EFFECTIVENESS OF PROJECT MANAGEMENT TOOLS IN ORGANIZATIONS

Amr Ehsan Abdul Jalil Al-Aghbari[1]
[1]Faculty Of Finance & Admin. Science, AL Madinah International University,
Kuala Lumpur, Malaysia
eng.alaghabry@gmail.com

Abstract

This paper will focus on Project Management at the Public Telecommunication Corporation (PTC) on project success and failure, the failure of projects for organization is normally wasting organization's time, efforts, cost or most of them. The aim of research is to obtain efficient project management tools for the organization in order to achieve a project success. The main objective for the research is to concentrate on the project management tools and techniques and the relationship in between with the effective project management techniques.

The author will try to reveal the main sources for the failure of a project due to the lack of project management tools, aiming that from this research can focus on the project management tools matters and that will be considered more serious and professional to achieve organizational objectives. The benefits of effective project management tools might not be applicable for all scales of project and procurement activity. But it can be applied at all stages in the project life cycle, from the earliest assessments of strategy to the supply, operation, maintenance and disposal of individual items, facilities or assets. It has many applications, ranging from the evaluation of alternative activities for budgets and business plans, to the management of cost overruns and delays in projects. Questionnaires have been collected through an online survey and SPSS is used to analyze the collected data after three stages of cleaning process and finally preforming the analysis phase to reveal the research findings. The findings of the research would provide the company with quite information which is believed to help the company in future about using their available resources in a best way. So, the solution shows, what would be the scenario for the company in terms of resource usage and time required, which help to use their available resources in a best possible way in case of current and test condition, while communication skill and supporting from the management could help to give suggestions to overcome the problems in the earlier section of the projects. Moreover this research supports previous literature on Project Management worldwide, however this research provides a value to most cooperation that apply project management techniques in the region of Yemen.

Keywords: Project Management, Telecommunication Corporation, PTC, Project, Manager, Success, factors, technique, planning.

1. Introduction

Project Management has been recognized in the past years as an efficient tool for organizations in their daily work plan to achieve certain objectives or to achieve a respected accomplishment. It's more efficient than traditional methods of management for creating economic value for organizations. Project make more than 50% of all work carried out and as a result is deemed the vehicle for the execution of organizational growth. The accomplishment of project through the application and integration of the project management process of initiation, planning, executing, monitoring, controlling and closing, is known as project management. Top management and organizational project management are an essential part in the effective company strategy implementation. Strategic management involves formulation and implementation of the major goals and initiatives based on consideration of resources and an assessment of the internal and external environment in which the organization competes (Nag. R. H. D.-J., 2007). Nowadays projects are more complicated than before, and it's been involved large capital investments and embrace several disciplines, widely dispersed project participants, tighter schedules, and stringent quality standard and so on. This coupled with high speed development in Information and Communication Technology (ICT), these factors have greatly influenced project management practices in taking advantages of newly developed management tools and the latest technology. In this thesis we will examine project management methods used by General Organization for Telecommunications in Sana'a and choose possible tools and techniques in order to improve the efficiency and enable a successful result.

2. Research Questions and Hypostasis

Q1. Dose the relationship between project resource planning and Project success?

Q2. Dose the relationship between project management software tools and the project performance?

Q3. How can good Management communication skills increase project success?

H1: There is a relationship between Project Resource Planning and the Project Success.

H2: There is a relationship between the Communication Management Skills and the effectiveness of the Project performance.

H3: There is a relationship between project Management software tools and the Project Success.

3. Research Objectives

This research will concentrate on the project management tools and techniques and the relationship between the effective project management techniques and the organization objectives. There are several objective that this research be concentrating, some of this research objective is general and can be helpful for other organization and companies while other objectives will be conducted on the PTC in order to achieve a better accomplishment for the company. In this research will conduct and cover the following:

- To Effective project management can achieve organization objectives successfully by planning and organizing resources.
- To investigate the effect of enhancing project resource planning on the project's success.
- To investigate the relationship between Project management software tools and the project success.
- To Determine whether Project Management communication skills increase project performance or not.

4. Problem Statement

For organizations we might usually hear of this project being either over budget, late or didn't achieve goals; however, still other people allege that those projects have been successful. There isn't easy way to decide whether the project fail or success in their objectives even practitioners or the academicians seem to agree on what constitutes project success. It appears to be a rather elusive concept. A great number of decisions need to be taken during the project management process and usually the decisions that might be at the earlier phases of the design could have a bigger impact on the project management practice as compared at later stages or during project operation. Organizations focus on short term as well as long term goals and aim to success in their financial results with efficiency   and in scheduled time. For Public Telecommunication Corporation (PTC) is dealing with multiple projects and each project will have issue or problem should overcome to complete the project. On the other hand, in order to run the organization and all the projects they need to do some general activities like administration, marketing and sales.

Many academic and industrial researchers when coming in identifying project critical success factors (CSFs) have resulted in less attention given to corporate management practices. For instance, (Selvin., 1988) identified several factors related to successful implementation of numerous types of projects.

The earlier stages of any project is where all the project goals of the contractual parties like time, cost, performance, quality, safety and so on are established and put to the test to indicate the objective of the project. The degree of effectiveness of the project management functions and the degree of success of the project goals will determine the degree to which the individual party will perceive the project as being successful from its own viewpoint (LIM, 1999). Therefore, in this study we will try to identify the relationship between CSFs and the project management software tools and resource planning in the effect of the performance to determine the success of a project.

5. Literature Review

- PROJECT MANAGEMENT

According to (TAN, 1996), project management concept and techniques can be applied to any project ranging from simple task, office renovations or refurbishment to complex and complicated projects like the design and construction of an airport or hospital complex. Almost any project requires the application of art and science of project management. The level of technology needed the degree of sophistication of the tools and techniques plus the types and number of personnel involved will depend on the size complexity or nature of the project. (Au, 1989) pointed out that the management process approach emphasizes the systematic study of management by identifying management functions in an organization and then examining each in detail. There is general agreement regarding the functions of planning, controlling and organizing. The project manager's job is regarded as coordinating a process of interrelated functions that are neither totally random nor rigidly predetermined but are dynamic as the process evolves. Furthermore, the management science and decision support approach contributes to the development of a body of quantitative methods designed to aids managers in making complex decisions related to operations and production. In decision support system emphasis is placed on providing managers with relevant information.

"A project is an organization of people dedicated to a specific purpose or objective. Projects generally involve large, expensive, unique, or high risk undertakings which

have to be completed by a certain date, for a certain amount of money, with some expected level of performance. At a minimum, all projects need to have well defined objectives and sufficient resources to carry out all the required tasks." (Tuman, 1983)

Program management is a widely used and accepted approach to manage products, service and infrastructure development efforts. "Program management is the coordinated management of interdependent projects over a finite period of time to achieve a set of business goals," ((Milosevic, 2009)).

Characteristics about the nature of program management are described as follows:

1) Program management is strategic in nature and provides a focal point for ownership and accountability for business result.

2) Program management aligns functional objectives to business objectives.

3) Program management is cross project and multi-disciplined which enables horizontal collaboration.

4) Program management requires a capable business leader (the Program Manager).

An organizational program management team helps to ensure that a program is closely aligned to and directly supports achievement of the business' strategic objectives. The program management link to strategy by mixing with the different project management which are interdependent projects, products or services, and deliver a project outcome that meets the predefined strategic plan ((Milosevic, 2009)).

A methodology for project management observed that projects have common characteristics, which can be formalized into a structural process to manage projects more effectively. The project process and the development methodology are the means of getting from segment to segment. It can also provide a means for selecting the project management degree appropriate to the project. Each phase can typically be brought to closure in some logical way before the next project phase begins and each phase results in discrete deliverables which provide the starting point for the next phase. Cost and schedule estimates: plans, requirements and specifications are evaluated at the end of each phase, sometimes before deciding whether to continue with the project (Nicholas, 2001).

Project management is to support organization's execution of a strategy to achieve the organization objectives (Clifford F. Gray, 2002). Project management is a business processes and recognized as primary for organization during the latest period of time (Brian Atkin, 2009). Project management begins with planning of working tasks, costs and revenues. (zbornik, 2015). It is challenging for organizations and the primary challenge is to achieve project goals while having typical constraints of scope,

time and budget (David Cleland, 2006). (Turner, 1999)"A project is an endeavor in which human, financial and material resources are organized in a novel way to undertake a unique scope of work, of given specification, within constraints of cost and time, so as to achieve beneficial change defined by quantitative and qualitative objectives". For (Declerck, 1983)"a project is a whole of actions limited in time and space, inserted in, and in interaction with a politico-socio-economic environment, aimed at and tended towards a goal progressively redefined by the dialectic between the thought (the project plan) and the reality".

- PROJECT MANAGEMENT CRITICAL SUCCESS FACTORS

According to (Gittinger, 1972) he defines projects as a whole complex of activities involved in using resources to gain benefits. (Gittinger j. p., 1982) Explains that generally projects form a clear and distinct portion of a larger, less precisely identified program.

The factors which may cause the project management to fail:

- Inadequate basis for project.
- Wrong person as project manager.
- Top management unsupportive.
- Inadequately defined tasks.
- Lack of project management techniques.
- Management techniques miss-used.
- Project closedown not planned.
- Lack of commitment to project.

These factors would suggest that successful project management requires planning with a commitment to complete the project; careful appointment of a skilled project manager; spending time to define the project adequately; correctly planning the activities in the project; ensuring correct and adequate information flows; changing activities to accommodate frequent changes on dynamic; accommodating employees' personal goals with performance and rewards; and making a fresh start when mistakes in implementation have been identified.

A research was done by (Jamil, 2015) discussed Root-Cause Factors Effect on The Success of ERP Implementation Project and to find problems of failed enterprise resource planning found that failure reasons were defined in three ways:

Overrunning its budget by 30 % or more; overrunning its schedule by 30% or more; or failing to demonstrate the planned benefits. Of these, the failure by overrunning schedule was by far the most common. A total of 87 % of failed projects exceeded their initial schedule estimates by 30 % or more. This compares to 56 % of failed projects that exceeded their estimated budget by the same amount, and 45 % of failed projects which failed to produce the expected benefits.

Project size: A high number of failed projects were small projects; that is, they were scheduled to take 12 months or less to complete. Of failed projects, 60 % fell into this category. Looking at this 60 %, nearly all respondents (92 %) with small projects reported that these projects went over schedule. Of those with large projects (projected schedules of over 12 months) a lower percentage (86%) found meeting these schedules a problem.

An article written in OGC, "Common Causes of Project Failure" identified that common causes of project failure and consequently key questions to address are:

1. Lack of clear links between the project and the organization's key strategic priorities, including agreed measures of success.

• Have we defined the critical success factors (CSFs) for the project?

• Have the CSFs been agreed with suppliers and key stakeholders?

• Do we have a clear project plan that covers the full period of the planned delivery and all business change required?

• Times and showing critical dependencies such that any delays can be handled?

2. Lack of clear senior management and Ministerial ownership and Leadership.

• Does the project management team have a clear view of the interdependencies between projects, the benefits, and the criteria against which success will be judged?

• If the project traverses organizational boundaries, is there clear governance

• Arrangements to ensure sustainable alignment with the business objectives of all organizations involved?

• Are decisions taken early, decisively, and adhered to, in order to facilitate the successful delivery?

• Does the Senior Responsible Owner (SRO) have the ability, responsibility and authority to ensure that the business change and business benefits are delivered?

3. Lack of effective engagement with stakeholders.

• Have we identified the right stakeholders?

• Have we secured a common understanding and agreement of stakeholder requirements?

• Does the business case take account of the views of all stakeholders including users?

• Do we understand how we will manage stakeholders (e.g. Ensure buy-in, overcome resistance to change, allocate risk to the party best able to manage it)?

• Whilst ensuring that there is clear accountability, how can we resolve any conflicting priorities?

4. Lack of skills and proven approach to project management and risk management.

• Is there a skilled and experienced project team with clearly defined roles and Responsibilities?

• Are the major risks identified, weighted and treated by the SRO?

• If external consultants are used, are they accountable and committed to help ensure successful and timely delivery?

5. Too little attention to breaking development and implementation into manageable steps.

• Has the approach has been tested to ensure it is not 'big-bang' (e.g. In IT-enabled projects)?

• Have we done our best to keep delivery timescales short, so that change during development is avoided?

6. Evaluation of proposals driven by initial price rather than long-term value for money.

• Do we have a proposed evaluation approach that allows us to balance financial factors against the quality and security of delivery?

• Does the evaluation approach take account of business criticality and affordability?

• Is the evaluation approach business driven?

7. Lack of understanding and contact with the supply industry at senior levels in the organization.

• Do senior management sufficiently engaged with the industry to be able to assess supply-side risks?

• Are the processes in place to ensure that all parties have a clear understanding of their roles and responsibilities, and a shared understanding of desired outcomes, key terms and deadlines?

(Jamil, 2015) mentioned Centerline Solutions Inc., seen in their article "10 Major Causes of Project Failure", that A project is considered a failure, whenever a project does not meet the expectations of the stakeholders. Impacts of project failure? Cost & Time Overruns; Quality degradation, Frustration, sometimes resulting in people quitting; Stress, sometimes resulting in people quitting; Low job satisfaction; Low corporate market value; Low public opinion; Negative media campaigns.

While 10 Major Causes of Project Failure, are as follows:

1. Lack of Change Management, the Problem:

• Changes that were not initially planned for are added to the project.

• The project takes longer and costs more than planned and.

What to do:

• Document the change management process to be used and followed by the project team.

• Educate the project team to recognize a change or deviation from the plan.

• Follow the change management processes.

2. Poor Communications, the Problems:

• Team members do not have the information they need when then need it, causing delays.

• Issues or changes do not get escalated.
• Project reporting (and therefore control) is sluggish.

What to do & Prevention:

• Find out the communications requirements of all team members and stakeholders, document them in a communication plan, and follow the plan.
   – Who needs the information?
   – What do they need to know?
   – What level of detail?
   – How do they want it?
   – When and how often do they need it?
   – How should it be delivered, and by whom.

3. Inadequate Resources, the Problems:
• Tasks take longer than expected to complete.
• Deadlines and milestones get missed.
• Project completion date comes into jeopardy.
• You end up working double-shifts to complete all the work.

What to do:

• Get executive sponsorship for the project.
• Document which resources and skill sets are needed to get the job done.
• Create a plan that gives enough time to get the job done with the allocated resources.
• Pre-assign the required resources to the team.

4. Poorly Defined Requirements, the Problems:
• Customer will be unhappy.

What to do:

• Find out and document exactly what the customer wants.
• Inform everybody of the project scope.
• Document business, functional and technical requirements.
• Have the customer agree to and sign off the required documents.

5. Inaccurate Estimates, the Problems:
• An unrealistic timeline or budget.
• You will not be able to do all the work in the time allocated.

What to do:

• List all the work as well as possible.
• Estimate each work package.
• Add up all work packages.
• Always give answers using a range of dates.

6. Poor Risk Management, the Problems:
• Unexpected events cause delays.
• Domino effect of things going wrong.

What to do:

• List all the work as well as possible.
• Figure out what can go wrong with each piece of work.
• Prioritize each risk.

• Sort the list.
• Create a plan to deal with the risks at the top of the list.

7. Poorly Defined Deliverables, the Problems:
• Difficult to get agreement that the project is finished.
• Customer keeps wanting more, saying you didn't do it to their specifications.

What to do:

• Ensure milestones or deliverables are:
   – Clearly defined.
   – Measurable (or quantifiable).

8. over Optimism, the Problems:
• There was little or no planning before deciding you can get the job done.
• The task you agree to turns out to be more work than expected.
• It takes you longer and jeopardizes other deliverables.

What to do:

• Take the time to fully understand the work before agreeing to it.
• It's okay to say the work is not possible or will take too long.
• Only agree to work when you're sure it can be done, this will benefit you and your manager.

9. No Time for Project Management, the Problems:
• The plan is flawed from the start.
• The project gets out of control and can't be recovered.

What to do:

• Planning a project is like setting out a roadmap.
• Controlling a project is like controlling a car.
• You have to continuously watch the road (the plan) and make little adjustments.

10. Improved PM Skill sets needed, The Problems:
• Your projects don't finish on time.
• Your projects are always squeezed at the end.
• Your projects are stressful.
• You have to deal with unrealistic expectations or customers.
• You feel your projects are out of control.

- **RESOURCE PLANNING**

(Stuckenbruck, 2006) Wrote the "Integration: The Essential Function of Project Management and focus on the integration part of the project. Every project is a system in that it consists of many interrelated and interconnected parts or elements which must function together as a "whole." Projects vary greatly in size, complexity, and urgency; however, all but the simplest projects have a common element in that they must be integrated". To ensure integration the project team must plan all resources

wisely and consider all the aspects and tasks related to the project completion.

Project integration can then be described as the process of ensuring that all elements of the project its-tasks, subsystems, components, parts, organizational units, and people-fit together as an integrated whole which functions according to plan. All levels of management ascribe to this goal, but project managers must be preoccupied with it since they have the direct responsibility to ensure that it occurs on every project.

The most important decisions and resulting actions are those taken by top management, and many of these actions must be taken \veil before the project is actually started. Not all of these actions are directly concerned with the integration function, but they are all necessary for the successful implementation of project management. The most critical of the actions which must be taken by top management are the following:

1. Completely selling the project management concept to the entire organization.
2. Issuing a charter to completely delineate it project and functional authority and responsibilities.
3. Choosing the project manager or project managers.
4. Choosing the right functional managers to participate in the project and/ or matrix organization.
5. Supplying adequate resources to the project organization such as finances, equipment, personnel, computer support, etc.
6. Continuing strong support for the project and for the project manager.

The project manager is the: single point of integrative responsibility and is the only person who can initiate and monitor these actions. The most critical of these actions are as follows:

1. Issuance of the Project Implementation Plan.
2. Issuance of the Project Procedures Guide.
3. Issuance of Work Authorizations.

Planning for Project Integration, Developing Integrated Project Control, Managing Conflict, Removing Roadblocks, Setting Priorities, and Facilitating Project Transfer.

(Johnston, 2006). Wrote in his paragraph "Some Reasons for Failed Information Technology Outsourcing Initiatives and how Capital Budgeting and Value Chain Analysis can help", as reasons of failure may be for "Poor risk management/ Risk Planning".

"Perhaps the greatest potential for risks exists when outsourcing IT functions overseas. Outsourcing to another country involves many issues, including culture and geography, personal behavior, competitive security, and public opinion. With these issues come many risks which must be identified, incorporated into planning, and dealt with in a timely manner. ".

And as per his conclusion and recommendations for further research he wrote:

"(Barthelemy, 2003) summarized "seven deadly sins of outsourcing." One or more of these are present in most failed outsourcing initiatives (Over half of the almost 100 firms in Europe and the US they studied were outsourced of IT). These mortal sins include:

• Outsourcing Activities that should not be outsourced, so no core activities that contribute to competitive advantage should be outsourced.
• Selecting the Wrong Vendor.
• Writing a Poor Contract; to avoid that the contract should be as complete as possible.
• Overlooking Personnel Issues, as the communications concerning possible outsourcing decisions should be open and ethical.
• Losing Control over the Outsourced Activity, so the management of the vendor must be capable and active.
• Overlooking the Hidden Costs of Outsourcing.
• Failing to Plan an Exit Strategy.

- PROJECT MANAGEMENT SOFTWARE TOOLS

A study by Dong et al. (2004) covers most of the concerns of Chinese information systems' project managers, for which they reviewed extensive literature. The most commonly cited set of CSFs are:

1. Effective communication.
2. Top management support.
3. User involvement.
4. Project manager and team members.
5. Project definition.
6. Project planning.
7. Project control and change management.
8. Technology support.

(Qassim, 2008) wrote in his article, "Why information systems projects fail: Guidelines for Successful Projects OMAN" had ranked projects risks as follows:

1. Lack of top management commitment.
2. Misunderstanding of scope/ objectives/requirements.
3. Lack of client/end-user commitment/involvement.
4. Changing scope/objectives.
5. Poor planning/estimation.
6. Inadequate project management.
7. Failure to manage end-users expectations.
8. Conflict among stakeholders.
9. Change is senior management ownership.
10. Lack of adequate change control.
11. Shortage of knowledge/ skills in the project team.
12. Improper definition of roles and responsibilities.
13. Artificial deadlines.
14. Specification not frozen.

15. New or radically business process/task.
16. Employment of new technology.
17. Poor control against target.
18. A number of organizational units involved.
19. Lack of effective methodologies.
20. Staff turnover.
21. Multiple vendors.

While author ranked the improvement factors as follows:

1. Greater top management support.
2. More commitment from users.
3. More power and decisions making authority.
4. Greater financial control and flexibility.
5. Greater Control over staff resources.
6. Commitment to requirements and scope once specified.
7. More project management training.
8. Commitment to a stable project management method.
9. Alignment of IT project initiatives to business strategy.
10. Greater understanding of project management on the part of top management, project boards and clients.
11. Greater realism in setting targets. Several respondents railed against imposed rather than planned targets and deadlines.
12. Establishment of a supportive project/program office.

She concluded with a guideline, divided into three stages:

Before starting the project:
1. Analyze the organization environment using standard tools such as SWOT or PEST.
2. Align Business with ICT Strategy.
3. Ensure management buy-in.
4. Ensure adequate project resources.
5. Ensure project team has the required skills and knowledge to run the project.
6. Clearly define scope, objectives and requirements.
7. Break project down into manageable components.
8. Construct the project's product to be flexible and open to future change.
9. Make use of previous experience.
10. Establish clear criteria for supplier selection.
11. Carry out detailed costing and establish a feasible project budget.
12. Maintain communication at all levels.
13. Boost awareness in the organization of the project.
During the project:
1. Adopt a good project management strategy.
2. Create a risk plan and monitor it.

3. Establish timetable to give users enough knowledge to accept the new system.
4. Establish documentation standards and backup strategy.

After the project implementation:
1. Periodic review once project is live.
2. Consider ongoing user training.
Establish a project knowledge base.
(Veld, 2008). Wrote in his article "7 Habits of Highly Successful Project Management Professionals" and clarified that there are seven habits of highly unsuccessful project managers. They are as follows:
1. Lack of planning should be avoided.
2. Include as much as possible of stakeholders.
3. Project manager shouldn't be easily influenced.
4. Let your words speak, so project manager must communicate well.
5. Over the edge, so project manager should look after his project, and be proactive and not only reactive.
6. Don't follow the wrong way, by settling the client expectations and maintain it.
7. Slave driver. Project manager shouldn't be a slave.
Often the success of any project lies heavily on the effectiveness of the project manager. As such these managers would do well to learn from these undesirable habits in order to better themselves. They all may seem logical enough to know and yet there are project managers out there fostering these habits; make sure that you or your project manager is not one of them!

Strategic management involves formulation and implementation of the main objectives of organization and initiatives taken by management, take in consideration of resources and an assessment of the internal and external environment in which the organization competes (Nag. R. H. D.-J., 2007). "Organizational project management is a strategy execution framework that utilizes portfolio, program, and project management as well as organizational – enabling practices to consistently and predictably deliver organizational strategy to produce better performance, better results, and a sustainable competitive advantage" ((PMI), 2013). The management of project portfolios is considered as a novel and complex area in organizational practices. Hence a variety of challenges emerged, which need to be tackled by managers, along with many opportunities for increasing the organizational effectiveness (Boneva, 2014). In a business or non-profit organization PMO emerges as a department or special team constituted within the organization which introduces and maintains standards related to project portfolio management. PMO emphasizes on standardization of project work throughout the various projects executed by the organization, and moreover, PMO

supports project managers and teams to adopt professional standards of project management (PMI, 2008).

There is simply no way for senior management to accomplish a strategic transformation without getting deeply engaged in project management. Unfortunately, most executives and strategic thinkers have not yet learned the language of project management (Morgan, 2007). Scorecard can be used as a tool for translating the strategic goals from strategy to the project perspective. A balanced scorecard strategy map describes the strategy (Kaplan, 2001). Kaplan and Norton formulated the balanced scorecard including four perspectives: financial, customer, internal and learning and growth (Kaplan, 2001). In classic approach to formulating strategy was stated that developing a competitive strategy is developing a broad formula how a business is going to compete, what its organization objective should be, and what policies will be needed to carry out these goals (Porter, 1980). Porter in describing "What is strategy?" used activity-system maps (Porter, 1980).

For organizations it is important to distinguish between management and leadership, which is not always understood and managed very well at organizations. Management is usually considered to its main functions such as planning, organizing, and controlling. In general, management is concerned with making decisions about processes and functions in order to improve operational efficiency and effectiveness. While Leadership, is mainly about motivating and guiding people and getting the best of the team to realize their potential and achieve together and work on preceding the organizations objective. "Among leadership styles, situational leaders focus on various tasks and relationship behaviors" (Hersey, 1996), and transformational leaders may inspire followers, meet their developmental needs, and encourage new approaches and more effort toward problem solving (Selzer, 1990).

(Viser, 2010) wrote in his article "Project Management Series - Managing the Successful Shop Project", a project, by the very definition of the term, is all about parts. Parts considered, parts acquired, parts assembled, parts finished. In a job shop or on a manufacturing floor, a project usually involves another aspect-people. In a shop project, people work as a team to complete a task that, ultimately, is greater than the sum of its parts. The questions to consider, however, are how often do shop projects end up as unsuccessful, and why? With so many people contributing to the cause, it should be a matter of fact that the projects would succeed merely by virtue of having so much oversight.

Surprisingly, in many shop project failures it is clear that many team members are on separate pages about the ultimate goals, specifications, and even products of the project. Like a theatrical production without a script, improvisation during performance is mistake-laden, often lacking a clear sense of direction. To ensure a successful outcome for any shop project, basic communication is absolutely necessary so that team members know what's going on. Again, this notion begins at the management level and travels down to the team. If the manager doesn't have a clearly defined idea about what the project parameters are, don't expect the shop floor personnel to create them on their own.

This mandate for communication also applies to on-going communication within the team itself. Management must facilitate this, and constructive and critical insights regarding project improvement should be highly encouraged. In other words, all team members should feel free to question ambiguous or otherwise unclear process and procedure-before mistakes are made in production. Once mistakes are made due to a reluctant communication environment within the team, needless waste is introduced into the project with profit margins and quality of outcome chipped away. Providing an open atmosphere for the critical insights of team personnel also requires a large degree of positive reinforcement of the project efforts. The notion that the project is developed and implemented as a team effort means that the more tightly members are bonded to the team, the more likely they are to see themselves as members of a larger body-that the personal failure of one in the project task has a broader negative effect upon the group and its efforts to succeed in the project. These are the basics of group dynamic communication.

6. Research Methodology

Quantitative research type was used as methodology for this research; the variables were collected from by a survey and a sample of CIOs, project managers, site engineers etc. of project concerned peoples, to collect and refine the independent variables those are mostly related to the field, moreover, variables being collected from the author's experience as he spent more than six years working in the same field and projects; These variables were then included in the next step, which is the survey that was published to collect respondents' perspectives for the relation between problems and reasons.

Several studies have been made and variables been gathered, from reliable and specialized independent organizations that are located over the entire world which conducted old and recent studies to perform the main source for effective project management.

For this study, some interviews have been done via skype, with different chief information officers (CIO), project managers, resource planning managers, project management office (PMO) managers, and site engineers etc.; who are responsible for managing the project cycle at the organization. The aim of the interview was to obtain

and focus on the potential reasons for projects failure with a concentration on their experiments to find out what concerns the local market.

A survey design followed the interviews and used the interviews' resulted variables, and then being distributed to as many as possible of PM's, CIOs and Engineers; to get their feedback about the relation between failure reasons and root-cause problems; then analysis has followed the information gathering; in order to find the relation between root-cause problems and failure reasons, and categorize failure reasons in groups based on different factors like root-cause problem they belong to; taking into consideration that enhancing project communication, business environment readiness and project integration are key solutions for root-cause problems, as these three factors are considered as major root-cause problems for project's failure.

Failure reasons have been analyzed further to allow authors to offer a suitable general solution hints to each one of the root-cause problem which will lead at the end to minimize the potential for failure while project managers do managing such projects in the future. In principle, and for simplification purposes, most gathered failure reasons were categorized under one of the following groups:
- Project Setup
- Executive Management Support
- Solution provider (Consultant/ Implementer/ Internal staff)
- Knowledge for the technical team.
- Project Management Capabilities (integration, communication and project management soft skills).

7. Population and Sampling

The targeted respondents in this research are Project managers, CIOs and Site engineers in general every person are contributing in the projects in PEC. Each of this individual have a kind of contribution in the projects either analyzing, executing, finance etc.

Sampling method of this project is judgmental method. The sampling method is the non-random sampling technique where in the choice of sample items depends exclusively on the researcher's knowledge and professional judgment. Judgmental sampling is a non-probability sampling method and it happens when "elements selected for the sample are chosen by the judgment of the researcher.

The area chosen to conduct this study is the Public Telecommunications Corporation Sana'a, Yemen. As this survey is conducted to maintain and examine the effectiveness of Project Management tools in the company.

Sampling involves the decision-making process of participants for the purpose of conducting a study by representing all of the population to which they belong

(Gay et al., 2006). As noted by Bless and Higson (1995), determining the size of a sufficient sample of them represents the appropriate amount of the total population is critical and requires a population that is more than 40,000 or at least 400 samples at least (Krejcie and Morgan, 1970, as mentioned in Sekaran, 2003). Therefore, based on the above, it is appropriate to select a sample that includes all the employees of the PTC by 250 workers based on the size of the company targeted in the research.

Table 1 Response Rate Summary

Questionnaire	N	Percentage (%)
Questionnaire distributed	250	100
Online questionnaire distributed	220	100
Questionnaire received from manual	30	12
Questionnaire received from online	220	100
Returned but not usable questionnaire	14	5.6
Usable questionnaire	228	91.2

8. Reliability Of Scale

Before proceeding to the analysis phase, number of tests were performed to ensure the reliability of the data collected to be ready for analyzing. In this research Cronbach's Alpha Coefficient test been applied to check the reliability of the data been collected. Cronbach's alpha measure the interior consistency, that is, how closely related a set of items are as a group. In this contest, coefficient was performed, and it shows good results. Table 4.3 reveals the results of this test which shows the reliability of the variables; Project Success, Resource Planning, Management communication skills, Project management software tools.

The table shows good results with the exception of Project Success. The results are 0.804, 0.770, 0.822, and 0.767 respectively. As it can be noticed, all the variables results are more than standard which is 0.7.

Table 2 Adjusted Cronbach's Alpha Coefficient Results

Variables	No. of items	Cronbach's alpha coefficient
DV: Project Success		
Project Success	7	0.804
IV: Project Management tools		
Resource Planning	6	0.770
Management communication skills	8	0.822
Project Management Software	5	0.767

tools

9. Descriptive Statistics

Descriptive statistics are used to define the essential features of the data of a research. They provide simple summaries about the sample and the measures. Descriptive statistical analysis of variables is stated in this section which detailed out the summary of the data collected to ensure their readiness to the analysis phase. The table below contains the value of mean, standard deviation, Skewness, and Kurtosis.

Table 3 Descriptive Statistics of Variables

No	Variable	Mean	Standard deviation	Skewness	Kurtosis
1	Project Success	4.2324	0.90956	-0.692	0.902
2	Resource Planning	3.8662	1.10302	-0.149	0.088
3	Management Communication skills	4.5902	1.13205	-0.302	0.56
4	Project Management Software tools	4.6751	1.02173	-0.506	0.136

Table 3. Is a summary of the collected data regarding the variables Skewness is the level to which a distribution of values diverges from regularity around the mean. A value of zero represents the distribution is symmetric, while a positive skewness indicates a larger number of smaller values, and a negative value designates a larger number of greater values. Values for adequacy for psychometric determinations (+/-1 to +/-2) are the same as with kurtosis (Illinoisstateedu, 2016). While Kurtosis a measure of the "peakedness" or "flatness" of a distribution. A kurtosis value close to zero designates a figure near normal. A negative value designates a distribution which is more peaked than normal, and a positive kurtosis designates a form flatter than normal. A kurtosis value of +/-1 is considered very good for most psychometric uses, but +/-2 is also usually acceptable kurtosis (Illinoisstateedu, 2016). Thus, in this context, it can be observed that the distribution of the variables more to flat except.

1. Pearson Correlation Coefficient

Pearson Correlation Coefficient describes the linear relationship between continues variables. In this context, this method will be used determine the relationship between the variables to show in which direction these variables are destining. There are indications in performing Pearson Correlation Coefficient to clarify the direction of the relationships between variables. For instance, positive relationship indicates that these variables are in the same direction whereas negative relationship infers the other way around. Pearson Correlation Coefficient relationship strength is determined by (Pallant, 2010), where he stated that a weak relationship ranged between (r = 0.10 – 0.29), moderate relationship (r = 0.30 – 0.49), and strong relationship (r = 0.50 – 1.0). Therefore, table 4.5 shows the results of Pearson Correlation Coefficient for this research.

Table 4 Pearson Correlation Coefficient Results

	Project Success	Resource Planning	Management communication skills	Project Management Software tools
Project Success	1.			
Resource Planning	0.673**	1.		
Management communication skills	0.256**	0.238**	1.	
Project Management Software tools	0.331**	0.224**	0.196**	.1

2. Hypothesis Test Results

This section is to confirm the hypotheses proposed in chapter one. Multiple regression is the test that implies the results whether the proposed hypotheses are supported or the other way around. In this research, the objective is to ensure the association between the dependent variables and the independent in the other said. The final outputs presented in table 4.6 comprises of the dependent variable project success and the predictors comprises of Resource Planning, Management communication skills, Project Management Software tools.

Table 5 Multiple Regression Analysis

Independent Variable	Project success		
	Standardized β	T	P
Resource Planning	0.679	10.791	0.015
Management communication skills	0.082	1.608	0.019
Project Management Software tools	0.157	0.986	0.020

3. Conclusion

Project management are more complexity and complex adaptive or responsive systems seriously which requires much more than the transfer of know what or know how through traditional educational/training methods. To meet the increasing requirements of multiple projects being conducted on the fields, the company need more emphasis on training models supporting and fostering continuous change, creative and critical reflection, self-organized networking, virtual and cross-cultural communication, coping with uncertainty and various frames of reference, increasing self-knowledge and the ability to build and contribute to high-performance project teams. Master project managers need to develop the emotional and spiritual skills and capabilities to create buy-in and provide orientation. Thus, they need to learn and practice how to lead the changes into an unknown future by getting the knowledge they need to lead the teams they have.

Further they need to do this in a learning environment that fosters critical reflection on theory while they engage in practice on an ongoing basis and within self-organizing networks of self-managing teams continuously empowering each other. Distance education provides an ideal approach for many practicing project managers to accomplish these goals.

Acknowledgments

References

(1) (PMI), P. M. (2013). Organizational Project *Management Maturity Model (OPM3) (3rd ed.).* . Newtown Square, PA: Project Management Institute. .

(2) Au, H. &. (1989). *Project Management for Construction" Fundamental Concepts for Owners, Engineers, Architects and Builders.* New jersey: Prentice Hall, Englewood Cliffs.

(3) Barthelemy, a. (2003). *The hidden costs of IT outsourcing. Academy of Management Executive.* N.G.

(4) Boneva, S. (2014). *First level control of projects implemented under the framework of European Territorial Cooperation programs in Bulgaria.* bulgaria: UNWE Publishing complex, .

(5) Bredillet, C. T. (2015). "What is a good project manager? An Aristotelian perspective." International Journal of Project Management . 254-266.

(6) Brian Atkin, A. B. (2009). *Total Facility Management.* wiley blackwell - John Wiley & Sons. Copyright. .

(7) Clifford F. Gray, E. W. (2002). *Project Management: The Complete Guide for Every Manager.* McGraw-Hill, .

(8) David Cleland, L. I. (2006). *Project Management: Strategic Design and Implementation.* New york: McGraw Hill Professional.

(9) Declerck, R. D. (1983). *La Méthode de Direction générale : le management stratégique.* paris: Hommes et Techniques.

(10) Gittinger, J. (1972). *Economic Analysis of Agricultural Projects, A World bank Publication.* Baltimore and London: The John Hopkins University Press.

(11) Gittinger, j. p. (1982). *Economic Analysis of Agricultural Projects, Second Edition, A World bank Publication.* london: The John Hopkins University Press, .

(12) Hersey, P. a. (1996). *"Great Ideas Revisited: Revisiting the Life-Cycle Theory of Leadership.* Training & Development,.

(13) Illinoisstateedu. (2016). Retrieved from Illinoisstateedu.: http://psychology.illinoisstate.edu/jccutti/138web/spss/spss3.html

(14) Jamil, H. (2015). *ROOT-CAUSE FACTORS EFFECT ON THE SUCCESS OF ERP IMPLEMENTATION PROJECT.* Malaysia.

(15) Johnston, C. (2006). *Some Reasons for Failed Information Technology Outsourcing Initiatives and how Capital Budgeting and Value Chain Analysis can Help.*

(16) Kaplan, R. S. (2001). *The strategy-focused organization: how balanced scorecard companies thrive in the new business environment.* Harvard Business School Publishing Corporation.

(17) LIM, C. a. (1999). "Criteria of project success: an exploratory reexamination. *International Journal of Project Management*, 243-248.

(18) Milosevic, D. Z. (2009). *Program management for improved business results.* John Wiley & Sons.

(19) Morgan, M. L. (2007). *Executing your strategy, how to break it down and get it done.* Harvard Business School Press.

(20) Nag. R., H. D.-J. (2007). What is strategic management, really? Inductive derivation of a consensus definition of the field. *Strategic Management Journal* , 28, 9, 935–955.

(21) Nicholas, J. (2001). *Project Management for Business and Technology: Principles and Practice.* Prentice Hall, 2001.

(22) Pallant, J. (2010). *SPSS survival manual, 4th.* Chicago.

(23) PMI. (2008). Organizational Project Management Maturity Model: OPM3 Knowledge Foundation. *Project Management Institute.*

(24) Porter, M. E. (1980). *Competitive strategy. Techniques for analyzing industries and competitors.* The Free Press.

(25) Qassim, A. A. (2008). *Why information systems projects fail: Guidelines for Successful Projects. .* Oman.

(26) Selvin., P. &. (1988). *Critical success factors in effective project implementation.* new york: Van Nostrand Reinhold.

(27) Selzer, J. a. (1990). Transformational Leadership:Beyond Initiation and Consideration. *Journal of Management*, 693-703.

(28) Stuckenbruck, L. C. (2006). *Integration: The Essential Function of Project Management.*

(29) TAN. (1996). *Project Management in Malaysia.* Malaysia: Synergy Books International .

(30) Tuman, G. (1983). *Development and implementation of effective project management information and control systems,.* New York: D.I. & King, W.R. .

(31) Turner, J. (1999). *The handbook of project-based management: improving the processes for achieving strategic objectives.* London: McGraw-Hill .

(32) Veld, C. I. (2008). *7 Habits of Highly Successful Project Management Professionals.*

(33) Viser, V. (2010). *Project Management Series - Managing the Successful Shop Project.*

(34) zbornik, P. (2015). Effective Project Management Tools for Modern Organizational Structures.