
A leadership profile of project managers engaged in infrastructure Development Projects in Northern Region of Sri Lanka**Thirugnanam Navaneethan****Department of Accountancy,****Advanced Technological Institute, Jaffna, Sri Lanka,****Abstract**

This paper reports the results of an assessment of project managers engaged in development projects in Northern Region of Sri Lanka. The results clearly and obviously identify positive success and negative leadership as the cause of project failure. The characteristics of leadership are further identified. It can be concluded that organizational effectiveness requires the project managers to combine their technical competency with the ability to develop and display leadership.

Keywords: *effective project management, leadership, organizational effectiveness, project management tools*

1. Introduction

Today's complex project environments need even greater skills at leadership than ever before. Performance expectations for quality, cost effectiveness, timely delivery, and a host of other client measures are ratcheted-up a mark each year. In the highly competitive field in which most projects operate, be they external or internal, the requirement to produce results that exceed client expectations has become the norm. The days when costs overrun and delayed completion were common are history. Thus are the projects where technical personnel were once allowed to "experiment" until they got it right. With the managerial practices of outsourcing, downsizing, total quality management and continuous improvement becoming even more predominant in the organizational environment, it can be expected that project managers are experiencing increased performance pressures. In view of this, the research paper emphasized the leadership profiles of project managers engaged in infrastructure development projects in Northern Region of Sri Lanka.

1.1 Objectives of the Research

This research mainly focused on the following objectives related to project managers' profile in managing development projects. The main objective of the study is

"To identify the Leadership profile with technical competency of project managers engaged in development project in Northern Region that required for Organizational success".

In addition to the main objective this research concentrated the followings as sub objectives.

1. To identify the extent of relationship between the leadership factors and project managers' effectiveness.
2. To find out how much the visionary and technical competencies have impact on project managers' effectiveness.
3. To identify other factors that contribute to the success of a project
4. To analyze How the project management tools are used by the managers for Project Success
5. To make recommendation to improve the levels of competencies of project managers

2. Literature Review

Jeffrey Pinto and Om Kharbanda shed light on this problem in two journal articles published in *Business Horizons*, "Lessons for an accidental profession" (1995) and "How to fail in project management" (1996). These authors emphasized the increased need for project managers. "Increasingly technically complex products and processes, vastly shortened time-to-market windows, and the need for cross-functional expertise make project management an important and powerful tool in the hands of organizations that understand its use" (Pinto & Kharbanda, 1995). In their follow-up article, "How to fail in project management," the authors write a stinging criticism of the practices that combine to produce project failures (Pinto & Kharbanda, 1996). Karen Ayas (1996) takes a broader brush to the whole issue through what she describes as a "project network structure." The design of the system should "stress the synergies between organizational strategy, structure, culture and systems to allow organizations to build and expand learning capacity." The application of "process management view" to project management was reported in *Harvard Business Review*.

The study of leading companies such as AT&T, Hewlett-Packard and Raychem over an eight-year time span led the author to report that, "managers can benefit by applying a process management approach to their product development process. Companies can create an aggregate plan that allows them to assign practices to their projects with an estimate of needed resources ... managers can eliminate congestion and long hours by evening out workloads" (Alder, Mandelbaum, Nguyen, & Schwerer, 1996). (See also Jungen & Wowalczyk, 1995.)

Bob Lewis (*Info World*, 1996) sets forth the five keys that he believes differentiate successful projects from the others: scope control; regular, concrete, reasonable results; weekly status meetings; team buy-in to the plan; and walking around.

Project management is considered a vital tool for the implementation of business process reengineering. "Project management allows organizations to break things down into simple processes and assign these activities and modules to individuals. This approach helps organizations identify existing built-in dependencies among processes...A multidimensional forum for enterprise wide visibility is essential and will lead to significant productivity and cost savings...Project management is the organizational 'glue' that binds together dispersed, high accountable teams throughout the organization. Teams will seek and demand a framework to ensure their success under the new rules of rapidly changing, intensely competitive markets.

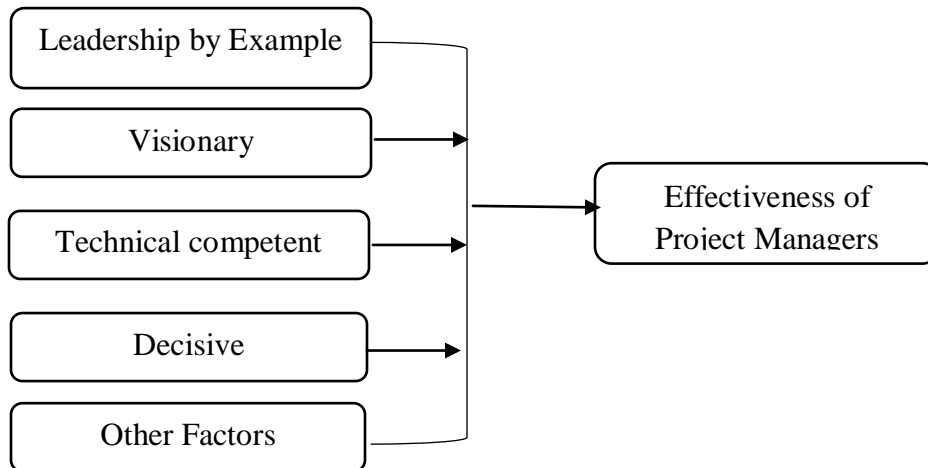
Project management provides the framework, encourages dispersed leadership and provides visibility of effort to stakeholders throughout the organization" (King, 1996). Clearly, project managers are being viewed as crucial leaders in the introduction and implementation of both operational and behavioral managerial changes. Are project managers viewing their roles and responsibilities in the same light as the authors of leading journal articles? What do practicing project managers believe are the critical characteristics necessary to be effective? On the other hand, what factors contribute to producing ineffective project managers? On the operational side, what do they see as the primary causes of projects that fail to meet budgetary and time constraints? What do they see as the most effective project management "tools," and the extent to which these "tools" contribute to the success of a project? Finally, how powerful is "the leadership factor" in the success of a project and what are the specific characteristics and behaviors of leaders that will have a positive influence on organizational effectiveness in the next decade? The authors found no research that specifically addressed these questions nor reported results obtained directly from project managers.

3. Research Methods

3.1 Conceptualization

Conceptual Frame of the study was derived from literatures and previous researches in project managers' profiles and project management.

. Figure -3.1 : Conceptualization Model



Source: Developed by Researcher

3.2. Population and Sample

Population of the study covered related executive officers of District and Divisional secretariat, Project managers, core clients, and other core stakeholders of the development projects in entire Northern region of Sri Lanka(it includes 426 people). Stratified random sampling method was used to collect the data in order to justify the respondents' views. Sample size of the research was 60 (it is around 14% of the population)

3.3. Data collection & method

The questionnaire was composed of both open-ended and forced-answer questions. In addition, the respondents were asked their agreement or evaluation of several statements through the application of a traditional five-point Likert scale ranging from a high of 5 to low of 1. The completed questionnaire was then pretested by 10 project managers and executives in a number of projects. All suggestions were incorporated into the final questionnaire being as a research instrument. The questionnaire was distributed to a selected sample of 60 respondents involved in those projects as managers and executives who, it was assumed, would possess a wealth of experience regarding the issues being considered.

The authors received 59 usable responses to the research instrument from the mailing of 60 respondents. The extremely high response rate was due in part to an aggressive pre-mailing and post-mailing telephone campaign. The respondents were all relatively senior project managers with a minimum of 05years' experience in project management. All of the project managers surveyed were employed in infrastructure development projects.

3.4. Hypothesis testing

The following hypothesizes were tested to check the relationship between variables and predict the impact of the independent variables on Effectiveness on project managers. In this view, the first hypothesis was formulated and tested by using multiple correlation analysis. And second and third were formulated and tested through regression analysis. The final hypothesis was tested through descriptive analysis (Mean & Standard deviation).

H1: There is a strong relationship between the leadership by example and effectiveness of project managers.

H2: Visionary and Technical competencies have more impact on the effectiveness of project managers

H3: Other factors also have significant impact on the effectiveness of project managers.

H4: Project management tools used by the managers similarly influence on Project Success

4.0. Data presentation and Discussion

4.1. The Characteristics of Effective Project Managers

The following results (presented in Table4.1) were obtained from an open-ended question that asked respondents to list, in rank order, the characteristic that they believed was essential for effectiveness.

Table 4.1. The Most Significant Characteristics of an Effective Project Manager

Rank	Characteristics of an effective project manager
1	Leading by example
2	Visionary
3	Technically competent
4	Decisive
5	A good communicator
6	A good motivator
7	Stands up to upper management when necessary
8	Supportive team members
9	Encourages new ideas

Other Factors

Source: Analyzed data

In respondents' view, leading by example and visionary leadership were considered as most significant traits in order to become an effective Project Manager. Possibly the most interesting aspect of the project manager's responses to this question was the fact that technical competence was the third highest rated characteristic. Eight of the nine characteristics were managerial in nature, reflecting a basic understanding that effectiveness is directly related to the ability of the project manager to lead and manage more than simply possess exceptional technical skills. This finding is consistent with the academic literature, but is more powerful when drawn from open-end responses of experienced practicing project managers.

4.2. Factors Contribute to Ineffectiveness among Project Managers

In order to examine the objective, the project managers were then asked, via open-ended questions, the specific nature of personal flaws of project managers that directly contribute to ineffectiveness, as well as the organizational factors that produced the same results. The intent of these questions was to identify how the factors contributed to producing an ineffective project manager. To a large degree the personal flaws are a reverse image of the characteristics of effective project managers from Table 4.1. There seems to be a good deal of internal consistency among the respondents (see Table 4.2).

Table 4.2. Factors Contributing to Making the Project Manager Ineffective

Personal Factors	Percentage
Lack of upper management commitment	32.5
Sets bad example	27.5
Not self-assured	21.7
Lacks technical expertise	20.3
Resistance to change	19.7
Inconsistent reward system	14.6
Poor communicator	10.8
The organization reacts to events rather than plans for them	8.9
Lack of resources	8.2
Poor motivator	6.2

Source: Analyzed data

The organizational factors that contribute to becoming an ineffective project manager are equally relevant, but not surprising. Lack of upper-management commitment and support is a well-documented source of project problems. The project management literature has addressed each of the organizational barriers to effectiveness and it is again reinforcing to discover that the responses document that practicing project managers' perceptions fully support the literature. Resistance to

change and a reactive approach to environmental turbulence are signs of a firm struggling with adjusting to new competitive conditions. Traditional reward systems are generally not well suited to project management. Traditional reward systems tend to have very little direct linkage between the performance criteria of a project and compensation. When the realistic expectations for the project are not considered in the compensation plan, it can be expected that dissatisfaction with the compensation or reward systems are bound to be voiced. Project managers know that under difficult competitive conditions, jobs are taken to keep the staff utilized and the expected profit margin is possibly at breakeven. It is often just as difficult to manage a project with no expected profit as one with above average profit expectations.

In addition, reward systems seldom reflect the nature and varying degrees of difficulty of the task and often focus solely on the final profit numbers. Failure to develop a reward system that reflects the specific nature of the project can create potential long-term conflicts. Logic would suggest that a firm would want one of its best project managers to lead such a project to ensure success.

In too many cases, organizational insensitivity to the negative realities created by poor organizational practices and policies are not understood or simply ignored. The result of these negative practices and policies is the eventual destruction of a potentially high-quality professional staff. The lack of top level management support and commitment results in a complete breakdown of belief and respect.

4.3. The Project Management “Tools” Most Frequently Used

Managing a project requires the skillful application of project management tools that are designed to assist the project team complete the project on time, within budget, and to the satisfaction of the client.

Table 4.3. The Use and Contribution to Success of Key Project Management Tools

Project Management Tools	Extent of use by the Project Manager		Extent of contribution to the success of the Project	
	Mean	SD	Mean	SD
Project execution plan	3.871	1.166	4.174	1.028
Project schedule	4.653	0.723	4.629	0.820
Project Organizational chart	3.725	1.211	3.280	1.132
Project earned value report	2.912	1.116	3.135	1.154
Project cost system	4.310	0.955	4.334	0.863
Project budget	4.643	0.703	4.414	1.080
Work breakdown structure	3.273	1.089	4.615	0.823
Client communication log	3.754	1.168	3.301	1.076

Source: Analyzed data

Table 4.3 displays the responses from experienced project managers regarding the extent to which they use eight recognized project management tools and the extent to which the tools contribute to the

success of a project. As you would expect, the two highest rated tools (actually tying for first) were the project schedule and the project budget. Irrespective of project size or complexity, these project tools were rated highest in use and first and third in terms of contribution to the success of the project. Of the eight project management tools that the respondents were asked to evaluate, nobody were reported to be of no value. Some of the more detailed tools were used less often and consequently may have been perceived as less valuable to project success. Despite the discussion in the project management literature regarding the need to increase the degree of accuracy in the determination of the percentage of project completion, the “earned value reporting tool” was rated the least used and correspondingly reported to have made the least contribution to the success of a project. The top five project management tools most often reported as used (project schedule, project budget, project cost system, project execution plan, and client communication log) were also rated as making the greatest contribution to the success of the project. Clearly, more effective project managers exercise managerial discipline in the consistent application of what they have found to be the most valuable project management tools for achieving success. While testing the hypothesis 4 (**H4: Project management tools used by the managers similarly influence on Project Success**), it is therefore accepted through the analysis.

4.4. Other Factors That Contribute to the Success of a Project

In addition to the direct managerial actions that project managers can take through the implementation of project management tools, project managers focus on their managerial and leadership skills as controlling sources of influence that contribute to the successful completion of projects.

Table 4.4. Factors Contributing to Successful Project

Source of influence on successful completion of the project	Mean	SD
Decision by the client	2.908	1.061
Responding to change client request	3.882	0.737
Desire to excel on the project	4.523	0.757
Decisions by the project teams	4.292	0.766
Decisions made by top level management	4.352	0.977
Internal Politics	2.789	1.023
External politics	3.251	1.011
Pressures from inside the project	4.168	0.734
Pressures from outside the project	3.356	0.167

Source: Analyzed data

Table 4.4 reports the source of influence on successful completion of a project as reported by the project managers surveyed. As projected, “desire to excel” was the strongest influence, reflecting the strong positive personal motivation of project managers to make every project they lead a success. “Decisions made by top level management” was rated as second. The third source of influence on the

successful completion of a project is the “The decision made by the project team”. And “the pressures from inside the project” were the next highest rated sources of influence reflecting the need for the project manager to focus on the leadership of the project team. “Responding to change client request” also has significant influence on successful completion of projects. The respondents’ opinions, other factors have less contribution to the success of projects.

4.5. Leadership Factor and its impact on Project Success

Given the many factors that can directly or indirectly influence the success of a project, do project managers believe that there is one overriding factor that contributes to whether a project will be a success or a failure? In fact, the answer is yes. When asked to weigh the percentage of success or failure of a project that can be contributed directly to the pressure of either positive or negative leadership the responses were powerfully revealing.

Table 4.5. The Impact of Project Manager Leadership on Success of Projects

Leadership	Project success/failure (%)
Positive Leadership	78.76
Negative Leadership	69.66

Source: Analyzed data

Positive leadership contributes almost 76% to the success of a project. Consider what this response means. Variation in project success can be contributed to the leadership displayed on the project by 79%. Equally meaningful is the second statistic: negative or poor leadership contributes 70% to the failure of projects. Clearly, firms that fail to train and reinforce the need for project managers to practice positive leadership seem to run an unacceptable risk. In a recent interview with five vice presidents of major engineering consulting firms, a question was posed regarding the number of projects in the past five years that failed due to a lack of technical competence on the part of the project manager or the project team. In what was estimated by them to be more than 1,000 projects, both large and small, the executives could recount only 10 failures due to lack of technical competence. Yet, when you ask most company executives what the most critical criteria for promotion to project manager is, technical competence generally leads the list of responses. Possibly what is absent is the recognition that technical competence must be supported by persons who are capable of managing a project and providing positive leadership to the team.

All the evidence of recent research supports the idea that successful projects are led by individuals who possess a blend of technical and management knowledge, but beyond both, leadership skills. Sensitivity to the client’s needs, the composition of the project team, the strategic importance of the project to the firm, and the technical requirements of the project reflect themselves in a continuous stream of communication and personal interactions that serve to reveal the true nature of the project manager. Project managers were asked to rate 50 characteristics or behaviors that they believed, based on their experience, would have a positive influence on organizational effectiveness.

Table 4.6. The 10 Highest Rated Characteristics and Behaviors

Rank	Characteristic / behavior	Mean	SD
1	Team builder	4.635	.632
2	Communicator	4.634	.615
3	High Self – esteem	4.589	.779
4	Focus on the result	4.523	.624
5	Demonstration of trust	4.514	.726
6	Goal setter	4.507	.734
7	Demonstration of respect	4.473	.780
8	Flexibility in response to change	4.465	.771
9	Team player	4.457	.771
10	Employee developer	4.380	.763

Source: Analyzed data

Table 4.7. The 10 Lowest Rated Characteristics and Behaviors

Rank	Characteristic / behavior	Mean	SD
1	Strategic thinker	3.255	1.211
2	Highly structured behavior	3.266	2.117
3	Charismatic personality	3.431	0.922
4	Accepts flows of others	3.451	0.962
5	Effective organizational politician	3.523	1.041
6	Role model in the organization	3.622	0.885
7	Utilizes a network of contacts	3.784	0.942
8	Accept responsibility	3,789	1.620
9	Technical expert	3.843	1.161
10	High level of managerial skills	3.932	0.901

Source: Analyzed data

Tables 4.6 and 4.7 highlight the highest and lowest rated characteristics and behaviors and reveal some very interesting findings. The highest rated characteristics and behaviors build a profile of an individual that most of us would wish to work for. The profile reveals a leader who recognizes that it is absolutely

essential to build a project team, reinforce positive behavior, communicate, demonstrate trust and respect, develop team members and empower them to perform and set goals while remaining flexible to respond to the inevitable changes. Important by their absence from the “golden dozen” are characteristics and behaviors such as technical expertise, individualistic, effective organizational politician, or detail oriented. The profession has moved beyond the mind-set that the best-qualified individual to promote to the project manager’s position is the best technical person or some flashy politically savvy character with the “right contacts.” Table 4.8 reports the characteristics and behaviors that practicing and experienced project managers rated as the 10 least important characteristics for the achievement of organizational effectiveness. Some of these responses were a surprise to the researchers while others were not. They (Project managers) rated “strategic thinker” very low. This may be explained by the fact that many project managers are totally operations-oriented and become involved only when the job is sold. In terms of preparation for promotion into the firm’s executive ranks this shortcoming could be costly. However, this lack of recognition of the need for the practice of strategic thinking may explain the managerial practices of some organization who employ project managers.

4.6. Major Hypothesis findings

The conclusions regarding hypotheses have been made in the following sections.

Correlation analysis was performed to test the strength and direction of the liner relationship between the leadership by example and effectiveness of project managers. The result shown in the table 4.8 indicates that there is a strong positive relationship (0.891) between the leadership by example and effectiveness of project managers (H1: There is a strong relationship between the leadership by example and effectiveness of project managers). Therefore the first hypothesis is accepted in favour of the research hypothesis

Table 4.8: The relationship between Leadership by example and Effectiveness of project managers

		Lead by example	Effectiveness
Effectiveness	Pearson Correlation	.891(**)	1
	Sig. (2-tailed)	.000	
	r ²	.794	
	N	59	59

Source: Analyzed data

In order to test the second and third hypothesis, liner multiple regression model was applied.

In this model (see table 4.9), beta (Standardized Coefficient) for leading by example, visionary, technical competencies, decisive and other factors are respectively 0.238, 0.238, 0.243, 0.142 and 0.161. Which indicate that the impact of such variables on effectiveness of project managers are respectively affected by 23.8%, 23.8%, 24.3% , 14.2% and 16.1%.

These figures emphasize that leading by example, visionary, technical competencies have more impact on effectiveness of project managers. (H2: Visionary and Technical competencies have more impact on

the effectiveness of project managers). Further, the other factors also have considerable amount of impact (16.1%) on effectiveness of project managers. (H3:Other factors also have significant impact on the effectiveness of project managers).

Table 4.9: Impact of variables on the effectiveness of project managers

Model		Standardized Coefficients	T	Sig.
		Beta	B	Std. Error
1	(Constant)		2.685	.008
	Leading by example	.238	4.622	.000
	Visionary	.238	4.400	.000
	Technical competencies	.243	6.641	.000
	Decisive	.142	7.991	.000
	Other factors	.161	4.311	.000

Source: Analyzed data

Hence the second and third hypothesis are also accepted. The fourth hypothesis finding was stated in previous analysis (see the last paragraph of the sub section 4.4).

5. Conclusions

The results of this research can be concluded that organizational effectiveness requires project managers linked with the development projects to combine their technical competency with the application of established project management tools that support project planning and control, and the need to practice leadership skills that are compatible with the internal motivation of the project team and externally compatible with client focus strategies.

As the pressures of global competition become more distinct and the client's need to develop strategic partnership grows, performance expectations will increase correspondingly. It should be expected that the turbulent global competitive environment will remain a continuing source of change. Only firms that dominant the skills of early identification, selection, training, and development of project managers can expect to remain successful. Once the key project managers are in place, the firm's upper management must develop and implement a mutually beneficial reward and reinforcement process that recognizes the organizational reality that all revenues and profits are earned at the project level. In the long-term, upper management cannot be considered competent if the projects that generate shareholder value fail. The linkages between long-term organizational effectiveness and the management flow directly over every project leader.

6. Recommendation

As a result of the survey, findings and observation during the research period, the researcher proposes to deal with some vital issues arising out of the study, make some specific recommendations and put forward some suggestions for effective implementation of project management practices and for further research in this line. Such recommendations are

1. Project managers need to accelerate their levels of competencies as the survey indicated that the technical competencies has more impact on the effectiveness of project managers.
2. People involves in managing a project should “know” and “know how” the applicable project management tools and programme.
3. In project implementation phase, it is highly recommended that the managers have to behave as a team leader to be succeeded in their projects.
4. Managing a project towards success also depends on the project managers’ involvement and commitment. (Desire to excel on the project has more contribution to the project success). Thus the managers need to increase their involvement and commitment on project management functions.

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