

## Traits and Skills Required by Project Managers to Complete Construction Projects in Guyana's Civil Engineering Firms

Latchman Singh<sup>1</sup>, S. P. Sreekla<sup>2</sup>

<sup>1</sup>Public Works Department, Regional Democratic Council, Mahdia, Region # 8, Guyana, South America

<sup>2</sup>Centre for Research and Development, School of Management, KPR College of Arts Science and Research, Coimbatore, India

### Abstract

*This paper will highlight the important features of Project Management Traits and Skills and identify the most effective skill set to produce a successful Construction Project. The paper is laid out with a general introduction of the key concepts of Project Management, specifically Construction Project Management, it then examines the crucial traits, skills, and characteristics and determines based on research of works completed as to the combination that is most likely to achieve project success. It was established that Interpersonal skills, leadership, effective communication, and prompt technical skills were likely to produce the most successful project. The purpose of the research study is to place, in the research linguistics, the methods and instruments to be used in the research model, from the location of the type of study and the design of the research; its world or population; its samples; and the instruments and techniques of data collection. The techniques used in this study will be based on the literature, review of standards of traits and skills, studies, and research undertaken previously, which will allow to gather the information needed to make findings and conclusions and develop the Risk Management Plan. The result was identifying traits and skills needed by Project Managers to compete and complete construction projects and how project managers must operate and respect the professional codes of their field, particularly the responsibilities that surround all facets of project management.*

**Keywords:** *Communication, Ethics, Emotional Intelligence, Project Manager, Skills, Traits.*

### Introduction

Project Management existed in practice for centuries before the term was formally coined. Projects were imagined and executed very differently from what is obtained in today's world. The skills and traits of a Project Manager have been studied, tested, and documented for decades but the debate continues into what exactly assures the desired outcome.

Historically, projects were managed by technical specialists (architects, engineers, etc.) who would be integrally entwined in the project. It is common for a Project Manager to be a specialist of sorts and then progress

through the rank and file, ultimately becoming a manager for projects after significant knowledge and experience have been earned. This tradition gives support to the trend of becoming technically proficient before acquiring the managerial skills needed. They would possess technical knowledge which translated to trust from clients and others who would be comfortable with a technical expert as the Project Manager. He would be able to demonstrate an in-depth knowledge of the project details and operations.

The skills and traits suggested by many scholars and authoritative bodies boast an extensive list. Given these lists, it seems

wishful to expect one person to be competent in all. As delegating is a key skill for a manager, it would follow that a project manager only needs to manage people with the required skills. It is acceptable for project managers to only possess awareness in some skill areas. In those areas where they lack proficiency, they can recruit professionals with the technical skills to fill those gaps. Civil Engineering firms also require a wider array of skills, especially in the Consultancy Management focus and how this aspect can better equip and aid construction management.

There are many reasons why projects fail and similarly so for projects that succeed. Is there a recipe for success or are there some distinct characteristics that define failed projects? Alternatively, is there a set of characteristics that define successful projects? This paper seeks to explore the established theories about the skills and traits required of a Project Manager to deliver successful construction projects. It will further evaluate the most critical skills identified for success.

The design of this research is non-experimental, and trans-sectional as we make the description of the variables, as demonstrated in the analysis of the same, considering its interrelation and incidence, in these designs the data collection will be carried out only once, and in a unique time frame.

## **Literature Review**

### **Project Manager Traits, Skills, and Project Characteristics**

Many experts have contributed to developing comprehensive task lists which each believed to be the definitive list of a Project Manager's tasks. [1] published comprehensive lists of tasks that share many commonalities. As the description of these tasks overlaps with those of much older professions, (architect, quantity surveyor, civil engineer, etc.) there are bound to be conflicts arising out of a claim for turf. The project manager will have to distinguish himself by adopting the essential characteristics and traits that are believed and proven to empower him to be successful.

This literature gap sets out to identify and explore the gaps/current relationship between key managerial competencies, and the lack of them within the industry.

Sources to be used are as follows:

#### **Construction Industry Council**

The publication [1] outlined five topic areas in which the skills of a project manager are grouped into strategic, project control, technical, commercial, organization, and people. Each skill is further grouped into two areas in which the project manager should be competent (i.e., must have received training and gained experience by regularly practicing) and aware (through formal education, technical reading, and being exposed to others practicing the various skills).

The below diagram (figure 1) as published by [1] illustrates the skills that the project manager should be aware of and those in which he/she must be competent.

		Strategic				Project Control				Technical				Commercial			Organisation & People										
		Strategic planning	Value management	Risk management	Quality management	Safety, health and environment	The Project control cycle	Developing a schedule	Monitoring	Managing change	Action planning	Client / Project interface	Information management	Design management	Estimating	Value engineering	Modelling and Testing	Configuration management	Business case	Marketing and sales	Financial management	Procurement	Legal issues	Organisation structure	Selection of project team	People issues	
Project Manager	Competence																										
	Awareness																										
Design Manager	Competence																										
	Awareness																										
Construction Manager	Competence																										
	Awareness																										
Trade Contractor Manager	Competence																										
	Awareness																										

Figure 1. Figure Showing Skill Type Requirement for Project Managers

The result of the figure above outlines a picture of the project management situation in the global construction industry and the increased demand for this skill set. New industries are adopting project management and reaping its benefits along the way. PMI job growth to these competencies and awareness are important contributors to productivity.

**According to [2]**

“The Skills and career path of an effective project manager” [2]. Through questions posed to project managers and reviewing existing management literature, he concluded that there are three main skill areas as described below.

**1. Human Skill**

The Project Manager will need to work in a team recognizing the attitudes of his managers, equals, and staff about how he behaves.

**2. Conceptual and Organizational Skills**

The Project manager must be able to visualize the entire project from the beginning to the end so that if there is a change in a certain aspect of the project, he should be able to understand how it would affect the outcome and adapt accordingly.

**3. Technical Skill**

Technical skill refers to the Project Manager being skilled in a specific activity.

He must be able to use the tools and techniques required of the specific discipline.

Based on the data acquired and displayed by graphs and tables in his presentation, human skills have the greatest influence, and technical skills have the least influence on project management practices.

**Project Management Institute [3]**

Although a project may be well funded and consist of highly trained and experienced individuals, if these resources are not skillfully coordinated there is still a risk of falling short of the project goals [3]. They stated that a Project Manager should be competent in the following areas:

**1. Knowledge Area**

The Knowledge area identified is broken up into three skill groups: general management skills, project management skills, and industry skills. General Management skills refer to those skills that are required when functioning in a management position (leadership, negotiation, communication, team building, and other human resource management skills). The project management skill area speaks of the knowledge of basic processes, tools used,

and the scope, time, and cost management factors. Industry-specific management knowledge refers to the management of the lifecycle of specific projects and methods of product development concerning specific industries.

## **2. Proven Experience**

This area speaks to several factors such as the extent of the Project Manager's professional experience, his reputation, actual hours spent on projects, and the complexity of those projects.

## **3. The Personality Area**

Both personal characteristics and people management skills make up this area and are often touted to be the most important. Personality characteristics refer to such things as confidence, enthusiasm, open-mindedness, adaptability, and personal integrity, while people management skills are those that enable the Project Manager to effectively communicate, motivate, influence, and be politically sensitive. Emphasis is placed on the political sensitivity attribute as projects are executed in an environment highly influenced by politics.

Additionally,

## **Project Management Institute [4]**

Hard skills versus the soft skills of a project manager. He noted that [4],

It is impossible to realize the value of a powerful microprocessor unless it has contacts outside of itself, is connected to them, and can communicate with them. Likewise, technical professionals must master communication to be effective.

Project Managers must possess two types of hard skills – technical skills within the project area (if a bridge-building project, then the Manager should know about bridges) and project management skills (specific items such as Gantt Charts, calculating Earned Value, etc.). Soft skills are required to realize the value of these hard skills. He posited that soft skills are

more about behavior and the application of those behaviors rather than about knowledge and can be narrowed down to a few foundational skills, such as the ability to engage and interact effectively with others. He concluded that the foundational soft skill is simply and definitively about communication.

## **Results and Discussion**

### **Evaluation of Skills and Characteristics Considered Essential for Successful Project Management using Consultancy Services**

While the extensive lists of skills and characteristics of successful project managers are generated and categorized (technical, social, etc.), it is unclear as to which skills a project manager should exhibit consistently high competency levels or whether these should vary concerning the nature of the project [5]. They did, however, point out that it is well established that the environment in which projects are executed is changing along with the teams associated with those projects.

According to [5], Others agree that project manager performance and project success are strongly linked. The main cause of project failure is a lack of project manager leadership [6]. Project manager ability is among the most essential elements leading to strong project performance [7].

Some of the most important skills in which the project manager is required to be competent are discussed below.

### **Emotional Intelligence**

Every project is unique in its details, scope, team, and skill required. While there are certain standard skills required for project success, in some cases one skill will take precedence over another. One specific skill that continues to evolve and play a major part in project success is Emotional Intelligence. Emotional Intelligence is identified as a soft skill as it does not require technical expertise or traditional knowledge of the project. According to [8], the

term was first partially identified by Edward Thorndike in 1920 as Social Intelligence. However, the definition was limited as it only covered the "ability to understand and manage people." Davis went on to credit Wayne L. Payne who in 1985 expanded on this to create a more complete definition by acknowledging the elements of outward as well as inward considerations.

"Project management is at least 50% people management" [9]. Strohmeier in 1992 posited that project managers spent approximately 88% of their working hours interacting with different stakeholders [10].

Emotional intelligence as defined by [11] is the "ability to monitor one's own and other's feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions". Therefore, a Project Manager should be able to effectively manage his emotions, the emotions, and interactions of his team, and even extend as far as managing the client.

Emotional Intelligence is becoming a common element of focus amongst organizations and evidence of its link to successful leaders is emerging. Having a Project Manager who is emotionally intelligent means that he is sensitive to the team members' reactions and can foster an environment of communication and cooperation. Lots of highly qualified and intelligent individuals are unable to interact meaningfully with people, which often creates barriers and conflicts.

The Project Manager will need to possess this skill to transform the stakeholders from a group to a team, as professionals will be bringing their unique experiences and ideas. Conflicts will often arise which are not necessarily detectable at first. A Project Manager with high emotional intelligence will be able to penetrate these barriers.

There are a host of real-life examples and research that proves that Project Managers need to possess this quality. According to [12], "Research shows that people with strong

emotional intelligence are more likely to succeed than those with high IQs or relevant experience." He went on to list a few examples of research that was conducted in this field:

1. The Center for Creative Leadership found that the primary causes of executive derailment involve deficiencies in emotional competence.
2. A global executive search firm worked with hundreds of executives and discovered the ones that had a higher probability to succeed were the ones with a high emotional intelligence trait as opposed to those with a high IQ or experience in a relevant field [13].
3. The study by the Carnegie Institute of Technology highlighted that 85% of financial success is due to "human engineering" skills, personality, and the ability to effectively communicate. Technically the component was ascribed to 15% [14].
4. "After supervisors in a manufacturing plant received training in emotional competencies such as how to listen better, lost-time accidents decreased by 50% and grievances went down from fifteen per year to three per year [9]. The plant itself exceeded productivity goals by \$250,000", [15] went on to analyze productivity as being the key measure of manufacturing companies.

## **Communication**

The ability to communicate effectively is an essential characteristic for a Project Manager to cultivate. There is a popular adage that communication is a two-way street, but in the case of project management, communication requires a much wider "road" network. The Project Manager needs to be able to regularly communicate effectively with his team, clients, and third parties and manage the communication among these parties as well. He is required to act on behalf of the client as well as sustain an efficient and well-functioning

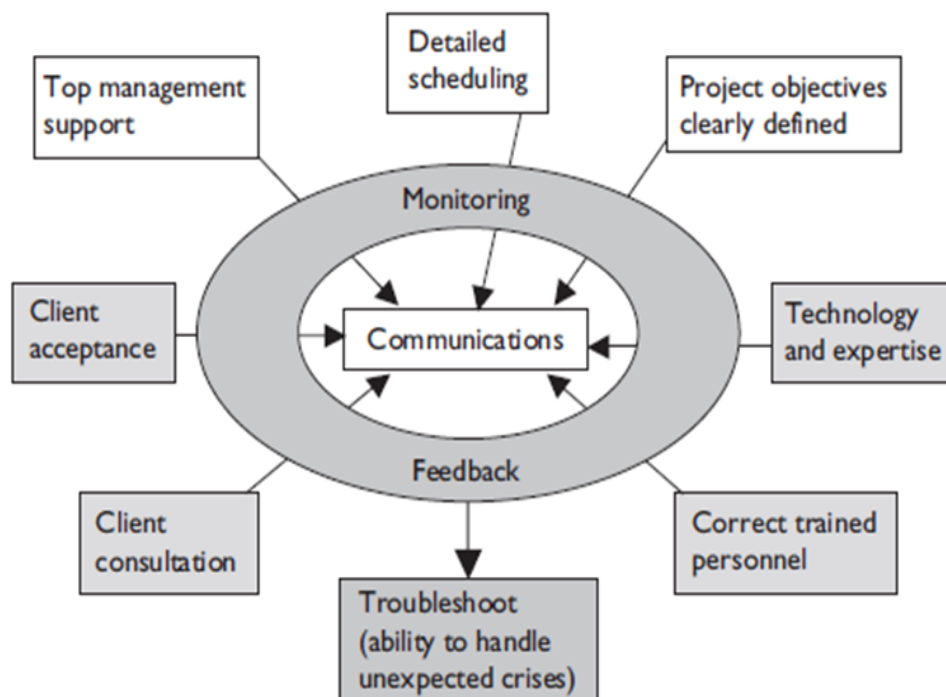
project team. Because of this, communication is of paramount importance [16].

In the Caribbean, CARICOM promotes the free movement of the workforce among the Caribbean Community. Similarly, migration trends and globalization indicate that a Team may be comprised of people with varying backgrounds, ethnicities, languages, and dialects. Due to the need for cultural sensitivity, such factors can lead to miscommunication on certain key facts which can affect a project's success. Even though the Caribbean community is mostly English-speaking, dialects and slang often skew conversations giving rise to gross misinterpretations which in turn feeds conflict and confusion.

In the case of the Boeing 747 Dreamliner Project, [17] noted that one of the aims of outsourcing was to increase profits and reduce the timeline, but the opposite occurred as the Project overran its schedule in all conceivable aspects and overall costs. The Project did have a few success stories, but one downside was due to issues about communication. While the language differences proved challenging, which often led to no or inaccurate information

being transmitted, the failure to input correct information into a new web-based computer system was even more evident. Boeing increased its costs and schedule as it had to put measures in place to combat these challenges by sending representatives on the ground in each country to resolve the issues identified.

As evident in the diagram below (figure 2), by [9], communication depends on the number of people involved in a project as well as understanding and utilizing the best method of actual communication for the project. The Manager must decide on the perfect recipe for meetings, emails, memos, verbal communication, etc. In a construction project, for example, email may not be an effective means of communication with the actual construction team who will spend more time on site than at a desk. In the same project, however, communication via email with the client may be the most effective way of communication. As such, the Project Manager is tasked with managing these methods and essentially "translating" all elements into one standard "language" to ensure that all relevant parties are clear on the critical elements of the project.



**Figure 2.** Factors of Success

## **Ethics**

Ethics is particularly relevant in construction project management [9]. It is tied directly to the Project manager's reputation. Ethics refers to “the duties owed to the public, to each other, and themselves regarding the exercise of their profession” or doing that which is right. [18], went on to say, “The cause of ethical failure in an organization can often be traced to its organizational culture and the failure on the part of the leadership to actively promote ethical practices.” This can be expanded to include an entire country such as those with small populations where everyone is influenced and exists in the same environment. A conviction of what is right and wrong is often relative and justified based on one’s belief and experience [18].

In a developing country like Guyana, with a small population of less than 800,000 people, qualified Project Managers are few whereas available public construction projects are many. Construction contractors are constantly and often tempted to solicit information such as engineer’s estimates and other internal information in exchange for money which can give them a significant advantage in securing a bid. During the execution phase of projects, the detailed and thorough inspection and certification can be marred by corrupt clerks of works and engineers who inflate Bills of Quantities and approve shoddy work to ensure a kickback after the project is closed.

Construction companies, government agencies, financial and funding institutions, and insurance companies face significant threats due to unethical practices such as bribery and under-the-counter gifts. These often end up in extorting, embarrassing investigations, criminal prosecutions, fines, and damage to the economy at large. The Project Manager with a poor ethical code will jeopardize not only his reputation but the project with potentially wider effects [19].

Since the construction sector is a major revenue generator for most countries it can

become a great danger when unethical practices are rampant as economic growth can be stymied. Transparency International in a report in 2011 stated that the construction industry is the most corrupt of any sector and that it not only enriches the corrupt but adversely affects the supply of essential goods and services to the population such as medicine and housing. Companies are now required by some agencies to demonstrate adequate steps have been taken to assure that their representatives will not engage in bribery and corruption.

## **Conclusion**

There have been many academic contributions about the traits and characteristics of a Project Manager. In some cases, the only distinction between submissions is in the words used to describe the attribute or when one contributor leans towards what is referred to as the technical versus strategic traits or soft versus hard skills. Two themes remain common amongst the popular theories, however – strategic/managerial and operational/technical.

Although historically Project Managers were technically proficient which derived from experience and training, it is more widely accepted today that there is a direct path to becoming a successful and competent Project Manager with the skills and traits hinging more towards soft skills.

As the discussion and research continue, the importance of soft skills will continue to be widely researched and tested. It is without doubt that the Project Manager is the central element of the Project Team who acts as the gel amongst all stakeholders. Although projects vary and so do individuals, some key traits and skills will influence project success. There is certainly no single recipe to follow, and the proof of a successful outcome depends on the right combination of specific ingredients.

Humanistic traits and skills are an important aspect in all working environments, the construction sector has no exceptions, therefore, a meaningful plan must be instituted

to allow this parameter to be met. This plan will enable the implementation of the objectives to increase the probability of achieving the goals within the scope, time, cost, and quality.

A great Project Manager has high-quality training, an evolved set of skills, and the constant hunger to improve themselves, be able to instantly think of all the most possible consequences of any decision made on a project, and determine the most probable outcome, be able to collaborate with your team and be capable of asking for and taking advice and need to be a quick thinker.

The project manager must recognize and respect the professional codes of the other disciplines, and particularly the responsibilities of all disciplines to society, the environment, and each other.

It is essential, to ensure an effective and cost-effective service, that the project should be under the direction and control of a competent

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practitioner with a proven project management track record developed from a construction industry-related professional discipline.

Projects and project performance may vary along with the individuals who partake, but the traits and skills will influence the project's success. While there is no one precise format to have execution done, it will ultimately depend on the project team and manager.

## Conflict of Interest

I, Latchman Singh declare that there is no financial, commercial, legal, or professional relationship with other organizations, or with people collaborating with them, that could influence this research.

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