EFFECTIVE PROJECT TIME MANAGEMENT

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Citation: Oburu, A. O. (2020). Effective project time management. *International Academic Journal of Information Sciences and Project Management, 3*(6), 47-55

ABSTRACT

The purpose of this article is to outline the importance and processes of effective time management as a knowledge area in project management. Project is defined by PMI, (2014) as a temporary endeavor or undertakings aimed at creating a unique product, service, or result. The temporary nature of projects indicates that a project has a definite beginning and end (time constraint). Time management can be said to be the act of planning, scheduling and exercising conscious control over the limited amount of time spent on specific activities, particularly to increase their effectiveness, efficiency or productivity. Originally, time management was not seen as important beyond business or work activities, but finally the term widened to include personal activities as well. Currently time management system is a designed combination of processes, tools, techniques, and methods. Project time management starts at the very beginning of initiating the project by identifying the required project duration and its milestones, before getting a detailed schedule during the planning phase (Hazar , 2014). According to Romel & Gilberto (2016), the delays on the deliveries are one of the most frequent problems affecting project with close to 47%, resulted from a poor application of project time management. Vennila ,(2018) suggested various ways of managing time effectively by highlighting many techniques that can be borrowed by project team. Project team should arrange their schedule according to project priorities as per the work breakdown structure or critical path analysis, Project team including stakeholders should get over any bad feelings that the project might face during project life cycle and move beyond them by having proper risk mitigation plan. Proper Communication strategy should be integrated within an organizational culture will reduce/ harness the project team conflicts. Although, there is no reservation that getting organized saves a lot of time of importance to note is that Project Schedules includes defining project scope, determining the project duration, effective organization, resource allocation: scheduling, identify the project constraint, better project estimates, better project tracking - which improves project team trust, anticipate delays, advance planning, creates project monitor demand, understand project trends, provides project with real data and analysis. Time management process includes defining project activities, activity sequencing, activity resource estimation, activity duration estimation, develop and finally project schedule control. In conclusion, Project Time Management is fundamentally defined as the ability to organize and plan the time spent on all activities in a day. The outcome of good time management is to increase effectiveness and productivity. Time is a key aspect of project management and comprises skills such as planning, goals setting and prioritizing for a better project performance. Time management can be said to be the act of planning, scheduling and exercising conscious control over the limited amount of time spent on specific activities, particularly to increase their effectiveness, efficiency or productivity. Originally, time management was not seen as important beyond business

or work activities, but finally the term widened to include personal activities as well. Currently time management system is a designed combination of processes, tools, techniques, and methods. Time management is inevitable in any project development as it determines the project duration and scope

Key Words: project time management, project planning, project monitoring and controlling project activities, time management process, activity scheduling and sequencing

INTRODUCTION

This article presents the conclusions of the two core questions of the literature review: "what is the importance of effective time management towards project success?' and, 'what are the steps for effective project time management?" For each question, this article will present an synopsis of the content of the studies and provide a synthesis as a step towards concept building.

Project is a temporary endeavor or undertakings aimed at creating a unique product, service, or result (PMI, 2014). The temporary nature of projects indicates that a project has a definite beginning and end (time constraint). This means that the project must be done within specific time frame. Additionally, when we take project tringle into considerations, we find that time; just like scope and budget, plays a major role in the project life cycle. Time along with budget or cost and scope requires cautious attention throughout the project phases. Although time management process has been given more attention mainly in the planning phase, there is need to manage time from designing and planning, implementation, control and monitoring, close out and evaluation, it is the responsibility of the project manager to plan the project activities and to meet the desirable project duration within scope and planned budget.

Time management can be said to be the act of planning, scheduling and exercising conscious control over the limited amount of time spent on project specific activities, particularly to increase their effectiveness, efficiency or productivity. Originally, time management was not seen as important beyond business or work activities, but finally the term widened to include personal activities as well. Currently project time management systems are combination of processes, tools, techniques and methods. Time management is inevitable in any project development as it determines the project duration and scope. Time management is considered essential in management because:, time is a scarce resource, time once utilized or incurred cannot be stored, this means you cannot keep time for future use, if unused it is lost forever, and finally management goals cannot be accomplished without the application of effort, which requires the use of time.

Project is primarily about achieving certain set goals and objectives within constraint of time, cost, and scope. For this purpose, these factors should be well planned and controlled to

guarantee the project success. Project time management starts at the very beginning of initiating the project by identifying the required project duration and its milestones, before getting a detailed schedule during the planning phase (Hazar, 2014). Romel & Gilberto (2016), the delays on the deliveries are one of the most frequent problems affecting project with close to 47%, resulted from   a poor application of project time management. The result of project delays affects all the stakeholders that are involved in the project. The study further revealed, despite the poor project time management if more effort dedicated to planning and controlling the project will more likely to succeed on time within the budget and scope.

METHODOLOGY

This article used the systematic literature review methodology of data collection, extraction, examination and synthesis (David , David , & Palminder, 2003). The qualitative information selection involved a systematic examination for articles related to effective project time management. Bauer and Bakkelbasi (2005) indicated that "researchers may consult Google Scholar or any other source, especially for a comparatively recent article, author or subject area". the study used Google Scholar as a search engine, Aguide to the Project Magement PMBOK 5th Edition, accademia and researchGate as the source of information .

LITERATURE REVIEW

Mastering Project Time Management Skills

Vennila (2018) suggested various ways of managing time effectively by highlighting many techniques that can be borrowed by top management.

1. Project team members should arrange their schedule according to project priorities as per the WBS or CPA, which means that they should look at the important dates of project activities, and then write them down on a calendar as a reminder note. This will make project team see the whole project a lot easier and simpler.
2. Project team including stakeholders should get over any bad feelings that the project might face during project life cycle, and move beyond them by having proper risk mitigation plan
3. Communication should be integrated in the organizational culture, this will reduce the project team conflict.
4. Getting Organized project team waste about five weeks a year looking for lost items." Therefore, there is no reservation that getting organized saves a lot of time. Nonetheless, getting organized means having your desk cleared, your papers filed, your tasks listed, and your events scheduled.

Importance of Project Schedules

Project scheduling is an art of planning and designing project activities so that the project can achieve its desired goals and priorities within the constrain of time and cost. In Project time management scheduling problem includes the scheduling of project tasks and activities subject to the precedence or resource constraints (Herroelen, 2005). Project scheduling process includes defining project activities, and estimation of time and resources to be used for the activities (Muhammed & Muhammet, 2018).

1. Define project scope: The first step in planning involves defining the scope of the project or seeing project end at the beginning, this entails forecasting the project deliverables. project scheduling will help the project manager to determine all required tasks to complete the project within time limit and within the approved budget.

2. Determine the project duration: Effective scheduling helps project team to estimate the needed duration and effort for each activity of the project. Duration may be presented in hourly, days, weeks, months and years, the level of labor required for each activity or % of usage required by each task, these can then be summed up to determine the overall project duration.

3. Effective organization: A project often includes different stakeholders such as; project teams, donors, top management, vendors, regulators. Scheduling helps the project manager to establish all aspects to effectively and efficiently plan and complete the project on time.

4. Resource allocation: Scheduling helps project team to define the resources required to complete every task and activity of the project. This comprises of looking at project expendable and reusable resources and determining the amount needed   resources.

5. Identify the project constraint: Each project task will have limitations, so it's imperative to plan for them. Project schedule will help the project manager to scrutinize each task or activity for any specific limitations. It could be a time, specific skills required to perform specific tasks or other dependencies.

6. Better project estimates: Occasionally, project managers make improper estimates on project time and cost without properly assessing their ability to meet those estimates.

7. Better project tracking: Since project resources are assigned as per the project schedule, project may be in remote areas or on different teams, project teams should have a centralized system that provides full tracking into how project resources are being utilized.

8. Improves project team trust: Resource scheduling and planning also improves project team trust. When there is accurate scheduling system in place, it doesn't put any unwarranted burdens or demands on the team. They trust the schedule because it gives them suitable insight into busy project time for advance project planning, hence this will improve the working environment and team accountability.

9. Anticipate delays: In project, delays are inevitable for various reasons. Effective and efficient project schedule can help project team to predict the delays earlier enough and adjust deadlines as required.

10. Advance planning: Project scheduling helps project team to plan for impending projects by predicting the future capacity and demand for the projects.

11. Understand project trends: Project scheduling also contains assessing the project trends. Top management can consider seasonal highs and lows and adjust project scheduling to forestall bottlenecks and low activity periods.

12. Provides project with real data and analysis; Monitoring project resource utilization in a project is a very critical to timely project delivery and cost efficiency. Using project monitoring technology to track project schedules in real-time offers key data and analysis.

Project Time Management Process

Time management is a significant aspect of managing a project. As such, according to PMI, (2014) it is one of the knowledge management areas and is closely joined to scope and cost areas. According to PMBOK, the main purpose of time management as knowledge area, is to build processes, inputs and outputs into the project management that assist the project managers and team to complete the project within the constraint of time. During the project planning process, outputs are created to demonstrate how project activities and tasks will be sequenced and resources will be allocated. The controlling and monitoring dimension of project time management process is concerned with fast tracking and reporting on project work progress, as well as continuous updating and adjusting time outputs to address changes in the project plan. Project time management process can be categorized into two dimensions; Planning and Project control.

Project Planning: The first process in project planning is activity definition which involves identifying the specific project activities/tasks that the project team members must perform to achieve project deliverables, at this stage project schedules originates from basic documents that initiate a project (in puts) such as Project charter or initial project document (IPD), Project scope statement (PSS) and WBS out puts during the activity definition includes project activity lists and attributes. Project activity list can be defined as an arrangement of tasks or activities to be included on a project schedule such as; name of the activity, project activity identifier and a brief explanation of the project activity. On the other hand, project activity attributes give more information about activity such as resource requirements, logical relationships-imposed dates, predecessors, successors, constraints, leads and lags, and assumptions related to the activity - while project milestone is an important event that signifies an achievement, it is normally has no duration.

Next process after defining project activities is the sequencing of identified activities. This involves finding out and documenting the linkages that exist between project activities and tasks - this process includes reviewing project scope statement, activity list and attributes, milestone list and approved change requests to determine the relationships between tasks and activities. In doing this, the project manager must be able to determine dependencies in order to use critical path analysis as tool for activity scheduling.

According to PMI, (2014) there are three types of dependencies; Mandatory dependencies which are integral in the nature of the activity being performed on a project, occasionally these are referred to as hard logic for example, let's consider activity A and B, if activity is mandatory dependency to A , then activity B cannot commence until activity A is complete .

Second type of dependency is discretionary dependencies; this dependency is defined by the project team, it is also denoted as preferential soft logic, when these dependencies are not controlled, they may limit later scheduling options. Let consider project X with 2 activities C and D, C and D can be autonomously performed, or one can be performed after the other, Project team can choose to make D dependent on C

The third dependency termed as external dependencies, this involves relationships between project and non-project activities. Non-project activities are done by non - project teams such as the representatives from donor's organization, Vendors' organization, governmental departmental or any other external groups. While the project activities, on the other hand, project activities are done by the project team members. Let's consider project K with project activities A and B. where B has an external dependency on A then it would signify that B is a project activity while A is a non-project activity. While Internal Project Dependencies occurs between two project activities. The Project Team usually has full control over project such activities. Let's consider project W with 2 activities A and B. assuming B has an Internal dependency on A then it would mean that both A and B are project activities. These are performed by the Project Team members and there is no involvement of any external party.

Once the independencies have been identifying, the project team will then need to develop project network diagrams, Project network diagrams are the ideal technique for showing activity sequencing, A network diagram is a graphic exhibition of the logical relationships among the activities, or sequencing of project activities.

The next process is activity resource estimate which involves estimating how many or much resource(s) a project team should use to deliver project activities, before estimating activity resources you must have a good idea of the quantity and type of resources to be assigned to each activity, Study important issues in estimating resources, how difficult will it be to do specific activities on this project. What is the organization's history in doing similar activities? Are the required resources available or need to be acquired? A resource breakdown structure is a hierarchical structure that identifies the project's resources by category.

Once the sequencing has been done by the project planning team, next step is to estimate the activity duration estimating by estimating the number of work periods that are needed to complete individual activities or tasks. Project Activity duration includes the actual amount of time worked on an activity plus elapsed time. Effort is the number of workdays or work hours required to complete a task, this can be done using a three-Point Estimate technique. While estimating the activity duration, the project team should avoid using discrete numbers, such as three weeks it's often helpful to create a three-point estimate for the activity duration. this technique involves determining an optimistic estimate, most likely estimate, and pessimistic estimate, such as six weeks for the optimistic, eight weeks for the most likely, and ten weeks for the pessimistic estimate

$$E = (0+4M+P)/6$$

Where: E= Estimated duration; O= Optimistic duration; M= Most likely; P= Pessimistic duration

After the duration required for each activity has been estimated, the next process is to develop schedule by examining activity sequences, activity resource estimates, and activity duration estimates to create the project schedule and uses output from the other time management processes to determine the start and end date of the project. Ultimate goal is this process is to create a realistic and achievable project schedule that provides the project team a basis for monitoring project progress for the time dimension of the project, tools and techniques include Gantt charts, critical path analysis, critical chain scheduling, and PERT analysis.

Project Control: The last process in time management is the Project schedule control, this includes controlling and managing changes to the project schedule, performing reality checks on the schedules, Allowing for contingencies. Skills needed in this process includes, holding progress meetings with stakeholders and communicating schedule issues, knowing the status of the schedule, understanding influence factors that cause schedule changes, determining that the schedule has changed, and manage changes when they occur. Tools and techniques used in this process include: Progress reports, A schedule change control system, Project management software, including schedule comparison charts like the project tracking Gantt chart, Project variance analysis, such as analyzing float or slack, Performance management, such as earned value

During reality Checks on Schedule the project team should consider the following; First review estimated completion date in the project charter, developed detailed schedule with the project team, follow the schedule, inform top management well in advance should you experience any problems with the schedule, Authenticate schedule progress.

CONCLUSION

Time Management is fundamentally the capability to organize and design the time spent on project task or activities in a day. The outcome of good time management process is to increase effectiveness and productivity. Time is a key aspect of project management and which includes planning skills, goal setting and prioritizing for a better project performance. Time management can be said to be the act of planning, scheduling and exercising conscious control over the limited time spent on specific project activities, particularly to increase their effectiveness, efficiency or productivity. Originally, time management was not seen as important beyond business or work activities, but finally the term widened to include personal activities as well. Currently project time management structure is a designed combination of processes, tools, techniques, and methods. Project time management is inevitability in any project life cycle as it determines the required project duration and scope.

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