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| [键入公司名称] |
| Managing Projects |
| SIM335 |
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| **[键入作者姓名]** |
| **2012/1/9** |

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| [在此处键入文档的摘要。摘要通常是对文档内容的简短总结。在此处键入文档的摘要。摘要通常是对文档内容的简短总结。] |

E9 =34

L9 =34

**E2 = 4**

**L2 = 8**

B

5

E3 = 4

L3 = 9

I

4

7

E13 = 62

L13 = 62

E12 =49

L12 =49

E8 =26

L8 =26

E7 = 13

L7 = 13

8

E1 = 0

L1 = 0

13

4

4

8

C

E4 = 4

L4 = 5

13

M

L

K

E11 =41

L11 =41

8

4

H

G

A

6

9

8

D

4

6

J

E14 = 71

L14 = 71

9

N

E10=34

L10 =35

4

4

E

E5 = 4

L5 = 7

E15 = 75

L15 = 75

O

4

F

E6 = 4

L6 = 4

Stop

Q

P

E18 = 93

L18 = 93

E17 = 88

L17 = 88

E16 = 79

L16 = 79

9

5

|  |
| --- |
| **Activity Schedule** |
| Activity | Duration | Earliest Start Time | Earliest Finish Time | Latest Start Time | Latest Finish Time | Total Float |   |
|   |   |   |   |   |   |   |   |
| A | 4 | 0 | 4 | 0 | 4 | 4-4 = 0 | Critical |
| B | 5 | 4 | 9 | 8 | 13 | 13-9 = 4 | Non-Critical |
| C | 4 | 4 |  8 | 9 | 13 | 13-8 = 5 | Non-Critical |
| D | 8 | 4 | 12 | 5 | 13 | 13-12=1 | Non-Critical |
| E | 6 | 4 | 10 | 7 | 13 | 13-10=3 | Non-Critical |
| F | 9 | 4 | 13 | 4 | 13 | 13-13=0 | Critical |
| G | 13 | 13 | 26 | 13 | 26 | 26-26=0 | Critical |
| H | 8 | 26 | 34 | 26 | 34 | 34-34=0 | Critical |
| I | 7 | 34 | 41 | 34 | 41 | 41-41=0 | Critical |
| J | 6 | 34 | 40 | 35 | 41 | 41-40=1 | Non-Critical |
| K | 8 | 41 | 49 | 41 | 49 | 49-49=0 | Critical |
| L | 13 | 49 | 62 | 49 | 62 | 62-62=0 | Critical |
| M | 9 | 62 | 71 | 62 | 71 | 71-71=0 | Critical |
| N | 4 | 71 | 75 | 71 | 75 | 75-75=0 | Critical |
| O | 4 | 75 | 79 | 75 | 79 | 79-79=0 | Critical |
| P | 9 | 79 | 88 | 79 | 88 | 88-88=0 | Critical |
| Q | 5 | 88 | 93 | 88 | 93 | 93-93=0 | Critical |

1. The activity time has been calculated using forward pass and backward pass
	* Earliest start time- earliest possible time at which an activity can be started. Calculated, according to, the precedence sequence. It is denoted by Ei. Earliest Start time of first activity will always be Zero
	* Earliest finish time- earliest possible completion time of an activity. It is denoted by Ej. Calculated as earliest start time + duration of the activity. In case two or more activities are merging at one node then maximum of the times will be taken.
	* Latest start time - latest possible time at which an activity can be start. It is based on the concept that an activity can be started no later than latest finish time. Calculated, min (latest finish time (Lj) – duration, earliest start time). It is denoted by Li. at the end activity Lj & Ej would always be equal. In case two or more activities converge at one node then minimum of the times will be taken.
	* Total Float – latest finish time – earliest finish time.
2. Critical path is the longest path in the diagram. It is calculated by way calculation of earliest and latest times by way of backward & forward pass. The activities at which values of both Es & Ls are same are known as critical activities. Also the activities for which total float comes out to be ZERO, are the ones, constituting the critical path. These have been highlighted in the table (with critical & non-critical label) as well as the network diagram.

Critical path is **A – F – G – H – I – K – L – M – N – O – P – Q**

Duration of project is calculated by adding the durations of these activities i.e. 4 + 9 + 13 + 8 + 7 + 8 +13 + 9 + 4 + 4 + 9 + 5 = **93 days.**

In theoretical terms it is calculated by way of following process:-

Step 1- draw the network diagram as Activity on Node (AON).

Step 2- calculate the earliest start time (Ei) of each activity with Ei of activity A as 0.

Step 3- calculate the latest finish time (Lj) of each activity with Lj of activity ‘end’ as Ej of activity ‘end’.

Step 4- for any node, having more than one successor, the Lj is calculated as min of them.

Step 6 – for any node, having more than one predecessor, the Ei is calculated as max of them.

Step 7 – the activities having same Es & Ls are the ones forming the critical path. The float of such activities is ZERO.

1. Project begins on January 16, 2012 Monday and 5 days working is assumed. Project takes 93 days to complete. So project will complete by (Jan – 12 days + Feb – 21days + Mar – 22days + Apr – 21days + May – 17days) May 23, 2012, which is Wednesday.
2. The effects are as under:-
	* If activity B is delayed by 2 day then the project completion date would remain unaffected. This is so because; this activity B does not fall on the critical path sequence. Hence any delay in it would not constitute an effect on project estimations.
	* If activity P is delayed by 2 days, then project completion would be affected by 2 day. New completion schedule can be estimated as 95 days. This is so because activity P falls on the critical path schedule of the project. Accordingly only activity Q will be completed later than 2 day & this will affect project completion.
	* Activity O is delayed by 1 day would have affect on the original schedule of the project, since it fall on the critical path, thereby the project duration exceeds by 1 day i.e. now it will become 94 days.
3. Set of jobs usually directed towards some significant outcomes & requiring a significant period of time is termed as a project. The two methods critical path method (CPM) & program evaluation &review technique (PERT) are aids to efficient project management. However, they differ in their approach to the problem & solution technique.

Network diagrams give the graphical view of the project activities. The sequence in the graphs can be used to determine the future progress of the project at periodic levels. As such, many activities and methods have been derived in project management that helps in achieving competency & structural approach. But along with the merits lie the limitations of network diagrams, which are as follows:

* 1. These are labor intensive & time taking jobs.
	2. When project consists of large number of activities then network diagram cannot be used.
	3. In case there are uncertainties attached with the activity durations, network diagrams won’t serve the purpose of project managers and may give misleading results.
	4. Problem of 2 paths becoming critical can also crop in network diagrams & selecting one may lead the process exposed to new set of problems.

**Task 2**

**Jimaga Ltd**

**Feasibility Report on Opening a New Building**

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# Abstract

As a part of strategic plan of opening a new building, a high degree of uncertainty with respect to many factors exists. The high benefits associated with such projects come in a package bundled with several other issues. The risks associated with them are the foremost factor of consideration. Along with that lies the human resource requirement, escalation in cost and expenses etc. These are then coupled with other feasibility study which gives overall outcome of the estimations assumed. Project management techniques provide a substantial support in making a project success. Earned value assessment is an important technique emerging these days that help in assessing the project progress at the intermediate levels.

# Introduction

The company Jimaga Ltd specializes in design & supply of promotional brochures. It is a SME company and the organizations they are commissioned by include: Local Authorities, SME enterprises, and - on rare organizations - large global companies. The company has experienced a successful trading since 2005. The current scenario of company is very simple with one single operating office. The human resource digit is also countable on finger tips. The current human resource at Jimaga Ltd has 1 general manager supported by 2 assistant managers. The administration department has 3 people employed, while sales have 5 and warehousing department has 6 employees.

It has been observed that in many conditions company has to outsource its distribution functions due to lack of human power. Considering this as a major threat to company’s growth, the new expansion plan has been suggested. This plan includes opening of a new building that would act as another corporate office of Jimaga Ltd from where global dealings would be handled. This new building has dimensions as 35000 sq. meters which means it can accommodate a substantial number of employees. This would give a boost to HR department of the company. Increase in workforce would reduce their need to outsource the operations. This would help in excelling in business as company would now get chance to focus on its core competencies.

# Project Planning & Management Cycle

In order to develop a project, it goes through a series of activities. These activities are performed in different phases of project development. These phases are:-

* Requirement analysis
* Feasibility test
* Planning & documentation
* Drafting the project
* Designing
* Testing
* Implementation
* Maintenance & services

All these phases are interrelated. The phase next in sequence will only execute when the immediate predecessor has finished. The output of one is considered as the input of next phase.

Once requirement of a project is identified its feasibility test is conducted. If, found feasible; a proper planning & drafting of proposal is done. Scheduling of intermediate activities is done in drafting phase. Design or development of project is initiated. Completed project is tested for approval, if satisfied, it is successfully implemented. If however, the phases are not properly detailed than its effect would be cumbersome in terms of final output.

In case of Jimaga ltd, this technique will be used in terms of defining the series of timelines for the completion of this new building along with the critical activities related to its completion.

# Project Management – Tools & Techniques

Set of jobs usually directed towards some significant outcomes & requiring a significant period of time is termed as a project. The management of such large number of activities poses complex problems in planning, scheduling, directing & controlling resources. Project management is nothing but synchronization between all these above mentioned activities, especially when the project activities have to be performed in a specified technological sequence. The two methods critical path method & program evaluation & review technique are aids to efficient project management. However, they differ in their approach to the problem & solution technique.

After getting a tutorial of project management, any manager gets the ability to organize & schedule the activities in a proper way. The time management is often considered as a mandatory factor; hence, identifying the deadlines is the most critical issue for a project manager. To be formal, learning aids of project management are:-

* Planning the project ahead of time & foresee possible sources of trouble & delays in completion.
* Schedule the project activities at the appropriate times to confirm with proper job sequence so as to complete the project ASAP.
* Coordinate & control the project activities so as to stay on schedule in completing the project.

# Characteristics Possessed By a Project Manager

Project manager is expected to have a set of hard skills as well as soft skills. Apart from having sound knowledge of the subject, few more characteristics should also be possessed by them. These are listed below:

* Leadership
* Creativity
* Ability to get things done
* Self-confidence
* Self-reliance
* Empathy
* Humour
* Courtesy
* Trust

# Earned Value Assessment

Earned value is considered a significant tool to determine the actual progress and efficiency of any project. It’s a well defined and structured technique in project management. Following table shows the acronyms used for different terms.

|  |  |
| --- | --- |
| PV | Planned value |
| EV | Earned value |
| AC | Actual cost |
| SV | Scheduled variance |
| CV | Cost variance |
| CPI | Cost performance index |
| SPI | Scheduled performance index |

In order to calculate the CV, SV, CPI and SPI for individual activity, we need to determine the following values.

* Budget cost of each activity
* Actual cost of each activity
* Actual completion of each activity
* Scheduled completion of each activity
* EV, PV, AC, CPI, SPI
* EV = actual completion to date \* task budget
* PV = scheduled completion to date \* task budget
* CPI = EV/AC
* SPI = EV/PV
* CV = EV-AC
* SV = EV-PV

# Project Success Parameters

Whether it is a small or a big project, every project being real or not has a set deadline. Certain project management control tools exist that ensures smooth proceedings. They are responsible to handle following things:-

* Provide a complete snapshot of the project
* Update snapshot with real time & changing needs
* Unique control & clear visibility
* Building Gantt charts
* Apply WBS (work based structure)
* Periodic reminders to employees associated with tasks
* Increase productivity
* Works with emails also

# Feasibility – New Building

To consider the feasibility of such a building, the need is to have a bureau that could deal with global trade without affecting the domestic one. Employing staff for the global level in the same office would pose several problems like sitting arrangements, necessary infrastructure, day-to-day operations would get hampered. Moreover expansion in business is required after a certain period of time. Since Jimaga Ltd has decided to undergo a strategic expansion, opening a new building would give a support by differentiating the mode of operations & segmenting the target market. The Human resource department would get a challenge in managing the details & requirements of all such new employees. The salary structure for new hires should be kept same in order to avoid future conflicts between existing & new employees.

The studies have shown that such projects are well judged by some of the feasibility study methods. Such methods when embedded with project management approach give profitable outputs. The success of a project considering the budget allocated can be judged through financial measurement. NPV analysis, Payback period, etc are few such methods through which project feasibility can be determined. Since the data provided for this feasibility study does not include any data related to cash flows or discount rate, hence exact value related to project can’t be determined.

Talking about management techniques, the project management tutorial is very necessary for the managers especially. These techniques act as a backbone that gives a new shape to the project execution. Often such projects are coupled with on time & within budget completion. One of the approaches embedded in project management is earned value assessment. This approach gives the project progress at any subsequent stage of the project life cycle. The SPI & CPI are two main indexes that identify the project progress within the allocated schedule & cost respectively or have exceed the limits.

Feasibility study of the project defines the scope, area & functional expertise which are needed & which are available. The optimum use of resources is also one of the factors; hence, to get maximum output from any resource, their availability is first determined. Often it is observed that, there exist an alternate or many alternate solutions to a project. Identification of such alternates is also part of feasibility study. The analysis of the project would be to determine the human resource need & affect on the initial staffing structure of the company coupled with few more parameters like infrastructure etc.

By opening the new building company will be able to capture that outsourced business itself which will help in reducing its cost to a greater extent as well as increasing the revenues by way of more business done by the company. Since initially Jimaga is following the same workforce pattern as in previous office, so according to new requirements by opening of new building, the staff requirements would approximately be like these: (figures are calculated by way of unitary methods, rounding off is done, since employees cannot be in decimals. Same Ratio of the personnel’s are tried to be maintained in the new building also.

|  |  |  |
| --- | --- | --- |
| Particulars  | Present Scenario | New Building (Proposed Staff) |
| Area | 25000 sq meters | 35,000 sq meters |
| General Manager | 1 | 2 |
| Assistant Managers | 2 | 4 |
| Administration staff | 3 | 6 |
| sales staff | 5 | 7 |
| warehouse staff | 6 | 8 |

# Risks Associated With the Project Execution

Every project is a blend of mixture of many problems & is exposed to numerous risks. Few such risks are listed below:-

1. **Difficulty in approaching target market:** It might be a possibility that marketing strategies may have difference at the domestic & global level. In such case, either new office would add profit or fetch cash back.
2. **Ineffective promotional techniques:** fetching target market requires tactical marketing characteristics. Promotion of product is very important as it directly hits the perception of buyers. Moreover, this company deals with promotional brochures thus have a greater challenge to have effective promotional tactics.
3. **Increasing costs:** due to opening of new building all the expenses of the company will escalate like electricity, arranging of new furniture and also salaries of new employed executives.
4. **Lack of infrastructural facility:** new hires would require sufficient support of administration in providing the infrastructure support. This may create a problem of cash crunch for the company because of which company may has to look for financing options i.e. taking a debt obligation.
5. **HR administration**: major challenge will be for HR department. It has to manage the account details of more number of employees with efficient synchronization amongst them. All the salary records have to be made in proper manner but it all depends on the competence of the previous HR professional that how efficiently he can manage all that.

# Conclusion

As a project manager for this expansion project, I would suggest that company should go for expansion i.e. opening a new 35000 sq meter building. The analysis includes the pros n con effect on the company’s existing workforce. The risks associated with the execution of this project have also been discussed. Light has been thrown on the project management role in making any project a success. Tools & techniques which are embedded within this technique have also been discussed.

Feasibility study embedded with risk factors causes decrease in investment patterns. However, if investment is still continued as against the risk parameters this will consequently increase the investing figures.

Undoubtedly risk factors give a significant boost to the investment plans. The tasks & responsibilities of a project manager are very well listed & the theory pertaining to project management gives an insight view of handling big projects. The new openings at this building would act as a support to company’s existing staff. Also staff patter can be revised in the future after the building becomes fully operational & cash flows start coming in.

# References

Project Management Institute. (2000). A Guide to the Project Management Body of knowledge (PMBOK guide) 2000 Edition. Pennsylvania.