

Strategies for Effective Project Time Management

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Abstract

Time is an asset and a constraint. This study adopts an empirical science philosophical approach to capture the views of randomly-selected samples of project stakeholders in the geo-political zones of Nigeria. In all, 200 survey questionnaires were administered out of which 140 completed and usable questionnaires (representing 70% response) were retrieved. Primary data were analysed through SPSS version 25 along with descriptive 'Relative Importance Index' and inferential 'Mann-Whitney-Wilcoxon test' statistical tools. Secondary data were collected through a systematic review of relevant scholarly publications and refereed conference papers. Results of the study uncovered planning and goal setting, managing self, scheduling/prioritisation, and managing interruptions as strategies for effective project time management.

Keywords: Management, Project, Stakeholders, Strategy, Time

1. Introduction

Time is a measure of units, a treasurable possession, a daily allotment, a valuable asset, and an equal opportunity available to every creature. Everybody gets the same amount every day. It is an unusual commodity which is perishable and cannot be saved, stored, borrowed or loaned. Time is like a river flowing steadily into an ocean. It never stops flowing hence, it is impossible to touch the same water twice, because the flow that has passed will never pass again. Time is associated with life, purpose, opportunities and achievements.

Time is more valuable than money because it is priceless (Covey, 2019). While money is a renewable resource, time is a non-recoverable precious asset. Time is the most valuable coin in life (Kuster *et al*, 2015). Every individual determines how that coin is spent. So, time may be a terrible resource to waste.

Every project deliverable is time-bound, hence without effective management of time, a project may head towards a disaster. Therefore, this study sought to establish strategies for effective management of project time. The paper begins by explaining the concept of time, concept of project management, and project time robbers. A description of the methods adopted in the study is given, followed by the presentation of the results and, finally the discussion of findings and conclusion. This paper is an extract from Adetola (2021b).

2. Concept of Project Management

A project may be described as a unique process, consisting of a set of co-ordinated and controlled activities with start and finish dates, undertaken to achieve an objective conforming to specific requirements, including constraints of time, cost and resources (Chartered Institute of Building, CIOB 2014). A project may be simple or complex. It may involve a single individual or multiple individuals, a single organisational unit, or multiple organisational units from multiple organisations. Additionally, project activities may be new

to members of a project team and consequently require more dedicated planning than routine works. Above all, every project creates a unique product, service or result (Project Management Institute, PMI 2017). Examples of projects include:

- (a) Developing a new product or service.
- (b) Constructing a facility.
- (c) Running a campaign for political office.
- (d) Effecting a change in structure, staffing or style of an organisation (i.e. organisational change management).
- (e) Organising a conference, workshop or seminar.
- (f) Acquiring a new equipment, machinery or plant.
- (g) Mergers and acquisition.
- (h) Implementing a new policy.

Management consists of the interlocking functions of creating corporate policy and planning, organising, controlling, coordinating and directing an organisation’s resources in order to achieve the objectives of that policy (Adetola and Goulding, 2016).

Management of project time provides an opportunity to decide on how to spend a valuable resource. It enables project stakeholders to get the most out of the best. It helps to organise and learn how to spend project time productively. Learning project time management methods is a skill similar to learning how to speak another language or figuring out how to word-process (Young, 1996; Rigby, 2013).

2.1. Project Time Robbers

Many activities steal and waste time in construction projects (see Table 2). Construction is the process of using acquired knowledge of science and technology to create and build infrastructure or facilities such as buildings, roads, bridges, petrochemicals, harbour-works, underwater structures, etc. (Egan 1998, Chudley and Greeno 2016). It is an installation and erection activities for procured equipment and materials at the site in accordance with approved construction drawings, documents, procedures and specifications.

3. Research Methodology

This paper adopts an empirical science philosophical approach to capture the views of project stakeholders in the geo-political zones of Nigeria. In all, 200 survey questionnaires were administered to the randomly selected samples of project stakeholders, out of which 140 completed and usable questionnaires (representing 70 percent response) were retrieved. Secondary data were collected through a systematic review of relevant scholarly publications and refereed conference papers. The Statistical Package for Social Sciences (SPSS version 25) was used along with the descriptive ‘Relative Importance Index (RII)’ and the inferential non-parametric ‘Mann-Whitney-Wilcoxon test, (MWW)’ statistical tools for data analysis. The ordinal data generated by the research instrument informed the use of MWW to test the research hypothesis postulated for the study (Adetola, 2017).

Table 1: Respondents’ characteristics

Characteristics	Frequency	Percentage
Project Manager	30	21.40
Project Client/User	25	17.90
Project Designer	30	21.40
Project Constructor	34	24.30
Public Authority and Agency	21	15.00
Total	140	100

Results from Table 1 indicate that the respondents to this study are relevant stakeholders in project initiation, planning, design, execution, monitoring, control and closure. Project stakeholders are individuals and organisations that are actively involved in projects, or whose interests may be affected as a result of project execution or completion (PMI, 2021). They may also exert influence over a project, impact or be impacted by a project and its results. About 90% of the respondents have more than 10years post-qualification experience in employment and practice. These respondents are samples randomly selected and representatives of the stakeholders in project management process. The underlying assumption that they are competent, experienced and capable of exercising sound judgement is met. Consequently, the conclusions which would be derived from the results of this study will apply to the entire stakeholders in project management process (Adetola, 2017).

4. Results of the Study

Table 2: Relative Importance Index results for the time robbers in construction projects

Time robbers in construction projects.	SA 4	A 3	D 2	SD 1	NO 0	RII	Rank
Lateness to construction site.	100	30	10	0	0	0.910	19
Unnecessary discussion eating into project time.	90	25	20	5	0	0.857	26
Distraction from project activities.	80	50	5	5	0	0.866	24
Rework/ defective work/ repeating project activities.	120	20	0	0	0	0.964	9
Industrial strikes and lockouts.	130	10	0	0	0	0.982	2
Discrepancies or lack of proper understanding of project drawings and specifications.	119	21	0	0	0	0.962	12
Lack of expertise or technical-know-how.	125	15	0	0	0	0.973	7
Accident causing injury to operator/ operative.	110	30	0	0	0	0.946	13
Poor purchasing schedule.	120	15	5	0	0	0.901	22
Equipment breakdown.	100	35	5	0	0	0.919	17
Poor housekeeping or improper project management.	120	20	0	0	0	0.964	9
Ineffective or poor communication between project stakeholders.	130	8	2	0	0	0.978	5
Global pandemic	134	6	0	0	0	0.989	1
Lack of welfare facilities (toilet, canteen, first aid, etc.)	85	55	0	0	0	0.901	22
Poor or improper project planning.	128	12	0	0	0	0.978	5
Procrastination.	80	50	5	5	0	0.866	24
Inclement weather.	100	30	10	0	0	0.910	19
Delay in release of project fund	130	10	0	0	0	0.982	2
Poor working relationship between project stakeholders.	124	16	0	0	0	0.971	8
Engagement of workers in assignments not related to project activities.	95	45	0	0	0	0.919	17
Delay in receiving project instructions.	120	20	0	0	0	0.964	9
Bad project leadership.	130	10	0	0	0	0.982	2
Poor transportation system.	90	50	0	0	0	0.910	19
Shortage of materials.	100	40	0	0	0	0.928	16
Absenteeism or excuse from duties.	115	20	5	0	0	0.946	13
High labour turnover.	102	38	0	0	0	0.932	15

Key: RII = Relative Importance Index, NO = No Opinion, SD = Strongly Disagree, D = Disagree, A = Agree, SA = Strongly Agree.

$$RII = \frac{1}{4n} \left[\sum_{i=0}^{i=4} Wixfi \right]$$

Where W_i is weight given to i^{th} rating; $i = 0, 1, 2, 3$ or 4 , f_i = response frequency of the i^{th} rating; and n = total number of responses.

Results from Table 2 show that all the time robber variables in construction project rank high. Empirical results from this study (Table 2) reveal that ‘global pandemic’ has the highest ranking (RII = 0.989). This attests to the impact of the global lockdown (Covid-19) of economic activities on projects in year 2020. It is closely followed by ‘industrial strikes and lockouts’, ‘delay in release of project fund’, and ‘bad project leadership’ (RII = 0.982 each). Other time robbers in construction project include ‘poor or improper project planning’, ‘ineffective or poor communication between project stakeholders’ (RII = 0.978 each), ‘lack of expertise or technical-know-how’ (RII = 0.973) and ‘poor working relationship between project stakeholders’ (RII = 0.971).

The construction industry is that sector of the economy which plans, designs, constructs, alters, maintains, repairs and eventually demolishes facilities (Ofori, 1990). Given that it is the engine of every national economy (Adetola, 2014; Maree, Rotimi and Rotimi 2021), yet the construction industry has many features which set it apart from other process industries and which emphasise the need for effective time management. Each order in the construction industry leads to a one-off client made product. The team for each project is assembled from a different collection of professionals, sub-contractors, craftsmen, artisans, labourers, and suppliers within and outside the industry. For example, the team set up to produce a building is in existence only for the duration of that particular project run.

Aside from the uniqueness of the construction development process, the design and production of a building differs significantly in many ways from the design and manufacture of other products. Adetola (2019) identified the essential differences between product-manufacturing process and construction development process.

Test of Hypothesis

The hypotheses postulated for the investigation are as follows:

H_0 : There is no significant strategy for effective project time management using a 5% level of significance ($p \leq 0.05$).

H_A : There are significant strategies for effective project time management.

Table 3: Mann-Whitney-Wilcoxon (MWW) test results for Effective Project Time Management

Variables	MWW		Decision
	P value	Significance	
Do you apply goal setting to decide what tasks and activities you should work on?	0.009	S	Reject H_0
Are you stressed about deadlines and commitments?	0.025	S	Reject H_0
Do you regularly confirm your priorities with your boss/ line manager?	0.275	NS	Accept H_0
Before you take on a task, do you check that the results will be worth the time put in?	0.048	S	Reject H_0
Are the tasks you work on during the day the ones with the highest priority?	0.004	S	Reject H_0
Do you know how much time you are spending on the various jobs that you do?	0.038	S	Reject H_0
Do you know whether the tasks you are working on are high, medium or low value type?	0.016	S	Reject H_0
When you are given a new assignment, do you analyse it for importance and prioritise it accordingly?	0.042	S	Reject H_0
Do you prioritise your ‘To Do’ list or ‘Action Programme’?	0.020	S	Reject H_0
Do you set aside time for planning and scheduling?	0.034	S	Reject H_0
Do you leave contingency time in your schedule to deal with ‘the unexpected’?	0.010	S	Reject H_0
Do you always have to take work home in order to get it done?	0.046	S	Reject H_0

How often do you find yourself dealing with interruptions?	0.018	S	Reject H ₀
Do distractions often keep you from working on critical tasks?	0.042	S	Reject H ₀
Do you find yourself completing tasks at the last minute?	0.002	S	Reject H ₀
Do you always ask for extra time in order to complete tasks?	0.186	NS	Accept H ₀

Key: S = Significant, NS = Not Significant

5. Discussion

The result for the test of the hypothesis is presented in Table 3. It shows that the Mann-Whitney-Wilcoxon (MWW) probability values for most of the variables tested were less than the null hypothesis of $p \leq 0.05$. Therefore, there is indeed sufficient and satisfactory information to reject the null hypothesis and declare categorically that there are significant strategies for effective project time management.

There is a great opportunity to improve effectiveness at work and achieve long term success. However, this requires fundamental improvement in time management skills. Everyone is good at some things, but there is room for improvement elsewhere. For example, when attention is focused on serious or important issues, then it would be discovered that work becomes much less stressful. Results from Table 3 show that time can be managed very effectively through goal setting, treasure mapping and prioritisation.

People tend to neglect goal setting because it requires time and effort. However, what people fail to consider is that a little time and effort invested in setting goals now saves an enormous amount of time, effort and frustration in the future. In order to manage time effectively, there is need to set goals. When a person's destination is determined, then, the person can figure out what exactly needs to be done and in what order (Adetola, 2021a). Without proper goal setting, time will be frittered away on a confusion of conflicting priorities.

Treasure mapping is concerned with visualising goals for greater achievement. It is a powerful and important technique for self-motivation and building the self-confidence needed to achieve established goals (Kuster *et al*, 2015). Treasure mapping is a very simple but effective idea. It involves creating a physical representation or collage of what is to be achieved. Treasure mapping acts as a constant reminder and representation of set-goals. And so, it intensifies the effect of visualisation, which acts on the subconscious mind to motivate and encourage an individual towards achieving established objectives.

Most people have a 'To Do' list of some sort. The problem with many of these lists is that they are just a collection of things that need to get done. There is no rhyme or reason to do the list hence the work done could be described as 'unstructured'. So, the question is how should 'To Do list' tasks be executed? Top down? Bottom up? or Easiest to hardest?.

Prioritising what needs to be done in the order of importance is very essential. Without it, an individual may work very hard without achieving the desired results, because what is being worked on may not be of strategic importance. Therefore, in order to work efficiently, an individual needs to work on the most important, highest value tasks. This will prevent being caught scrambling to get something critical done as the deadline approaches.

The findings of this study revealed that managers get very little uninterrupted time to work on their priority tasks. For instance, there are phone calls, information requests, questions from employees, and a whole lot of events that crop up unexpectedly. Some do need to be dealt with immediately while others need to be managed. Therefore, having a plan and knowing

how to prioritise it is one thing. Another issue is knowing what to do to minimise daily interruptions.

Much of time management comes down to effective scheduling (Weber, 2005; Covey 2019; Adetola and Goulding, 2016). After goals and priorities have been established, then, there is a need to know how to go about creating a schedule that keeps an individual on track and protects from stress. This means understanding the factors that affect available time for work. Aside from scheduling priority tasks, project managers should leave room for interruptions, and contingency time for unexpected events that may otherwise wreak chaos with schedule. A robust schedule that reflects priorities and as well supports personal goals has a winning combination. Such a schedule will allow time control and ensure a balanced life. Scheduling is best done on a regular basis, for example at the start of every project, week or month.

Thus, the important steps identified by this study for managers to take in order to effectively manage project time are:

- (i) Specify and plan appropriate goals to be achieved, visualise the end result, break large goals into weekly and daily priorities, and be prepared to handle interruptions calmly.
- (ii) Organise activities that would help to achieve desired goals, use project boards and organise work space.
- (iii) Direct positive reinforcement to motivate self and others.
- (iv) Evaluate and monitor attitude and behaviour, track accomplishments, and take control of time and life.

6. Conclusion

This paper investigated the strategies for effective project time management. Time management is the art of planning, arranging, organising, scheduling, and budgeting time for the purpose of generating more effective work and productivity. It is the act or process of exercising conscious control over the amount of period spent on specific activities, especially to increase efficiency and/or productivity. Time management may be aided by a range of skills, tools, and techniques in order to accomplish specific tasks, projects and goals. This set encompasses a wide scope of activities, and includes allocating, setting goals, delegating, analysis of time spent, monitoring, controlling, and scheduling/prioritising.

The thrust of time management does not seek to control time itself, but human activities within each window of time. In other words, an individual cannot control how time moves in order to accommodate all tasks. Rather, an individual can control how activities move within a time frame. There is a satisfaction that comes from being in control of activities and a desperation that comes from being out of control.

The contribution of this research to knowledge impacts on 'theory' and 'practice'. In theory, this study has identified five key strategies for effective project time management. They are planning and goal setting, managing self, scheduling/ prioritisation, dealing with people/interruptions, and getting results. The first four strategies all interconnect and interact to generate the fifth result.

A plan is a road-map set in real-time to reach an objective or set of objectives through the use of defined resources. The findings of this study have shown that people who set goals for themselves are more successful and prosperous. However, the people who write down their goals are the most successful of all. Writing down what is to be done and where to go helps to make good choices in life. It helps to say 'No' to choices that do not align with direction, and

to recognise and say ‘Yes’ to choices that will help to get to predetermined destination. An individual without goals is likely to spend time working to help others achieve their goals.

Effective time management starts with goal-setting. A goal is a dream with a deadline. Goals may be strategic, tactical or operational. Strategic goals are long term goals spanning up to five years, tactical goals are medium term goals from 3-12 months, while operational goals are short term goals (covering hours or days) defining the exact action to be taken. Before goals can be set for any business, an individual needs to set personal goals. What is it that is required? This must be figured out and written down in a notebook. Committing goals to writing makes them real. Written goals should be kept where they can be easily seen and reviewed. For goals to be effective, they need to be *specific, measurable, achievable, realistic, and time-bound* (SMART).

There are different ways to use time. However, a manager must spend time *planning, setting goals* and *communicating* with stakeholders. Furthermore, time must be spent *directing* project activities in order to ensure that specified project goals and objectives are accomplished. Challenging goals and objectives need to be formulated in a realistic manner taking heed of resource availability. Set-goals must relate to project performance and conform to SMART criteria in order to improve productivity.

The benefits of effective project time management include:

- Improved productivity through improved use of time.
- Better performance in terms of on-time delivery to customers/clients.
- Increased profitability through better use of the human and non-human resources.
- Improved planning and control of projects/business systems through time-based management.
- Better alignment of activities by incorporating a time-bound system for co-ordination of tasks and projects in any business.
- Reduction of stress that arises due to crisis management by reducing the incidence of crises through better planning.

Research findings from this study provide opportunities for critique and further reflection. Whilst empirical data is drawn from the Nigerian context, the data constructs were developed from extant literature. Given the probability sampling technique employed, the results of this study are relevant and practically useful for managers in leadership roles related to projects, programmes, portfolios and businesses.

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