder register sheet included in the document "Stakeholder Engagement". It also allows the project manager to analyze some characteristic behaviors of each one of the stakeholders, which can be taken into account in the future, and to register them in the document "Stakeholder Notes", only accessible to the project manager.

Name of Stakeholder	Important Notes of the Stakeholder Behaviour or Personality
Hugo Lima	Great worker, responsible, supportive and helpful
Nelson Rodrigues	Needs to be reminder some times to do the things
Filipe Cunha	Responsible and supportive, but some times can be funny or tempestive
Humberto Machado	Great worker, responsible, supportive and helpful
Nelson Semedo	Needs my attention and it is a great person and worker, responsible and supportive.
Raquel Silva	Delay on answer emails or approve things
Baltazar Fernandes	Like to be informed

Figure 21: Stakeholders Notes
(Names are fictitious for confidentiality reasons)

Regarding the cover sheet of the "Stakeholder Engagement" document, the chart related to the "Interest x Power" matrix of the project stakeholders (Figure 2) made it possible to verify the dispersion of stakeholders by different quarters, allowing the project manager to prioritize and direct his attention to the stakeholders with more power and interest, defining their respective strategies to guarantee their engagement to the project. This matrix does not represent each stakeholder *per se* but by H points which are complemented with a legend for each H point that characterizes different stakeholders. This means that point, e.g., H5 can have more than one stakeholder on that position.
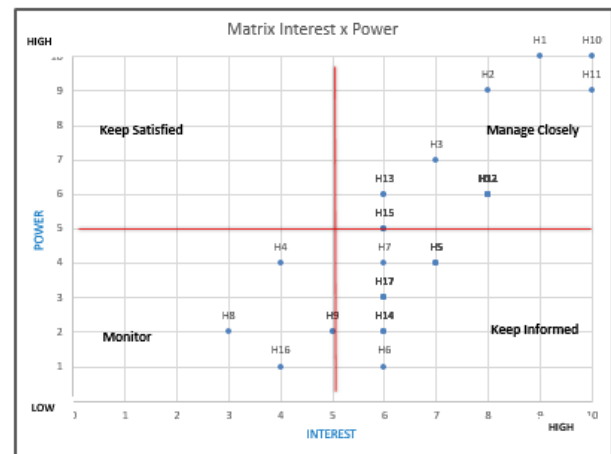

Figure 22: Matrix Interest X Power

The cover sheet of Figure 3 presents the Stakeholders Engagement Deviations table, which identifies the stakeholders with a deviation between the current engagement to the project and the expected engagement defined by the project manager. By analyzing this table together with the information contained in the "Interest x Power" matrix, the project manager can quickly direct his effort, attention and priority to the stakeholders that may become critical or dangerous to the project's success.

Stakeholders Engagements Deviations		
Stakeholder	Actual Engagement	Target Engagement
Customer	Resistent	Supportive
Dennis Kramer	Supportive	Leading
Marc Koehn	Neutral	Supportive

Figure 23: Stakeholders Engagement Deviations

The cover sheet presents also one influence diagram (see Figure 4) that reflects the relationships of influence between the different stakeholders of the project, in order to perceive which stakeholders have the greatest influence on the project and consequently who are directly influenced by these stakeholders.

It is also taken into account the existence of hierarchies among project stakeholders, since, naturally, it is more likely that one stakeholder will be influenced by his / her hierarchical superior than by another stakeholder. Stakeholders who are closest to the project's topic,

Lamborghini in the pilot project, have a greater degree of influence on the project, while the stakeholders that are further away have a lower degree of influence on the project .

Figure 24: Influence Diagram from Lamborghini Project (Names are fictitious for confidentiality reasons)

Finally, a stakeholder engagement chart per project phase (Figure 5) was proposed, aiming to provide the project manager with an overview of the current stakeholders engagement in a given project phase, allowing to compare the current engagement in the different phases and with the desired target engagement that appears in the first column.

Figure 25: Stakeholders Engagement by project phase

Gray and orange colors were used to identify those that may be the most relevant deviation of engagement for the project. However, the fact that some stakeholders are gray or orange does not mean that they are in default with the project, because they can start their activities only at later stages of the project.

CONCLUSIONS

This case study is based on one of the ten areas of project management knowledge: stakeholder management. Currently, this topic is very pertinent and relevant to organizations in general (Huemann et al., 2016).

The main objective of this research project was to elaborate a proposal for a systematic alternative approach to stakeholder management for Bosch industrialization projects, materialized through the creation of a new template called "Stakeholder Engagement" which has as main objective to support the Bosch project managers in carrying out their daily activities of stakeholder management, providing all kinds of relevant information so that this management is carried out with increased probability of success.

The immediate future work will be to receive feedback from the Lamborghini Pilot Project team regarding the usefulness of this implementation. Then, the possibility to use this approach by other project managers in their projects will be addressed which, if successful, will lead to incorporating this practice as standard in the project management process in industrialization projects at Bosch Car Multimedia.

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