

# **BUILDING POSITIVE PROJECT CULTURE**

**FOR NAVIGATING COMPLEXITY:  
A CASE STUDY**

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# Table of Contents

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<b>Introduction</b> .....	<b>3</b>
<b>Impact of Complexity</b> .....	<b>4</b>
<b>Complexity and Project Culture</b> .....	<b>6</b>
What is project culture? .....	6
Project culture's influence on complexity .....	7
<b>Case Study</b> .....	<b>9</b>
<b>Implementing the agreed actions</b> .....	<b>12</b>
Project values and logo .....	12
Project rules .....	13
Project habits .....	14
Project-related artifacts .....	14
Project plans used for communication purposes .....	14
Project-related events .....	15
Project scorecard .....	15
<b>Conclusions and Recommendations</b> .....	<b>17</b>
<b>References</b> .....	<b>18</b>

# Introduction

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*Navigating Complexity: A Practice Guide* (PMI, 2014), groups the causes of complexity into three broad categories: human behavior, system behavior, and ambiguity. This paper highlights the approach one organization followed when facing project complexity arising from causes clustered in human behavior and ambiguity. The actions and activities described in detail are those related to project culture and its development throughout the project lifecycle.

The paper describes the case of a mid-sized organization (240 employees)<sup>1</sup> that successfully completed a two-year project, with a €5.5 million budget, having as its main objective the modernization of a production line. This was the organization's first complex project and was co-financed with European Union (EU) development funds—which added to the complexity due to the numerous regulations, diverse stakeholders and communication constraints. The company intended to obtain a bank loan to fund its portion, which was delayed due to specific bank procedures that were not taken into account at the start of the project.

The company had limited project management knowledge and experience, limited resources and no appropriate technical expertise to understand the “issues, events, path to follow, or solutions to pursue” (PMI, 2014, p. 21). The company had no change or risk management procedures and the team members were not willing “to adopt new procedures which would just increase administrative work,” as one of the informal leaders of the team stated. In addition to the above, the initial project manager left shortly after the project start, leaving the team with conflicting perspectives regarding project deliverables. At this point, stopping or canceling the project was no longer an option due to the funds already endorsed by the EU.

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<sup>1</sup> In Europe, mid-sized companies are those having between 50 and 250 employees.

# Impact of Complexity

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PMI (2014) defines complexity as a “characteristic of a program or project or its environment that is difficult to manage due to human behavior, system behavior, and ambiguity” (p. 1). Crawford (2013) also identifies the human factor as inducing complexity (p. 1). People have different behaviors, attitudes, and mindsets. In addition, Navigating Complexity (PMI, 2014, pp. 12–13) notes the following sources related to human behavior that can introduce complexity:

- Key stakeholders do not understand—or disagree with—the project objectives or outcomes
- Lack of organizational support
- Key stakeholders’ representatives are replaced during the project
- Insufficient experience of the organization and its human resources in the work undertaken by the project
- Critical information is not acknowledged in a timely manner, etc.

Predicting behaviors would be a great advantage; however, one rarely knows stakeholders well enough to anticipate or predict their behavior in a given situation. This is clearly recognized as an area where only a blend of knowledge, experience and soft skills can help—and even then success cannot be guaranteed. Project managers and their teams need to be properly prepared in order to raise the chances of success and to properly deal with the complexity induced by the chemistry of people involved in the project, by their web of interactions, and their demeanors and attitudes. This preparation covers the three previously named dimensions:

- Knowledge—knowing the processes and principles of project complexity and the signs to recognize complexity;
- Experience—recognizing the signs of project complexity and understanding the relevant actions to the specific situation, when and how it is appropriately applied; and
- Soft skills—use of the right set of skills of communication, leadership, conflict resolution, and diplomacy to take the agreed upon actions.

Along with developing project managers and their teams in these three areas, there is another aspect worth noting—knowing the right moment to deal with complexity. If one understands the difference between symptoms and problems and can spot the warning signs of complexity, it will help him or her to take steps to “right the ship” before it keels over. In most projects, the immediate result of not considering complexity from the beginning of the project is to end up dealing with a troubled project later. It is well known that recovering a project is more difficult than preventing troubled projects. So, the question becomes, can one prepare for complexity and prevent its negative effects before it materializes?

Most project managers are well prepared to implement an action plan. They master the project management methodologies. They have the experience to select the appropriate tools. They know how to tailor the required processes. They have learned to effectively communicate and have demonstrated authentic leadership skills. In addition to this, the project management literature describes and explains the elements of complexity and their impact on projects. However, organizational leaders are expecting more complexity in the years to come (PMI, 2014, p. 1) and, therefore, the pressure on project managers is intensifying.

Without a clear approach for recognizing and navigating complexity, the project manager and the project team in this case study struggled in the beginning, but did manage eventually to deliver the project successfully. The measures that were implemented confirm the approach proposed by *Navigating Complexity: A Practice Guide* (PMI, 2014). However, the effort to define, organize and implement the measures was substantially higher than initially expected. In addition, the company spent a great amount of energy convincing stakeholders that these measures were appropriate and useful for the project situation. Most of the measures were focused on facilitating the collaboration of stakeholders, reducing ambiguity and building consensus. They specifically focused on aspects of project culture to which team members, client representatives, functional managers, partners, suppliers and other stakeholders were exposed during the project lifecycle: project values and rules, symbols, storytelling, rituals, rewards or punishments, and even taboos.

# Complexity and Project Culture

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## What is project culture?

Edgar Schein (1990) defined culture as “a (a) pattern of basic assumptions, (b) invented, discovered or developed by a given group...” (p. 111). Culture gives the members of the organization an indication about the way to think, feel and act that is considered correct by the organization. He states that there are three levels in which culture manifests itself: observable artifacts, values, and basic underlying assumptions (p. 111). If one considers the project realm as a particular organization, project culture can be defined as the shared norms, beliefs, values, and assumptions of the project team (Amado et al, 2014, p. 55). The purpose—the main objective of the development of a project-specific culture—remains similar: “to develop a project identity which promotes the identification of the members of the project organization with the project and to give orientation within the project” (Gareis, 2005, p. 127).

Project managers have the opportunity to create a project culture at the start of each project through the communication of the priority, the given status, and the alignment of official and operational rules (Amado et al, 2014). Unlike the official rules that are stated, the operational rules are those enforced through everyday work habits and are also known as “project rules.” They are actually the first aspects of the project culture to which team members are exposed when assigned to a project. Further, by the use of symbols, storytelling, rituals, rewards or punishments, and taboos, project leadership communicates what is important and which are the priorities, in terms of behaviors and results (Amado et al, 2014).

According to Gareis (2005), some of the methods/symbols that can be used to develop the project culture are:

- Project name and project logo—“they serve to make a project and all project-related information recognizable and assignable” (p. 259)
- Project values and project mission statement—“provide benchmarks for what is considered good, valuable and desirable in a project” (p. 260)
- Project slogans and project-related anecdotes—“should communicate what is important in the project and/or what is especially important in a project phase” (p. 262)
- Project-related artifacts, project language and a project room—the project room is seen as an “organizational home” for a project (p. 262). Printouts of the project artifacts, such as project plans, project brochure, etc., can be used to decorate the room in order to support identification with the project (p. 262)
- Project-related events—“positively influence the feelings of project team members toward the project” (p. 128)

Once created, project culture needs to be constantly reinforced in order to create a sense of belonging to the project team and to gain the commitment of team members.

Given the fact that a project is subject to the influence of multiple stakeholders, challenges may arise when project stakeholders do not share a common culture (Richardson, 2014). Cultural differences regarding how communications, negotiations and decisions are made can severely affect a project. Different languages that slow down communications; different cultural filters, which influence the interpretation of information that is deemed critical; and the flow of the decision-making process are all potential sources of delays in project execution and of conflicts within the project team. It is the responsibility of the project manager to adapt the project organization and work processes to cope with them (Amado et al, 2014).

## Project culture's influence on complexity

Three major sources of complexity are described in detail by PMI (2014):

- Human behavior—including individual, group and organizational behavior; communication and control; as well as organizational design and development,
- System behavior—including connectedness, dependency and system dynamics, and
- Ambiguity—including lack of clarity on the best solution and unknown unknowns.

This paper focuses primarily on two of these causes: human behavior and ambiguity.

The first major cause, human behavior, refers to the way stakeholders act in a program or project based on different factors such as personalities, attitudes, emotions, culture, social norms, or political influences. With so many fluctuating factors, the project manager—in his or her need for predictability or a least for relative stability—will struggle to give orientation about what is an acceptable behavior in the given program or project context. The role of project culture is precisely this: To develop the project identity in order to influence the thinking and the attitudes of stakeholders, giving them orientation about what is considered an acceptable behavior in the project.

The second major source of complexity is ambiguity, described as “a state of being unclear and not knowing what to expect or how to comprehend a situation” (PMI, 2014, p. 20). There are two major causes that create ambiguity:

- Emergence—seen as unanticipated change that results in new behaviors or new characteristics
- Uncertainty—described as “a lack of awareness and understanding of issues, events, path to follow, or solutions to pursue” (PMI, 2014, p. 21)

In projects with elements of complexity, a strong project culture can have a positive impact on reducing the impact of complexity. According to Gareis (2005), project culture is created and reinforced by the use of symbolic management, which is highly needed in cases of uncertainty; in times of crisis; when acceptance should be increased, when changes will occur; and when commitment is more important for success than expert knowledge (p. 131). Symbols, according to Gareis (2005), have three main functions: they are descriptive, energy controlling and system sustaining and, therefore, can contribute to reducing complexity (p. 131). Project-related events, such as ceremonies, team-building activities, contests and parties can motivate stakeholders and provide the possibility of having positive rather than negative feelings about colleagues in the project organization.

Stronger relationships are built and the causes of complexity related to human behavior—such as resistance to change, group shift, self-organization, and lack of commitment—are reduced. Project-related events can also help in times of emergence when a change in a system has to be accepted.

Strong project values that provide orientation to the project organization; project artifacts (project plans) that provide a clear understanding of the project objectives; and project name, logo, and language (jargon) that provide a sense of identification with the project are all essential tools in times of uncertainty. Even though the solution to be pursued is not clear, values such as open mindset, trust in the team potential and commitment will help the team to cope with the situation. Even more, the project room can provide a sense of stability and become the “safe place” where the project team can meet and try to find solutions in uncertain times.



## Case Study

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Vimetco Extrusion is a Romanian company fully owned by Vimetco, the biggest aluminium smelter in Central and Eastern Europe. The globally integrated aluminium group, with bauxite mines in Sierra Leone; coal mines, aluminium production facilities and an electricity plant in China; and an alumina refinery and smelter in Romania, is among the top five producers in Europe.

In 2012, Vimetco Extrusion successfully operated three extrusion presses and was able to fulfill the requirements of its clients in terms of quality and deadlines, but not always in terms of the portfolio of products. Based on a thorough analysis, the company realized that the main equipment had high processing costs, high downtime and high dead-cycle time, even though Vimetco Extrusion's team had brought them to maximum efficiency.

Therefore, in order to increase profitability per ton and cover the existing product range in a more efficient way; open opportunities for new activities by using high performance and technical advantages in approaching new, high-level markets; and decrease gas and energy consumption, the company decided to launch a new and ambitious project. The business case revealed the necessity of purchasing and installing a new press along with the necessary ovens—all with the intent that they be integrated with the existing auxiliary equipment. The business case was included in a financing request submitted to the EU for a grant. On 29 June 2012, a financing contract was signed with the Romanian Ministry of Economy stating the value of the grant received (€1.5 million out of the total project cost of €5.5 million) and a maximum duration for the project of 24 months.

By the end of the year, the contracts for purchasing the main equipment parts were signed, but the company (and the project team) was struggling since it did not have a project management plan, technical solution for the integration, nor agreement with a bank for a loan covering the rest of the project budget. The project manager left due to conflicting perspectives on the project deliverables. The situation was difficult since stopping or canceling the project at this point was not an option because the funds had already been endorsed by the EU. The CEO, who was also the project sponsor, and the production manager assessed the situation and analyzed their options. Several elements of complexity were identified:

- Key stakeholders indicated significant misunderstanding or disagreement with goals, benefits, decision processes, and outcomes.
  - The project manager was initially hired for his technical knowledge and competency. However, he was unable to collaborate with the production manager due to the lack of communication and agreement on the technical solution.
  - The team members also lacked commitment. The mere fact that the team members had to double their efforts in order to cover both the daily company activities and also those within the project was a stress factor for the project team members. In addition, six team members had multiple roles in the project.
  - For the €4 million project cost not covered by the EU grant, the company decided to negotiate a loan with a local bank. The negotiations with the bank were difficult (and lasted 10 months) due to the bank's specific interest in being protected from any possible risks. The discussions between the representatives of the bank and the company became a battle of egos with neither being willing to

accept compromise. For the bank, the situation was clear: It wanted the contract but had to follow existing procedures. The frustration of the company was caused mainly by the several new requests of the bank for financial documents and guarantees. The delay in obtaining the loan affected the relationship with the main suppliers, which started to question the credit worthiness of their client. The situation was critical as the supplier contracts were signed, the production of the equipment started, and cancelling the projects was no longer a viable option.

- Communication among the main suppliers also contributed to the complexity. There were issues among both the commercial/contractual and technical departments. Despite the fact that the technical solutions were the most critical to the project, the commercial aspects proved to be the most difficult to harmonize and there were numerous conflicts.
- The number of possible changes during the project was limited due to the requirement of compliance with the regulations of EU-funded projects. Any delay in completing the project within the agreed time frame could lead to the loss of funds.
- Key stakeholders' representatives were being replaced over the duration of the project.
  - The novelty of the project and the lack of agreement between the appointed project manager and production manager led to the resignation of the project manager. The company attempted to negotiate with an external project management consulting company to hire a project management specialist; however, the attempt was unsuccessful.
- The company's employees had insufficient experience in the type of work being undertaken by the project.
  - One of the major challenges of the project was to define and agree on the technical solution. However, the company did not have enough subject matter experts and had to rely on the suppliers' expertise. This further led to team member frustration throughout the project.
  - The regulations for an EU-funded project are numerous and must be strictly followed. This was the company's first experience with such substantial financial support and the team members were overwhelmed by the requirements.
  - The company had only limited knowledge and experience in project management. Although most of the management team members had gone through a project management training course, this was the first major project for the company. The knowledge acquired in the training helped to build a set of project management forms, but the company's employees did not have the required experience to correctly apply them.

All of these aspects, plus the six-month delay, were identified and acknowledged by the project sponsor who decided that urgent measures needed to be taken. The following immediate measures were discussed and agreed to with the board of directors:

- Nominate the production manager as project manager, granting him or her full authority over project decisions.
- Hire a project management consultant to support the project manager in building the project team, dealing with stakeholders, gaining commitments, and ensuring that the timeline is recovered and the project is successfully completed.
- Hire an EU consultant to support the team in complying with the specific requirements of EU-funded projects.

The newly appointed project manager and the project management consultant went through several steps before formally re-starting the project. An informal action plan (**Table 1**) was developed in order to cope with identified deficiencies.

Decisions and Actions	Reasons	Relevance for Navigating Complexity
Clear responsibilities were agreed upon by the project manager and the project management consultant about their specific competences and experience.	The responsibilities were shared between the project manager and the project management consultant. The project manager had substantial technical knowledge and the project management consultant had solid project management experience.	The combination of their technical and project management experience helped the team to recognize complexity and react appropriately.
The Project Charter was developed, agreed and signed by the project sponsor. It contained specifications regarding the decision-making process (i.e., where the involvement and approval of the project sponsor are required).	The Project Charter included clear specifications regarding the decision-making process. Unlike the previous situations in the company where the decision-making process was long and at times painful, for this project the rules were clearly set, allowing for rapid reaction.	The action is aligned with Complexity Scenario 6: "Apply mechanisms for delegation and federation of authority, accountability, and decision making in the project organization" (PMI, 2014, p. 43).
The project management approach was carefully discussed, documented and agreed considering the criticality of the situation and the maturity in project management of the company; the project management templates were analyzed and simplified (e.g., risk register).	In analyzing and choosing the most effective project management approach for the project, the company's level of maturity in project management was considered as well as the needs of other stakeholders (team members, main suppliers, funding organizations, etc.).	The action is aligned with Complexity Scenario 6: "Partner with suppliers and key stakeholders to establish plans for communication and develop other ground rules for aligning different processes" (PMI, 2014, p. 43).
Decision on working extensively on project culture was made, acknowledging the fact that this needs an extra effort of working with the project team members, educating them regarding project management practices, constantly involving them in project decisions, and persistently communicating with them and with the other stakeholders.	The measure was seen by the project manager and the project management consultant as a proper way to deal with the specific project situation. Without having the support of a practice guide, they simply chose what they considered meaningful at the time of the decision. Once their measures proved to be valid and successful, the measures would lead to the development of a sustainable approach in terms of project culture.	The action is aligned with Complexity Scenario 6: "Consult and collaborate with stakeholders to ensure that everyone has a voice in the process' and 'Create incentives to encourage team work and successful outcomes for the program or project'" (PMI, 2014, p. 43).
Decision was made to develop the team members' soft skills in conflict management.		The action is aligned with Complexity Scenario 6: "Provide conflict management and negotiation training to team members" (PMI, 2014, p. 43).

**Table 1: Informal action plan.**

All these decisions were based on the experience and the critical thinking of the project manager and the project management consultant. They relied heavily on *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)* (PMI, 2013) and the *Project Manager Competency Development Framework* (PMI, 2007). The high-level action plan reinforces some of the actions suggested in *Navigating Complexity: A Practice Guide* (PMI, 2014).

## Implementing the agreed actions

In the absence of specific guidance about how to evaluate and plan for complex elements within a project, the team failed to identify all the complexity elements and not all of the required actions were taken. Had a guide been available, the effort to appropriately manage the project would have been much reduced. The primary aspect where a practice guide would have helped is in having an assessment questionnaire at the beginning of the project to identify the existence of complexity and to assess its amplitude before deciding to start the project. Most of the possible actions would have been considered from the very beginning of the project, would have been time and cost estimated and would have been included in the project budget and management plan.

After PMI published *Navigating Complexity. A Practice Guide* (PMI, 2014), the project was evaluated using the assessment questionnaire (post-mortem). The following section describes activities taken, which are connected with building the project culture, mentioning the correspondent actions suggested in *Navigating Complexity*.

## Project values and logo

The first step was to define the project values. During the very first planning meeting the team members were asked to write on Post-it® Notes the values that they felt to be specific for them and for the new project. All the written values were entered into word cloud software and the result became the project logo (see **Figure 1**). It was further used on all the internal project communications (reports, information notes, presentations, etc.) with the primary purpose of describing and preserving the energy and enthusiasm of the team members toward the project. The logo became so well known, and the project team members so proud of it, that team members immediately observed if it was missing from a report, plan or presentation. In order to become so well known, a consistent effort was required at the outset to use the logo each time communications took place. This corresponds to the action suggested by Complexity Scenario 6: “Actively engage in two-way communication with all stakeholders (for example, listening activities, inspiring people with the vision of the program or project)” (PMI, 2014, p. 43).



Figure 1: Project values logo and project rules.

## Project rules

Team members rarely adopt project rules if they are not involved in drafting and defining them. With this in mind, the project manager engaged the team to agree upon rules regarding communication, working habits, and desired behavior in project meetings. These became part of all meeting agendas and meeting minutes until the end of the project. Some were intentionally humorous, but most were serious. Posters were printed with project values, rules, project objectives and business objectives and exhibited in the project management meeting rooms. These were shared with the main suppliers, especially as they became part of the core team during the installation, test and commissioning phases. This corresponds to the action suggested by Complexity Scenario 6: "Partner with suppliers and key stakeholders to establish plans for communication and develop other ground rules for aligning different processes" (PMI, 2014, p. 43).

## Project habits

The effort of developing a project culture continued with a Best Team Member of the Month contest. The aim of the contest was to increase awareness about the responsibilities and achievements of the team members and to reward, in a less formal manner, the effort of the project team. By the end of the project, there were 25 nominations put forward and nine awards granted. The prizes were symbolic (a car-shaped mouse, a t-shirt with the logo of the project, a dinner with the family at one of the local restaurants, a spa session, etc., as shown in **Figure 2**) and each prize came with a diploma stating the reason(s) for the recognition.

The team members' engagement with and evaluation of the contest became clear over time as the number of people submitting nominations and votes increased as compared to the first few months of the project. Also, the team became more cohesive and this became obvious during the weekly project meetings when team members started to express their concerns more freely.



Figure 2: The Best Team Member of the Month diploma and prizes.

This corresponds to the action suggested by Complexity Scenario 6: "Create incentives to encourage team work and successful outcomes for the program or project" (PMI, 2014, p. 43).

## Project-related artifacts

Throughout the project lifecycle, other artifacts were used to develop and reinforce the project culture. For example, each team member received a mug and a notebook branded with the name and logo of the project (see **Figure 3**). Some of these artifacts were offered to representatives of the main suppliers and other stakeholders as a reminder and as a means to positively influence feelings about the project.

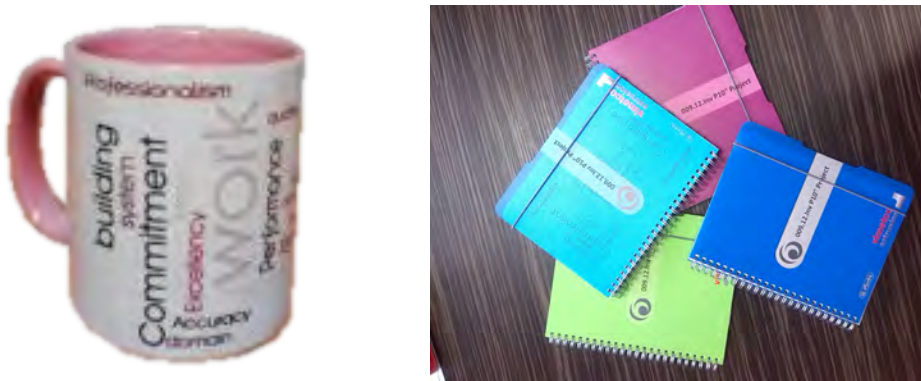


Figure 3: Branded cup and notebooks.

This corresponds to the action suggested by Complexity Scenario 6: “Create incentives to encourage team work and successful outcomes for the program or project” (PMI, 2014, p. 43).

## Project plans used for communication purposes

No project management plans were developed without first taking into account the possibility of using them as communications tools. As some of the project team members saw project management as a form of ineffective and pointless administrative work, the project manager and project management consultant were careful in choosing the tools and the ways they were used. Three main criteria were considered:

1. The value added by the tool in managing the project—both for planning purposes as well as for monitoring and controlling;
2. The usefulness of the tool in reporting the project progress to different stakeholders—especially to the lending bank and the authorities monitoring the project on behalf of European Union; and
3. The overhead introduced by applying the tool.

In order to gain the team members’ commitment in using the proposed project management tools, each tool was explained, its benefits described and its application discussed during the project management meetings. The reports were adapted based on the feedback received from the main stakeholders with several changes made to their structure and to the way the tools were represented as a result of the input. For example, the milestone plan was transformed from a table representation into a more colorful and informative timeline and the project schedule, which was deemed by several team members as too detailed and unwieldy for tracking their particular activities, was split and tailored to answer the team members’ specific needs. **Figure 4** shows the project timeline used for communicating with the main stakeholders, which included the Responsibility and Task Assignment (a more detailed To Do List) and the Project Schedule.

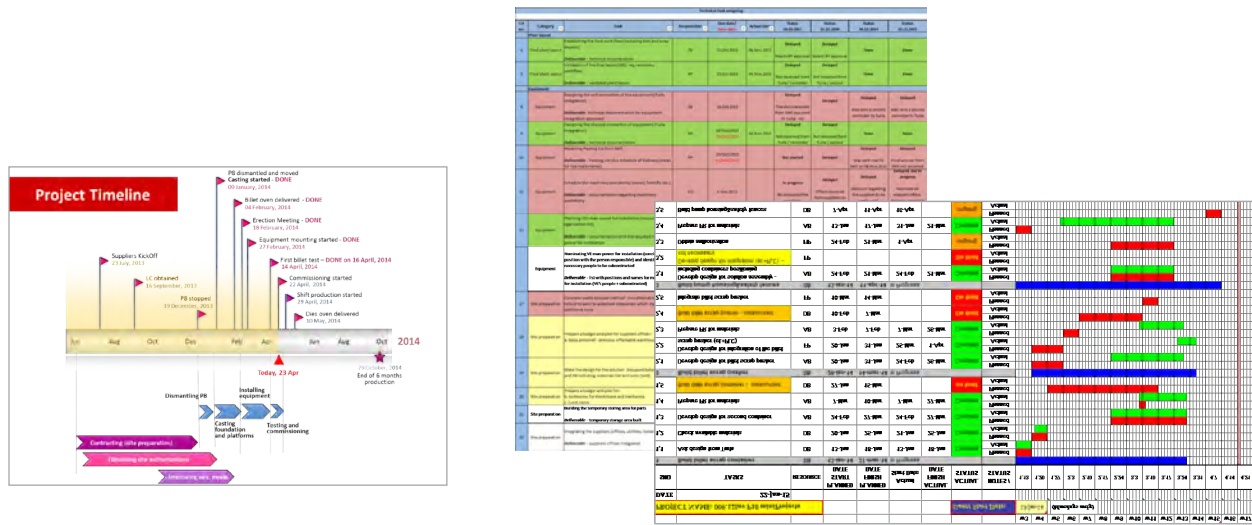


Figure 4: Project timeline and task assignment plans used as communication tools.

These artifacts correspond to actions suggested by Complexity Scenario 6: “Learn and understand the strategies or objectives of stakeholders to adapt the right communication techniques” and “Pay attention to small communication nuances among various stakeholders that may have big impact on the future of the program or project” (PMI, 2014, p. 42).

### Project-related events

The project-related events were used to positively influence the feelings of the team members toward the project and to build team capability. One of the events was dedicated to personal development of the team members. It included team-building activities, but also a conflict management workshop where motivation, intention and behavior topics were presented and conflict situations and conflict resolution techniques were discussed. This corresponds to the action suggested by Complexity Scenario 6: “Provide conflict management and negotiation training to team members” (PMI, 2014, p. 43).

Other events were included to foster team cohesion and identity. This included planning and celebrating holidays as a team. A project close-down event was carefully organized so that it included a project success celebration to promote commitment to future projects.

### Project scorecard

The outcomes of the entire effort of developing a project culture can be seen in the project scorecard in **Figure 5**. Each column represents a project control date when all the topics (see the different rows) were evaluated by all the project team members and project contributors. Although each evaluation meeting held for the purpose of completing the project scorecard took more than two hours; the fact that all the project’s aspects were discussed with the whole team; that each team member had the chance to freely express his or her concerns regarding the project; and that the marks for each project topic were given by consensus, all contributed to gaining the buy-in of the stakeholders, aligned expectations and kept the team engaged. This corresponds to the action suggested by Complexity Scenario 6: “Consult and collaborate with stakeholders to ensure that everyone has a voice in the process” (PMI, 2014, p. 43).

Project Scorecard						
<b>Legend</b> very bad 4 bad 3 ok 2 good 1 very good 0	009 12 Inv P10/ Project - overview					
	10.07.13	22.08.13	31.10.13	04.12.13	05.02.14	19.03.14
<b>Project objectives and context</b>						
Project objectives	3	3	3	3	1	3
Major deliverables	3	2	2	3	3	3
Business objectives	2	3	3	3	3	2
<b>Project organization</b>						
Team work	3	3	2	3	2	2
Project communications	3	3	2	3	3	3
Project culture development	3	3	3	3	2	2
Tasks achievement	4	4	3	3	2	4
<b>Planning control</b>						
Schedule status	4	4	4	3	3	3
Costs status	4	4	3	3	3	3
Project resources	2	2	2	3	2	3
Project risks	4	3	4	3	3	3
<b>Relationship with stakeholders</b>						
VE BOD	4	3	3	3	3	3
Shareholder BOD	2	3	3	3	3	3
Supplier 1 (technical)	3	2	3	2	2	3
Supplier 1 (commercial)	3	3	4	4	3	3
Supplier 2	4	3	2	4	3	4
Bank	4	3	2	3	3	3
MA	3	3	2	2	2	2
Supplier 3	4	4	3	2	2	2
Rafael (authorizations)	3	3	3	3	3	3
Supplier 4	2	3	3	3	3	3

Figure 5: Project scorecard.



## Conclusion and Recommendations

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The development of a positive project culture helped the project to conclude successfully. Building a strong, shared and motivating culture was neither easy nor trouble free. Time and space were devoted to its development throughout the project and several attempts were made to find the best solution. However, these attempts and the continuous focus on providing orientation to the stakeholders on what was considered good, desirable and valuable in the project brought a set of actions that helped the team to deal with complexity in the project. The project sponsor and project manager used critical thinking in order to manage the situation, including:

- Hiring additional resources with whom they were able to apply processes, tools and techniques relevant for the project.
- Developing and implementing an action plan for dealing with complexity.

However, this success came at a price: establishing a project culture is a delicate and costly process that ends only when the project is completed. The level of effort and amount of energy could have been reduced and many of the problems avoided if the team would have first assessed the project for elements of complexity and proactively addressed the discovered complexity elements at the outset of the project.

Recognizing complexity early in the project would have enabled an accurate estimation of the required resources for the project and would have allowed a correct cost/benefit analysis. Relying only on the knowledge and previous experience of the project sponsor and project manager is not always enough. A reliable guide that provides tools to assess the situation and suggests actionable remedies is indispensable in today's fast-paced world when more and more projects include elements of complexity.

Being deeply immersed in the project details might at times impede the project manager's recognition of elements of complexity. Ignoring complexity before the project start and trying to solve the situation only after difficulties have arisen could cause a manageable situation to become a troubled project. The case study presented in this paper confirmed the necessity of building a project culture that enables the mitigation of issues related to ambiguity and human behavior. However, establishing a project culture that supports and rewards the project team members is a journey that never ends; its sustainability requires a continuous organizational effort. And no matter how costly this effort might be, it solves only partially the complexity aspects in programs and projects.

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