

# The Significance of Planning and Scheduling on the Success of Projects

Yehualashet Getahun Ayele

*School of Commerce, Addis Ababa University, Addis Ababa PO Box 1176, Ethiopia*

**Abstract:** The overriding purpose of the study was to examine the significance of planning and scheduling on project success. Accordingly, taking the research objective and the researcher's experience into account, descriptive type of research design was nominated to be the research design that best fits the research objective. Then, 23 projects completed in the last five years and 138 project professionals working on different projects at different levels were chosen to represent the target population of the study. Similarly, interviews, questionnaires, focus group discussions, and review of documents were used as data collection tools, among others. The research data analysis revealed that all of the project managers involved in this research indisputably recognize the impact of planning and scheduling on project success. Likewise, 100% of the sample population stated that if project success is defined as meeting project goals, then planning is the framework that explicitly states project parameters, resource requirements and work flows for the realization of the project goal. In this sense, the planning stage is the most imperative stage as it dictates subsequent project actions and decisions. In addition, records of the 23 selected projects depicted that 17 of them were recorded as successfully completed while the remaining six projects were documented as failed. Further review of the documents also revealed that all of the successfully completed projects were initiated with detailed project plans of their own on hand. Conversely, even though all the failed projects had 'plans' to refer to, the plans were either superficial or adapted from analogous successfully concluded projects. In other words, all of the failed projects were commenced without having detailed project plans of their own developed to fit their size and circumstance. So, the data analysis publicized that launching a project without a project plan is like going on an adventure without having a map. Simply put, executing a project without a project plan is easier said than done. In brief, this finding of the study is in good agreement with the old saying "Failing to plan is planning to fail". In conclusion, the better the planning is, the better the project outcome becomes. Finally, not only the project outcomes, but even the career path of the project manager depends on the quality of the project plan/schedule.

**Keywords:** project; project planning; project scheduling; project success

## 1. Knowledge Gap

The first and perhaps the most important task a project manager has to do before anything else is to plan. A plan is a guideline that directs every move of the project team during the execution of project milestones in an attempt to achieve project objectives. In short, a plan is a document that the project team refers to during project implementation. It is worth developing as it portrays the project goal and possible courses of actions for its

attainment. In addition, a project plan provides direction and stipulates important project parameters and timings along with relevant tools and techniques. It also gives bases for implementation, monitoring and evaluation of activities. Similarly, project planning is among the primary phases and activities to be accomplished which enables project managers to determine project scope (that is what is to be done and what is not) and project schedule.

Usually it is uncommon to commence project works without having a well-developed project plan at hand as the plan is the roadmap that directs every project moves and decisions. Since a project plan helps project teams to have a clear picture of the project goal in general and upcoming project activities in particular, it helps project stakeholders to own the project and develop sense of responsibility with clear project objectives in their mind. Moreover, planning makes project teams accountable for their actions and decisions. When planning a project the most likely future project environment wherein the project will be executed should be taken into account for the smooth execution of the project with the minimum possible risks of failure. Similarly, the planning team should also make every effort to see the unseen and expect the unexpected and make all the necessary arrangements as may be called by prevailing situations. In brief, project plans are made in an attempt to prevent any surprises in our own work that could turn our failings into “news”.

On the contrary, every so often a number of project professionals disagree with the notion that planning increases project success [1]. They argue that not planning is much better than planning. To these project authorities, because project plans are developed in a predetermined future project environment, unforeseen situations are sure to show up during project execution. Hence, it is not uncommon to experience unexpected project environments that force project teams to revisit their plan or discard it otherwise. According to these project professionals as no one can develop project plans that do not call for continuous revisions along with changing project settings, planning is a continuous process that calls unceasing efforts. This makes planning, itself, a project [2]. Therefore, according to these experts, developing a plan for a project is like undertaking two distinct projects simultaneously, which deviates project team’s efforts and lessen its concentration on the execution phase of the project. They also argue that, more often than not, project plans are very likely to be modified not much later that they get completed.

We also often hear it said that project teams need to focus on the ultimate goal of the project and shape and reshape their actions and decisions in such a way that the pre-set project goal is attained with the minimum possible project cost and effort [3]. This, in turn, requires decisions made and actions taken with the prevailing project environment in mind. In brief, since the future is full of uncertainty, the attempt to frame future project actions today is unwise. It is a complete wastage of scarce project resources. Generally, to these people, the idea of planning is totally nonsense.

Finally, it is interesting to know that some project professionals do not want to devote their project resources to plan their project, but they are willing to devote their scarce resources to rectify the mistakes they made as a result of unplanned tasks. What recklessness!

## **2. Background**

The old saying, “Failing to plan is planning to fail” reflects the reality of most projects. It is true that projects are hardly successful without having apt project plans at their kick-off. Often project plans help project teams to monitor their actions and minimize (avoid if possible) risks of failure before they show up and begin to hinder project success. Therefore, the role of a project plan is substantial in terms of putting early warning signs of failure in place so that project teams may take corrective actions as appropriate instead of being victims of the unforeseen causes of failure.

Planning is usually the first and the most important stage of any project. Every so often successful projects are those that kick-off with good project plans on hand [4]. Since plans are deliberated to direct future project undertakings, they should be developed before commencing the project. Besides, as planning involves identifying resource requirements, determining project budget and scope, and stipulating specific timings of major project milestones, it boosts wise and economic usage of organizational resources and efforts [5]. Planning is cheap when compared to reworks that result from unplanned tasks. Often unplanned tasks are very

likely to result in errors or omissions; and errors materialized as a result of unplanned jobs done can be very expensive to rectify. Therefore, planning is cheaper than working over again!!!

Since planning is a roadmap for future project activities, it needs to be comprehensive and encompass each and every aspects of the project. Likewise, planning and scheduling dictates the logical sequence of tasks and their duration. On the other side of the line, conceptual skills should be supported by procedural considerations for developing first-rate project schedule, scope, cost and quality planning and control. In addition, projects should have clearly set chain of command and line of communication for their successful accomplishment. In a project setting, communication matters. Project work is a team work; and teams function well only if the communication among team members is facilitated or eased. After all, team members are humans, not robots that don't have their own thoughts. Hence, the communication and social interaction among the team members is potentially able to determine the project's fate. Thus, setting and communicating lines of communication within and outside the project team is fundamental for project success. To sum up, project success is the upshot of the project team's collective efforts that have come together via well-established communication schemes.

Project scheduling is as important as project planning. Of course, it is part of a comprehensive project planning. Scheduling principally focuses on time frames of project activities. It is obvious that the project implementation process becomes simple if the sequence of activities, the relationship among distinct tasks, and their duration is made clear. Here, it is worth mentioning that some project activities cannot even be initiated unless one or more of the other project activities are completed. Failure to comprehend this plain fact of projects leads to project schedule overrun and eventually failure of the entire project. Therefore, identifying core project activities, recognizing their most reasonable duration, and allocating project resources to individual tasks simplifies the implementation process thereby significantly contributing to the successful accomplishment of the project.

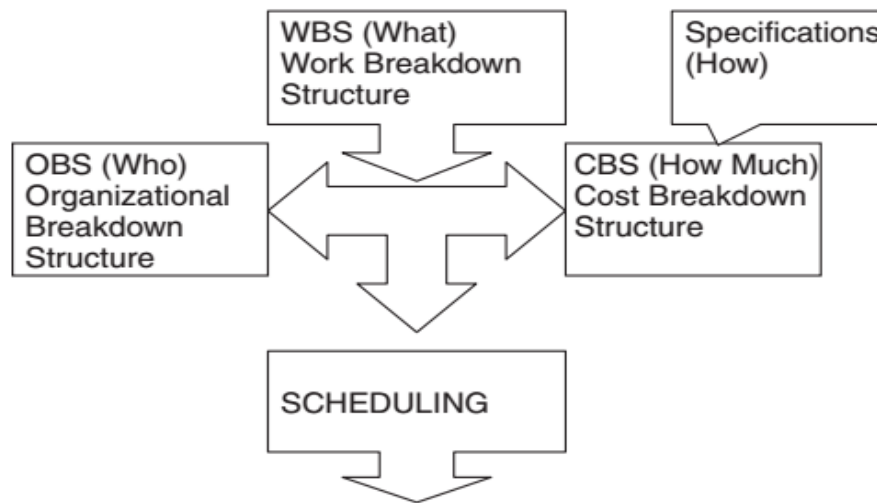
Surprisingly enough, for quite large number of people in the project arena, the demarcation between project schedule and project plan is unclear. However, a project schedule is limited in its scope compared to a project plan and mainly focuses on the sequence and duration of activities. Project planning answers the questions "What will be performed?", "How will it be performed?", "Where will it be performed?", "Who will perform it?", and "In what sequence?". On the other hand, project scheduling answers one strategic yet unanswered question, which is "What is the sequence of activities?" Planning a project has numerous benefits that can be harvested if done properly. One of the benefits of a project plan is disclosing envisioned project activities for decision makers to secure their support. It is clear that the better project sponsors understand the project, the more they support it. Accordingly, a project plan is an important instrument for securing helping hands and facilitating the project execution process. Likewise, project scheduling discloses logical order of activities for timely and on budget completion of projects.

### **3. Statement of the Problem**

Project planning is an art of determining "What" is going to be done, "How" things are going to be done, "Who" will be doing activities and "How much" activities will cost. Here we can see that planning does not take account of scheduling, which addresses the "When". But once planning is complete scheduling can follow. (See Figure 1)

A project plan is said to be complete only if it includes scheduling. Scheduling is the process of converting a broad-spectrum plan for a project into a time-based graphic presentation using information on available resources and time constraints. Simply put, scheduling refers to the process of identifying the activities and sequencing them in a logical order and finding out if dependencies exist among the activities. It is clear that the activities that occur prior to execution and along with planning are important to project success. Scheduling, being just one of the many tools available to project managers during the planning stage of a project, may be one of the most important project instruments because it not only lowers the chance of project schedule overrun but also it assists in recovering from delays. Undeniably, delays often result simply from poor planning. As a matter of fact, project schedule overruns are often accompanied by project cost overruns. On the contrary, a properly done project schedule sheds light on confusions; and elucidates such project stuffs as expenditure estimates for

crews and materials, expected opening dates (there may be situations where a strict opening date is highly important, such as a new production facility), and others.



**Figure 1.** A brief outline of project planning.

On top of the aforementioned benefits of scheduling, it also allows for accountability. Setting milestones from the beginning allows for the project managers or the owners to pinpoint exactly what went wrong and who or what was responsible for a delay. A schedule is also a good communication tool between the managers, the owners, investors, and the general public. Schedules give an overall sense of the project's expected progress. Without schedules, it's much more difficult to explain to someone unfamiliar with the project what is expected to take place.

Some project managers question "How can project planners develop a realistic project plan or schedule when project activities cannot be foreseen or their implementation depends on the outcomes of earlier activities?" This question has some grains of truth. Since no two projects are identical to one another and every project is unique, the project activities are often executed in yet unseen and totally new project environment. This makes project planning complex; and the project plan untried or untested. This, in turn, makes the project plan perhaps unrealistic and unfeasible. What is even worse is that the plan is to be put into practice in an unknown upcoming project environment that doesn't take after any of its kind. Certainly, this is very risky and hardly dependable. These project managers also argue that the cost of planning a project is by far more than its benefit. Moreover, they affirm that too much project planning can limit creativity. Hence, according to these project managers planning is a purposeless wastage of project resources and unwise use of project efforts. In brief, to these project managers, project planning is unnecessary and should not be done in projects (Here, please note that scheduling is part of planning).

On the other hand, other project managers do not agree with the conclusion that planning should not be done in projects. They say let alone to perform a project without a plan, even the complication of inadequate planning is too large to correct and too expensive to rectify the errors occurred. To these project managers, even the most effective project team cannot overcome the drawbacks of a poor project plan; and projects initiated without (or with inadequate) planning can lead to the most incredible project failures. Decisions made at the early definition stages of a project set the strategic framework of the project. Once things go wrong at the inception of a project, then without doubt the project will be wrong for a long time. In this regard many researches reveal that for a project that is flawed from the start, successful execution may matter only to the project team, while the wider organization will see the project as a failure. Because plans are a cornerstone of any project, planning is a dominant activity within a project context. Planning is inherently important to project success or one could argue project management would not exist. Therefore, projects are unlikely to succeed without being supported by detailed project plans. In a nutshell, to these project managers, project plans are inescapable and indispensable.

As discussed above, there are two conflicting positions of project professionals on the essence of planning and scheduling to project success. In conclusion, it is the above-mentioned two disparate extreme thoughts of planning that led the researcher of this study to undertake the study. Thus, in this study the researcher strived to solve the aforementioned dilemmas of planning and aimed to come up with a clear position of planning and scheduling in project management. In addition, surprisingly little research has been done on how much planning and scheduling should be done in projects. Therefore, it is this gap that the researcher wanted to fill.

#### **4. Basic Research Questions**

With the aims and objectives of the study in mind, the following basic research questions were formulated:

- (1) How important is planning to project success?
- (2) What is the significance of scheduling to the success of projects?
- (3) Do project managers recognize the impact of planning and scheduling on project success?
- (4) Does failing to plan or schedule projects lead to project failures?
- (5) What is a successful project?

#### **5. Research Objectives**

##### *5.1. General Objective*

The general objective of the study is to examine the significance of planning and scheduling on the success of projects.

##### *5.2. Specific Objectives: Some of the specific objectives of the study include*

- (1) To inspect the significance of project planning to project success;
- (2) To find out how important project scheduling is to the success of projects;
- (3) To ascertain project managers' attitude towards the impact of planning and scheduling on project success;
- (4) To discover the relationship between failing to plan or schedule a project and project failure;
- (5) To study what a successful project is; and
- (6) To scrutinise if the rate of project success increases with project planning/scheduling.

#### **6. Significance of the Study**

As a matter of fact, projects are hardly ever completed on time, within budget, and to the specified scope and predetermined project quality. Everything considered, projects are not always successful. Sometimes they are overdue; and some projects do not meet the quality expectation of clients; some projects are over budget, and some others completely fail. A number of projects in the private and public sectors significantly overrun their project schedule and budget, and as a consequence fail to achieve the organization's financial and strategic objectives. The project schedule overrun is often complemented with sizable increases in project costs and with substantial financial losses to the organization. More often than not, this is due mainly to the failure to properly plan and apply the tools and techniques of modern project planning. Hence, this study is designed to acquaint its readers with the worth of project planning.

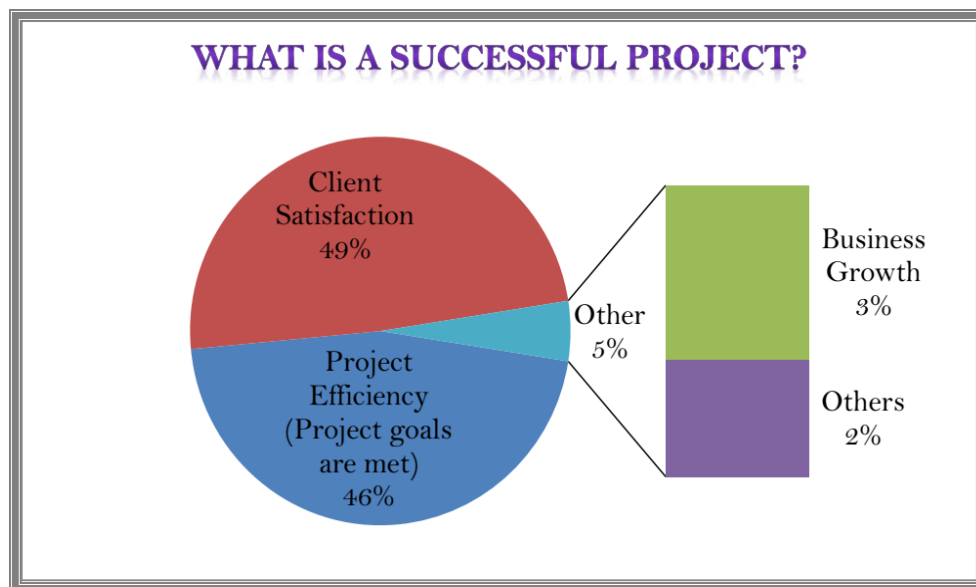
Regarding project scheduling, the development of a good project schedule is vital to an understanding of project performance and control [6]. Good scheduling represents a roadmap for project managers, planners and schedulers in monitoring and tracking critical activities and milestones during the progress of a project [4]. Virtuous project planning and scheduling can also provide tangible benefits for key project stakeholders. It sets chain of command and line of communication among project team members; and discloses accountability at times of discovering wrong doings. Despite these theoretical discussions on the significance of project planning and scheduling, little empirical research has attempted to understand the effectiveness of its application in projects. It is this knowledge gap that this research seeks to fill.

## 7. Research Methodology

Since the quality and reliability of a research predominantly depends on the research methodology employed, the researcher of this study has considered all possible research methodologies available before choosing one. Accordingly, taking the research objective and the researcher's experience into account, descriptive type of research design which describes the significance of planning and scheduling on project success was chosen/ designated to be the research design that best fits the research objective. Besides, the target population of the research was the entire project team members working on six different purposely selected projects. The researcher also used Yamane's (1967) to find out the applicable research sample size. In addition, with the intension of obtaining a sample that best represents the target population of the study, a sample of 138 project team members working at different levels of the said projects was selected using judgmental sampling technique. Furthermore, the research also made use of both primary and secondary data sources, one of which is questionnaire. In view of that, among the 138 questionnaires distributed to respondents, only 132 questionnaires were collected back. Likewise, secondary data were collected from project track records, reports, documentations on lessons learned and project closing reviews, etc. Finally, the data collected was analysed using descriptive statistics such as frequency, percentage and tabulation.

## 8. Major Research Findings

This section of the study reviews the most important findings of the study. To better present the impact of planning and scheduling on the success of projects, which is the overriding objective of this study, this section begins with discussing what a successful project is (see research question number 5 above) as revealed via methodical analysis of the data collected for the purpose of this research.



**Figure 2.** When is a project said to be successful. (Source: own survey).

As depicted on Figure 2, 49% of the respondents define project success as clients' satisfaction. They argue that clients' satisfaction is very subjective. During focus group discussions, they mentioned their experiences wherein project goals were not even near to getting met, yet the client was highly satisfied. The exact opposite scenario was also mentioned: All the project goals were met, but the client was rather unhappy to say the least. Generally, as to 49% of the respondents, meeting project goals doesn't guarantee clients' satisfaction; and equally failing to meet the goals doesn't necessarily lead to clients' dissatisfaction. Yet, they argue, a project team should work for clients' satisfaction to complete a project successfully. After all, according to these project experts, project success is clients' satisfaction!!! In contrast, 46% of the respondents stated that project success is measured by providing the deliverables on time, within project scope & budget and at an agreed upon quality.



By the same token, the respondents took three clearly distinct positions concerning the significance of planning on the successful conclusion of projects. As presented on Figure 3, only 67% of the respondents believe that planning increases the rate of project success. On the contrary, the data analysis revealed that 26% of the respondents are uncertainty about the contribution of planning to the successful execution of projects; whereas the remaining 7% think planning is totally wastage of project resources and should not be done. Surprisingly enough, this research also disclosed that all project professionals who have experience of managing projects (i. e. a subclass of the research sample having only the project managers involved in the sample) strongly support project planning.

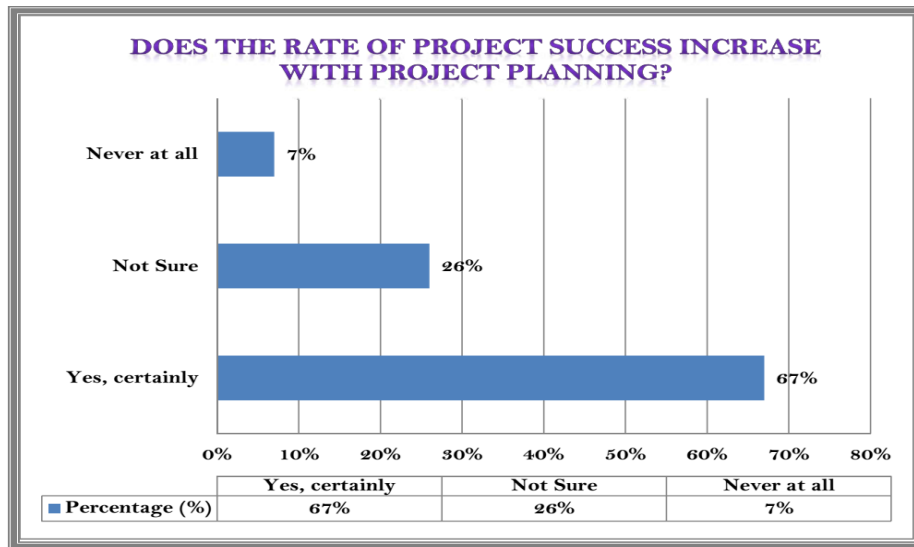


Figure 3. The contribution of planning to project success. (Source: own survey).

A project plan is an all-inclusive scheme of a project; and proper project planning includes a logical and detailed schedule that marks project milestones. A project plan is never complete without a project schedule. Accordingly, this study revealed that to most people the most important part of a project plan is the project schedule. In view of that, as displayed on Figure 4 below, out of the 132 project management professionals involved in this study, 127 of them believe that project scheduling (not the whole project planning) is crucial to project success. What is even more interesting is that all of the project managers targeted in this study consider project scheduling as fundamental to project execution and should always be done.

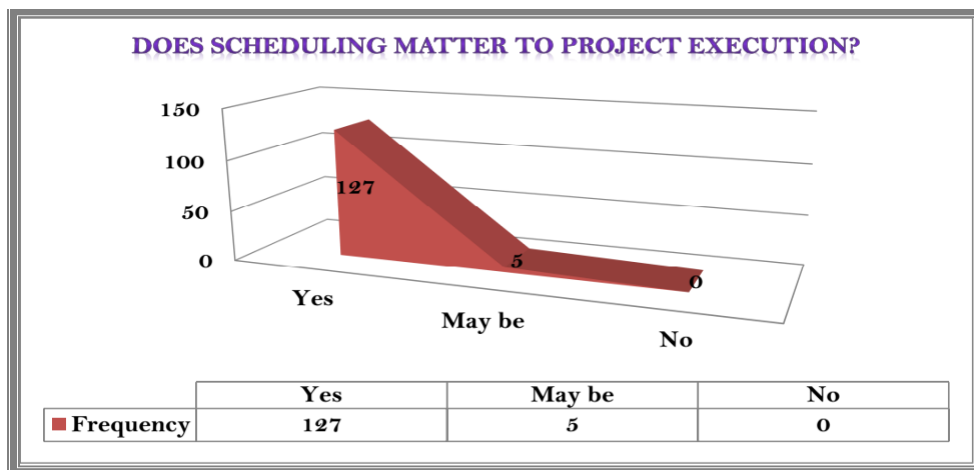


Figure 4. How important is project scheduling to project success. (Source: own survey).

On the other side of the spectrum, one of the major findings of this research supports the idea that project planning affects key project parameters. As shown on Table 1, 10% of the respondents stated that planning affects project schedule. Similarly, 94% of them admitted that project cost changes with project planning. To sum up, the data on the table below indeed portrays how important project planning is to project success.

**Table 1.** Does having a complete project plan at the inception of a project affect key project parameters.

Point of reference (Benchmark)	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Project Budget	-	-	-	8	124
Project Schedule	-	-	-	-	132
Project Scope	36	18	32	21	25
Project Quality	-	-	4	57	71

(Source: own survey)

To conclude, data analysis revealed that all of the project managers involved in this research indisputably recognize the impact of planning and scheduling on project success. Likewise, 100% of the sample population stated that if project success is defined as completion of projects on schedule and within project budget at predetermined project scope and quality, then planning is the blueprint for goal achievement that specifies the necessary resource allocations, schedules, tasks, and other project parameters. In this sense, projects do not fail at the end; they fail at the beginning. This is true as a carefully planned project takes into account all the necessary aspects of a project (such as tasks, risks, communication lines, milestones, scope, schedule, cost, quality, etc.) and provides a plan which project teams can refer to during execution and evaluation.

On the other hand, twenty three (23) projects completed in the last five years were chosen to help the researcher appraise if there is any link between project planning/scheduling and project success. A critical review of the documentation of the projects disclosed that seventeen (17) of these projects were recorded as successful (in their own definition of success) while the remaining six (6) projects were documented as failed (for one or another reason). Besides, the records of the projects depicted that all of the successfully completed projects were initiated with detailed project plans of their own on hand. Conversely, even though all the failed projects had ‘plans’ to refer to, the plans were either superficial or adapted from successfully concluded analogous projects. In other words, all of the failed projects were commenced without having detailed project plans of their own developed to fit their size and circumstance. Here, it is worthy to mention that since no two projects are identical to one another, no one project plan (no matter how wonderful it may be) can be used for two or more different projects. Every project is unique, and the plan/schedule involved contributes to that uniqueness. This finding was a clear indicator of the significance of planning and scheduling on project success. That is, it signposts that a detailed project plan/schedule is an invaluable tool in a well-managed project. The plan, and how it relates to the project environment, is a major factor in the success of any project. In brief, this finding of the study is in good agreement with the old saying “Failing to plan is planning to fail”.

## 9. Conclusion

In this segment of the study, core research findings extracted from analysis of the research data (which was gathered mainly through both focus group discussions and review of documents) are presented for readers’ special attention.

Accordingly, the data analysis revealed that launching a project without a project plan is like going on an adventure without having a map. Simply put, executing a project without a project plan is easier said than done. Thus, a project plan/schedule is indispensable. However, even though planning is an essential step in project management, too much detailed planning might not help. Detailed plans perhaps limit the project team’s creativity and obstruct its ability to respond to evolving project circumstances. This is especially true when the



project team is using an agile methodology. Nevertheless, this doesn't mean project plans are not needed. The importance of a project plan is indisputable, but the plan should neither be too detailed nor too sketchy to refer to during project progress. Planning provides the benchmark for measuring project progress. Likewise, a thorough schedule developed during the planning stage always provides an insight to what's happening during the execution stage. The better the planning is, the better the project outcome becomes. In a nutshell, a rational project plan increases the rate of project success.

Although the initial project plan or schedule (which is set at the start of the project with all the information available by then) should be used as the benchmark for the project, it must be regularly revised as new information becomes available. All of the focus group discussion participants highlighted that project planning is not a one time job, it is a continuous endeavor. Thus, they say, project managers need to realize that project planning is an iterative process and must be performed throughout the life of the project, in accordance with the reality on the ground.

Because proper project planning offers a long term perspective with a good understating of the project environment, it has intense implication on the outcomes of projects. Here, investigation of secondary documents disclosed that the development of a project plan that incorporates the strategic management and development of project human capital helps build a strong HR team that, in turn, helps in achieving better project outcomes. To make the matter even more appealing, not only the project outcomes, but even the career path of the project manager depends on the quality of the project plan. In order for the project manager to be effective, he/she must understand how to work with the various stakeholders who interface with the project. To be brief, in a project management environment, the project manager, team members, and other stakeholders at different levels may have their own subjective expectations of what their relationships should be with the other parties. Therefore, both individual and team authority and the communication relationships necessary for the project organizational system to function effectively must be made known to all project stakeholders, at every level of the project. If this information is not communicated accurately, then it is completely possible that they may all have different interpretations of the planning authority relationships, a situation that invites conflicts. Yet properly done project plans can bridge this communication gap, minimize possibility of conflicts, and bring about industrial peace, and eventually secures project success.

At last, but most importantly, analysis of focus group discussions publicized that each project has at least one objective. And it is the project plan that best publicizes these project objectives. This, in turn, helps the project team to recognize the project objectives and figure out where they are heading to. This motivates the project team members and boosts their determination and commitment for the successful completion of the project.

## **10. Recommendation**

In this study the researcher has contributed his part in researching a much-neglected but indispensable subject in scholarly works on project management, namely the significance of planning and scheduling on the success of projects. The researcher also forwards the following two sets of recommendations for both practitioners in the area and future researchers.

### *10.1. Recommendations for enhanced impact of planning and scheduling on project success*

(1) A project manager should be nominated before commencing the development of a project plan, and he/she should be the key player in the planning process. This helps the project manager to wholly understand any commitment assumed in the beginning work. Besides, it will be easier for the project manager to execute his own plan than somebody else's plan.

(2) A project plan should be comprehensive; but neither too detailed nor too shallow. In brief, it should be rational enough.

(3) The project plan must be regularly revised as new information becomes available.

### 10.2. Recommendations for further studies in the area

(1) The researcher's first recommendation would be a replication of this study in different settings to provide more interesting insights into the subject.

(2) Finally, the researcher recommends further studies on how planning and scheduling allows for accountability.

### Funding

Not applicable.

### Institutional Review Board Statement

Not applicable.

### Informed Consent Statement

Not applicable.

### Data Availability Statement

Not applicable.

### Conflicts of Interest

The author declares no conflict of interest.

### References

- 1 De Marco A. *Project Management for Facility Constructions, a Guide for Engineers and Architects*; Springer: Berlin, Germany, 2011.
- 2 Eisenhardt KM, Tabrizi BN. Accelerating Adaptive Processes: Product Innovation in the Global Computer Industry. *Administrative Science Quarterly* 1995; **40**: 84–110.
- 3 Marshall S. A Quality Framework for Continuous Improvement of E-Learning: the E-Learning Maturity Model. *The Journal of Distance Education* 2010; **24** (1): 143–166.
- 4 Baldwin A, Bordoli D. *Handbook for Construction Planning and Scheduling*; Wiley: Hoboken, NJ, USA, 2014.
- 5 Project Management Institute. *Guide to Project Management Body of Knowledge 3rd Ed*; ANSI: New York, NY, USA, 2004.
- 6 Ahuja V, Thiruvengadam V. Project Scheduling and Monitoring: Current Research Status. *Construction Innovation* 2004; **4**: 19–31.

