

Main Building Refurbishing Project at NIM

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Introduction

This Case describes a project situation wherein the contractor (Mid-India Construction Company, MICC) has to decide about rapid completion of the project i.e. Main Building Refurbishing Project and its consequences (both financial and non-financial) to his firm and to other stakeholders. The client i.e. Narmada Institute of Management (NIM) has recently awarded a contract to MICC and the Director of the institute has found very little progress after a month of award of the contract. Therefore, the Director has expressed his concerns to the project manager and asked him to act on this situation. Timely completion of this project is very important for NIM as major work to be completed in the four classroom blocks of the main building before the beginning of the next academic term in July 2013.

This case provides an opportunity to get insights into fast track projects and its advantages to various stakeholders. It also depicts the consequences of ad-hoc planning approach of the contractor on project execution. Case provides the students an opportunity to apply project management techniques such as Gantt chart to prepare a project plan.

Analysis

Narmada Institute of Management (NIM) awarded the Main Building Refurbishing Project (MBRP) to Mid-India Construction Company (MICC) after due tendering process on November 21, 2012 with a tender cost of Rupees three crores. As per the tender conditions, MICC had to finish the project within eight months from the day of award of contract i.e. November 21, 2012. However, after over a month, the Director of NIM observed slow pace of work on the project. He was concerned about it because the work had to be completed for four classroom blocks before the beginning of next academic year in July-2013.

Exhibit-4 of the case describes the delay in the progress of the project in last one month and it is way behind the schedule. Slow progress of the project could mainly

be attributed to ad-hoc planning approach followed by the contractor, MICC. The contractor neither planned in a detailed manner nor deployed sufficient resources on the project. Such ad-hoc planning may lead to poor execution and affect project in a big-way, which was not realized by the contractor. The other reasons behind the slow progress could be the productivity of assigned people, loose monitoring and proper control mechanisms.

Consequences of Project delay to various stakeholders

Project delay could lead to following consequences to various stakeholders:

1. **For NIM**
 - a. Non-availability of classroom blocks in next academic year
 - b. Avoiding additional cost of alternate arrangement
 - c. Loss of goodwill
2. **For MICC**
 - a. Loss of goodwill and reputation
 - b. Penalty and retention of the money from project bills
 - c. More overheads
 - d. Less profit margin
 - e. Loosing opportunity to start lined-up projects quickly
3. **For Main Building Users**
 - a. More risk and hassle in using main building for longer duration

Planning for 2000 Square Meter (sq. m.) Work Front

MICC divided the entire project (i.e. external surface area of 28000 sq.m. and internal surface area of 24, 400 sq. m.) in to 14 equal work-fronts and planned to complete entire project in seven months, i.e. MICC has to complete two work-fronts every month.

Based on the data available in case exhibits 1 and 3, thirty days are required to complete different activities

in a typical work-front of 2000 sq. m. external surface and 1743 sq. m. of internal surface areas. One can prepare the Gantt chart of the same, i.e., MICC has to plan two such parallel work-fronts with additional set of resources in order to complete MBRP in seven months. It can be seen based on the cost data that MICC would have approximately ten percent profit margin after completion of the project.

In order to put the project on fast track and completing it rapidly MICC needs to carefully plan the activities and assign its resources. It can be seen that scaffolding is a critical resource in this project because a set of scaffoldings for a typical work front were required for activities A to H, i.e. scaffolding set would be occupied for about 10 days in a 30-day completion schedule of a typical work front. However, one can come up with a schedule with detailed planning wherein the project can be completed in 160 days (= 13 fronts X 10 days/ front+30 days for last front) with the use of a single set of scaffolding.

Opening Parallel Fronts and its Impacts to Various Stakeholders

However, MICC has opportunity to open several work-fronts but then more sets of scaffolding would be required based on number of parallel work fronts. Table-1 shows the summary of few alternatives of executing more parallel work-fronts along with project cost and duration. It can be seen that opening a parallel work-front will lead to saving in project duration but will have more project cost and less profit margin to MICC.

It can be seen from Table-1, project duration is reduced as we move from alternative 1 to 7 but project cost shoots up. It means MICC has to sacrifice on profit margins if it wants to reduce the project duration. However, there are various benefits that could be realized by various stakeholders including MICC from early completion of the project.

At this moment, MICC has to seriously think about the possible benefits and motivations for completing the project early. MICC can also think about the other possibility of reducing the cost of additional scaffolding i.e. Rent option. There is no possibility of negotiating with NIM about additional bonus or incentives after the award of the contract. However, NIM could possibly agree for the faster payment to MICC if the project brought on fast track. MICC also has to look at the operational challenges of running parallel work fronts.

Table-1: Project Duration and Cost for Executing Work by Parallel Work-fronts

Activity	No. of Parallel work-fronts	Project Completion time# (days)	Project Cost* (in Rs.)
1	NIL	160	2,70,00,662
2	2	90	2,72,70,662
3	3	70	2,75,40,662
4	4	60	2,78,10,662
5	5	50	2,80,80,662
6	7	40	2,86,20,662
7	14	30	3,05,10,662

Scaffolding for the next dependent front can be available only after 10 days.

* Direct labor and material and direct supervisor cost is same for all alternatives. There is an additional scaffolding cost of Rs.2, 70, 000 for every parallel fronts.

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