

Facilitative Leader and Leadership development during a mega project implementation phase: A case study¹

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ABSTRACT

Organisations are turning to project managers to deliver one-of-a-kind or complex initiatives required to remain competitive. Despite the formalisation of the project management profession up to 65% of industrial capital projects fail to meet business objectives. Research literature suggests that project managers require leader and leadership skills to contribute to the successful completion of projects, meeting business objectives and ensuring customer satisfaction throughout the project life cycle. Fortunately, leader and leadership skills can be developed, but due to the uniqueness and temporary nature of projects different methodologies are required to develop these skills.

This study utilised a case study research approach and evaluated the benefits of facilitative leader and leadership development of the project management team on a mega project over a two-year period. Facilitative development combined the benefits of on-the-job training linked to a strategic business goal, action learning, coaching and the development of the emotional intelligence of the project management team.

This research shows that the development of the emotional intelligence of the project management team during the project contributed to both the personal development of each team member and enhanced the efficacy of the management team. The two-year development process entrenched the learning and development of the leader and leadership skills of the project team members. This development contributed to the successful completion and ramp up of the project. The model developed from this research can contribute to the continuous development of project managers and project teams to enhance the success rate of capital projects.

¹ *Second Editions are previously published papers that have continued relevance in today's project management world, or which were originally published in conference proceedings or in a language other than English. Original publication acknowledged; authors retain copyright. This paper was originally presented at the [3rd annual University of Maryland Project Management Symposium in College Park, Maryland, USA in May 2016](#). It is republished here with the permission of the authors and conference organizers.*

INTRODUCTION

As organizations are required to change and adapt in the new millennium project management is seen as the “new” form of general management used to scope, plan and deliver one-of-a-kind or complex initiatives (Pant and Baroudi, 2008). Despite the formalization of project management as a profession and the development of systems and tools to assist projects and project managers, 65% of industrial projects with budgets larger than \$1 billion² failed to meet business objectives (Merrow, 2011).

The current mostly used standard approach to project management is the Project Management Body of Knowledge (PMBOK®) (2013a) guide, developed by the Project Management Institute (PMI). Although the PMBOK® guide states that “effective project managers require a balance of technical, interpersonal, and conceptual skills that will help them analyze situations and interact appropriately...” they offer little in how to acquire or use interpersonal and leadership skills effectively on projects. Project leadership is required to influence management, peers and stakeholders to buy-in to the vision of the project and ensure alignment in defining the project objectives (Cleland, 1995). The uniqueness and temporary nature of projects and project teams imply that traditional leader and leadership development will not be as effective as what is used for operational organizations. The question is therefore not “is leadership development required?” but rather “how must project leadership development be approached in project organizations?” A balanced approach to teaching the technical (hard) and interpersonal (soft) skills of leadership will contribute to more successful project outcomes (Cleland, 1995; Pant and Baroudi, 2008; Day, 2000; Thompson, 2010). Leaders learn and develop through challenging work, solving complex problems and leading teams (Hirst et al., 2004).

RESEARCH OBJECTIVES

The research objectives are: (1) to investigate and determine the benefit of leader and leadership development of the project management team during the implementation phase of a mega mining project as a case in South Africa, and (2) to determine if the leader and leadership development approach had a sustainable impact on the leader and leadership skills of the project management team.

THEORY AND CONCEPTUAL MODEL

Project leadership and project management

Project managers are required by their organizations to acquire a professional accreditation through training and learning activities to ensure the successful delivery of projects. The Project Management Institute (PMI) reports that they have over 500,000 PMI certification holders in over 180 countries (PMI, 2013b). Despite these numbers, more and more projects fail to deliver on their objectives mainly as a result of the lack in human or soft skills of project managers (Cooke-Davies, 2002). Project management is about leading and managing people and not

² In 2010 real terms.

controlling them, which makes their human interpersonal skills more important than just their technical skills (El-Sabaa, 2001; Pant and Baroudi, 2008; Thompson, 2010).

Leadership, unlike management, is an informal position without authority or an occasional activity from where the leader uses his ability to influence others to action (Du Plessis, 2014). Although project managers are appointed by organizations to lead and manage a project to ensure organizational objectives are met, they need leadership skills to lead a team and have the ability to influence others. Turning technical project managers into effective project managers is a multidimensional and complex process that requires the development of technical and interpersonal skills in context, moving beyond traditional learning, to learning and development that can adapt to project environments (Ramazani and Jergeas, 2014; Thomas and Mengel, 2008; Turner and Lloyd-Walker, 2008).

Development of leader and leadership skills

Leader development is defined as the human capital, “the individual leadership model of the organization” and leadership development as social capital, “the relational leadership model of the organization” (Day, 2000). Leader and leadership development focusses on the development of soft skills like self-awareness, self-regulation, self-motivation and how you see others in terms of social awareness and social skills. Leadership development enhances the collective capacity of the organization developing leaders at all levels (Osborn et al., 2002; Dalakoura, 2010). Effective leader and leadership development occurs in the context of the employees’ work, especially when tied to strategic organizational objectives or business goals (Dalakoura, 2010; Dotlich and Noel, 1998; Hirst et al., 2004). Practices used for leader and leadership development include 360-degree feedback, coaching and mentoring, networking, action learning, specific job assignments, experiential learning and classroom-type leadership training (Cacioppe, 1998; Day, 2000).

Project leadership competencies

Projects are temporary endeavors with temporary teams, therefore project managers require a high level of emotional intelligence to develop interpersonal relationships in order to establish trust and commitment within the project team (Müller and Turner, 2007; Tyssen et al., 2014). The skills linked to enhancing project success are listening, trust, motivation, empathy and conflict resolution. In investigating the competency profiles of project managers it was found that emotional competencies were associated with project success as opposed to managerial or intellectual competencies (Müller and Turner, 2007). For project leaders to lead and manage mega project teams they need emotional intelligence in order to be inspiring and refreshing through the different phases of the project.

Development of emotional intelligence

Salovey and Mayer (1989) described emotional intelligence as “the ability to perceive accurately, appraise, and express emotion; to access and/or generate feelings when they facilitate thought; to understand emotion and emotional knowledge; and to regulate emotions to promote emotional and intellectual growth”. Various studies have shown that people can develop their emotional intelligence skills to increase emotional awareness and control their emotions in order to achieve better results (Dulewicz and Higgs, 2004; Druskat and Wolff, 2001; Allio, 2005; Goleman et al., 2013).

Project managers and project teams must develop their emotional competencies in order to communicate effectively, establish trust, develop interpersonal relations, improve participation and collaboration in order to deal with the complexity and changes within projects. Emotional intelligence enhances the management of conflict due to misunderstanding, miscommunicating and stress on the project, leading to better decisions, more creative solutions and higher productivity (Clarke, 2010b; Druskat and Wolff, 2001). Goleman (2004) developed the mixed model of emotional intelligence in the work place which focusses on four dimensions; self-awareness, self-management, social awareness and relationship management. The project manager and team can improve their emotional intelligence by consciously practicing these aspects.

Leader and leadership development model

Leadership is required to enable the successful completion of projects and ensuring customer satisfaction throughout the project life cycle. The uniqueness and temporary nature of projects and project teams suggest that traditional leadership development methods will not be effective in a project environment. The research proposes a conceptual model whereby facilitative leader and leadership development is used to develop the emotional intelligence of project team members through on-the-job training on a strategic project, thereby enhancing the learning experience and benefitting the organization. The conceptual model for development of leader and leadership is depicted in Figure 1.

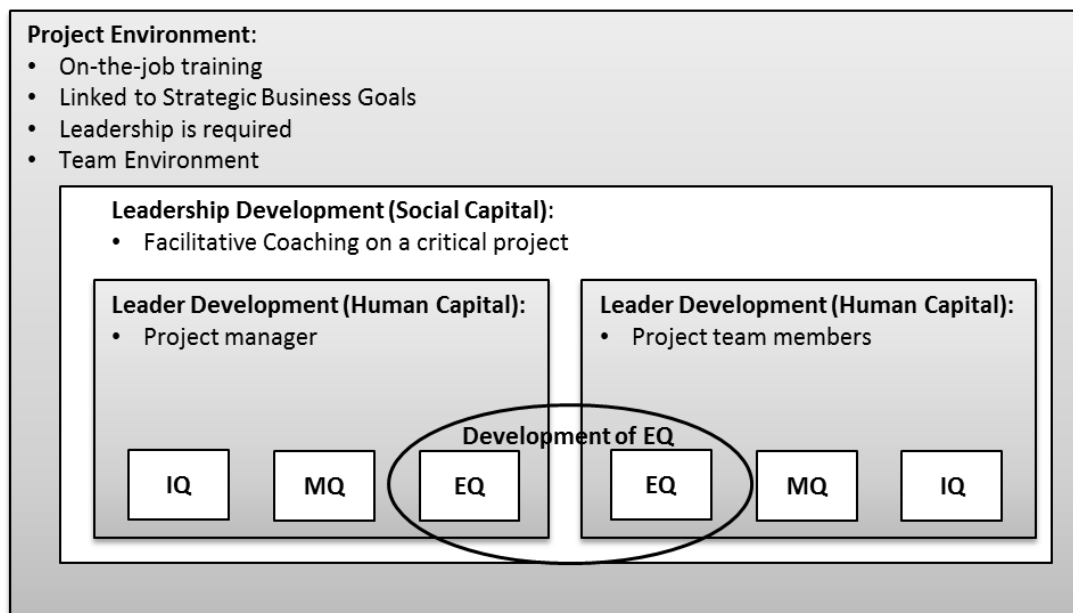


Figure 1. Conceptual model for leader and leadership development on projects

RESEARCH DESIGN AND METHOD

Qualitative research based on a case study was used to research the model and answer the research questions. The case study research answered the following questions; (1) how did the individual benefit from the leader and leadership development during the project? (2) how did the leader and leadership development during the project benefit the outcome of the project? (3) which development strategies/techniques were the most beneficial and how were they used during the project?

The propositions that support the research questions are:

- Facilitative leader and leadership development during the project implementation phase contributed to the emotional competence of the team members and the team as a whole.
- The increase in emotional competence contributed to the project being completed successfully.
- The leader and leadership development on a strategic project for the organization enhanced the training which benefitted the individuals and the organization in the long term.

The unit of analysis was a mega project, a new open cast mine, which was implemented for a mining company based in South Africa during the period 2008 – 2012. The evaluation of the leader and leadership development focused on the project management team that was responsible for the delivery of the project. The project management team consisted of a project manager, assistant project manager, engineering manager, construction manager, controls manager,

financial manager, human resource manager, procurement manager and the health & safety manager.

The project management team assembled was a very competent and experienced team. The team members had more than 45 years' project experience between them. The project manager had previously completed two mega projects. The management team had 15 post graduate degrees between them of which two was at masters' level. Three members of the team completed a mega project together. The team consisted of eight males and one female.

The data gathering for the research was done through data mining and structured interviews. Data mining was done on the information that was gathered by the facilitator during the development phase of the project. Structured interviews were conducted with seven³ of the nine project management team members and the facilitator.

RESULTS AND FINDINGS

Project Background

The project was approved for execution in July 2008. Project team mobilization started in early 2008. A strategic company decision was taken to replace the project manager of the feasibility phase with the project manager that just completed another mega project for the company. He brought with him a core group of people, to implement the lessons learnt from the previous project. The merging of two teams with different experiences, backgrounds and cultures caused disruption within the team. The high pressure and deadline driven environment resulted in conflict, unproductive tension and dysfunctional team behavior. The team culture was one of distrust and blame (Kumba, 2013; Roux, 2011). In January 2010, eighteen months into the 40-month project, the project was 3 months behind schedule and the management team was in disarray. The executive head of projects decided to appoint the facilitator to break the cycle of conflict within the team.

During the conflict resolution process, the facilitator identified the potential in the team and shifted his focus from only defusing tension and breaking the cycle of conflict to the development of a group of "extreme achievers" and "brilliant individuals" into an efficient team. The facilitative development was done through (1) individual coaching, (2) inter-personal coaching and (3) team coaching. A narrative approach with a focus on leadership development through discussions and reflective thinking was utilized.

Through the various facilitation sessions, the team dynamics improved through development of interpersonal relationships, improved trust and communication between members. The team provided mutual support to reach project goals and to take responsibility and accountability for their actions, thereby developing a winning team culture (Kumba, 2013; Roux, 2011). The growth and development was achieved as a result of frequent interaction and inclusive problem

³ The construction manager passed away during the project and the finance manager could not be traced after leaving the company.

solving, open and respectful communication and personal feedback within the group and, elimination of triangular relationships. This led to an increase in self-belief and growing self-confidence within the team and understanding the “soft issues” and how that impacts on the team and individual performances.

The end result of the two-year development process was that the project was able to rail the first ore from the new mine to port in November 2011, five months ahead of the project date of April 2012. The project was completed under budget and managed to ramp up to design capacity by July 2012 and has been producing above that capacity up to 2015 when the research was conducted.

Findings

The following section provides a narrative of the feedback from the team members during the interviews conducted in 2015.

How did the project management team members benefit from the leader and leadership development during the project?

The team members had very little leadership training and development before the project. Most training was general management training and class room based, with little to no “on the job experience”. This is in-line with the research done by Allio (2005) which states that this type of training is ineffective. The development process improved the emotional intelligence of the individuals by developing their self-awareness and self-management. Through the facilitation the team members understood their own emotions and how to control that in order to build relationships and trust within the team. The development of trust within the team was not fully established due to relational distrust between members. The team did trust each other in terms of technical competence and accountability to do what was required. The emotional intelligence of the team was further enhanced through the development of social awareness and relationship management. The development of empathy was the biggest breakthrough for the team especially on a project that had ups and downs in terms of emotional impact. The development of communication (listening) improved dramatically after the initial phases.

In terms of developing others, the team commented that the relationships that were developed enabled the team to move at a faster pace and contributed to achieving milestones (teamwork & collaboration). Under pressure the team operated more effectively (service orientation) and bonded on a deeper level (building bonds). The team acknowledged that in 2010 they did not have the emotional intelligence to resolve the initial issues between team members. The facilitator managed to develop the group efficacy (teamwork and collaboration) through creating a vision of an efficient team where each other’s strengths were acknowledged and developed.

How did the leader and leadership development approach during the project benefit the outcome of the project?

The project team felt the leadership style was autocratic and dictatorial, which contributed to the conflict within the team. The project had an extremely low chance of being completely

successful based on the situation after 18 months. The comments from the team reflected the transactional leadership style of the project manager. In times of uncertainty and change, a transformational leadership style was seen as more effective in aligning people needs with project goals (Tyssen et al., 2014). Developing the emotional intelligence of the team improved the trust and efficacy which contributed to the cohesion and improved participation between team members. The project teams' leadership style preferences are indicated in Figure 2 (Goleman et al., 2013).

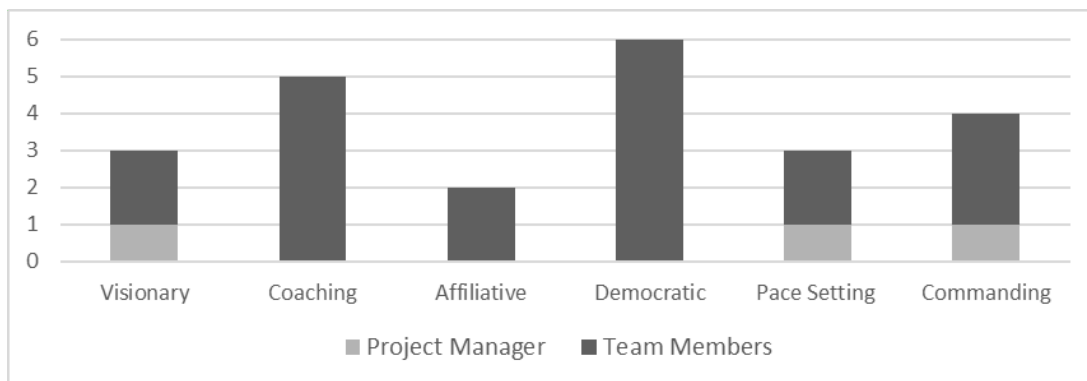


Figure 2. Project team leadership styles preferences

The combined team represented all the various styles. The team understood the power of influence whereby a leader with limited positional power could influence a team and take responsibility for specific aspects through the phases of the project. The collective leadership style of the team enhanced the leadership of the project team to complete the project five months ahead of schedule, under budget and to the specified quality.

Which development strategies/techniques were the most beneficial and how was it used during the project implementation?

None of the team had previously been exposed to this type of facilitation on a project. In fact, one member found it strange that it was required. They did, however, experience that the development was deeper, more emotional than expected. The focus on an emotional level brought the team closer by building relationships and trust between members. The involvement over a long period (2 years) in good and bad times benefitted the process. The reflection and feedback, identified blind spots and helped people understand issues and the effect it had on team members. Although the development focused on the soft issues, the facilitator held the team accountable and was robust in how he handled issues.

The benefit of having a personal coach for the team was positive as the facilitator understood the context and could give feedback on relevant issues. The focus was always on the individual contribution and individual accountability within the team. He developed the individuals' understanding of their opportunity to influence decisions and impact on team members. The project manager raised the concern of team members rather confiding in the facilitator which

could undermine the authority of the project manager. The team therefore had to be mature and the facilitator impartial to make the process effective.

Emotional development

The team rated themselves in terms of emotional development on the five components of emotional intelligence at work (Goleman, 2004) on a 5 point scale. All project team members, except for two, showed an increase in self-awareness after the project. The members who experienced a decline stated that they disconnected their feelings towards some members as a coping and survival mechanism. The average score increased from 3.6 to 3.9. Five of the seven members showed an increase in self-regulation with two members remaining constant. The average score increased from 3.0 to 4.1. Three members showed an increase in motivation with four members remaining constant. The average score increased from 4.0 to 4.4, which showed high levels of motivation. Four members showed an increase in empathy, two remained constant and one showed a decline in empathy. The individual stated that the decrease in empathy was used as a coping/survival mechanism towards some people on the team. The average score increased from 3.6 to 3.7. Five members showed an increase in social skills with two remaining constant. The average score increased from 3.3 to 4.1. Overall the team confirmed that the facilitation developed their emotional intelligence.

CONCLUSIONS AND RECOMMENDATIONS

Having technical competent project managers and teams does not guarantee successful projects. Turning technical project managers and teams into great project managers and teams is a multidimensional complex process that should be done in context and address both the interpersonal and technical skills. The research showed that through facilitative development the emotional competence of the project members had increased due to the training that lasted two years, which in turn contributed to the effectiveness of the project management team (Druskat and Wolff, 2001). The increase in emotional competence contributed significantly to the successful completion of the project. This supported the research done by Du Plessis (2014) - emotionally intelligent project managers (or project teams) are more effective leaders (or have more effective leaders in their team) and deliver more successful projects. The experienced-based development assisted the team members to gain insight in what it took to lead, develop leadership skills and become an effective leader (Thomas and Cheese, 2005). The development of the project management team on the most important and critical project for the company enhanced the experience of the individuals and supported the research by Dalakoura (2010) that development should occur in the context of their work and tie to strategic organizational objectives (projects) and everyday life at work of the employees. The training must adapt to the complexities of project environments (Ramazani and Jergeas, 2014). The benefit of having a personal coach on the team enhanced the learning by tailoring the development of the individual to match their experiences, skills and learning styles on a one-on-one basis, supporting the findings by Solansky (2010).

The research supports the conceptual model that a strategic project is the ideal opportunity to develop leader and leadership skills of project managers and their teams through development of emotional intelligence. Projects provide (1) action learning linked to strategic goals, (2) finite duration whereby development can be measured and assessed, (3) job assignments that benefit the individual and company (4) high pressure environment with constant change, (5) quick feedback on decisions taken and impact on team and project, (6) efficient and effective leadership is required to be successful, and (7) opportunity to develop a new team to become efficient.

Recommendations

The research project was an extreme case in terms of the dysfunctional behavior within a management team. The full potential of the development was therefore not realized. Further research is required whereby practitioners that do emotional intelligence development can partner with industry to develop programs whereby learners can be assigned to projects and taken through a more structured developmental process based on the initial gap analysis of their emotional intelligence. More work is required to make industry and project organizations and project directors aware of the potential benefit of developing the emotional intelligence of their project managers and project team members.

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Chrisjan van Wyk has a mechanical engineering background and has been involved in projects in the metals and minerals industry since 1992. He started his career in project management in 2001. He has managed various projects as a client project manager as well as project manager for the EPCM's or EPC contractors.

His project experience includes executing projects in steel plants, platinum smelters, base metal refineries, sulphuric acid plants, diamond processing plants, uranium processing plants, open pit iron ore mining and processing. Infrastructure projects included railway lines, water pumping systems, roads, municipal services and housing developments.

His strengths are strategic thinking, project execution strategy, leadership and team development. He believes that successful projects are delivered by successful teams and therefore places a huge focus on leadership, team development and team integration.

He completed his M.Eng in project management (Cum Laude) in 2015. He also founded a consulting company in 2015 which focuses on the leadership development of project managers and project teams to contribute to project success. He can be contacted at chrisjan.vanwyk@itd.ac.za.