Construction Planning And Management of Airport

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Abstract- Challenges and difficulties of managing construction project increases when the context is related to an airport environment. Consequently, there is a need for holding bodies of airports to change their procedures and practices in order to accommodate the unique and complex construction environment. Within an airport environment, different strategies play a significant role in achieving organizational success through an effective and efficient delivery of various construction projects. Those strategies are influenced by project management strategies and human-related competencies. This is, in turn, requires strategic competence and ability at both functional and operational levels. The Construction projects, especially the highway construction projects, uses huge amount of resources on and off the field in various forms of resources viz., materials, plants, equipment's and human resources along with money, time and space. The uniqueness of the projects makes the resource planning a tedious job as the efficiency of each resource depends upon a huge number of working condition factors. A detailed study of resource planning and productivity can, thus help in good resource planning, better monitoring and overall controlling of the project.

Keywords- construction industry, airport construction, project management strategy, human resource strategic management.

I. INTRODUCTION

The construction industry is one of the major industries in terms of both size and impact. It is considered not as a single industry but one where several market sectors integrate to form the industry. Indeed, there is no obvious agreement on the classification of construction sectors or on how the industry can be broken down into different Construction plays a significant role in the overall economy of both developed and developing countries in terms of economic growth. Its various activities and related projects also have a great impact on different key factors of a country's overall development aspects. Therefore, it is essential for construction activities to be accomplished successfully in an effective and efficient way. This requires various strategic and management capabilities.

Among the different types of construction sectors and their numerous types of construction works, airport projects, in particular, are very complex and have unique characteristics. In an airport, a number of significant and diverse activities are performed, whether within the airside, terminal or landside zones. Airport owners or statutory bodies/operators need to manage both air transport operations and also real estate investments and various construction projects

Fig 1 Airport Model

1.1 Objectives of Project Planning

Following are the objectives of construction project planning .

- Planning of each activity
- Construction Methods
- Planning for Construction Equipment's and Machinery Procurement of materials

1.2 Use of airport

- Civil or for military
- Adaptability for other usage during emergencies
- Surrounding area obstructions
- Clear air space for takeoff and landing
- High rise buildings not allowed
- High trees are cleared off

- Zoning laws are made to take care

II. LITERATURE REVIEW:

Frederic R. Harris These discussions focused on the need to better identify these issues and engage in further dialogue regarding their implications for planned and ongoing airport development programs. Issues needed to be considered not only from a planning perspective, but also from a design and construction viewpoint. Issues identification began immediately after the June 1996 conference and has resulted in input from more than 40 groups, including design and planning firms, architects, engineers, aircraft manufacturers, and airport operators**.**

Nasser Alnasseri This paper reports the initial work of a research project which seeks to integrate the theories associated with project and human resource strategies with in the construction industry. Its aim is to develop a theoretical framework for airport operators to implement in order to cope with an airport environment and enhance business operations when managing and controlling construction projects.

Hasan Wahab The methodology adopted revolves around Modeling and Case Study techniques, to observe and analyze the existing situation and define the model's variables. In order to develop such a model, an in-depth analysis is carried out of the processes and design approach currently employed. The Process Protocol Model is adopted, albeit with necessary modifications, to address the research objectives. The validated and enhanced model provided a powerful tool for the design manager to administer and archive the in for motion flow in airport projects as well as a frame work for managing the stakeholders' requirements.

Maha Mousavi Sameh The challenge ahead of airport authorities is to find a balanced approach for maximizing the capacity of airports and the possibilities and potentials for future grow thin one hand, and minimizing the accompanying negative impacts on the other hand. Airports' authorities, in response to communities' concerns, public awareness of environmental issues of aviation activities and regulatory measures of local authorities and governments, have been trying to apply strategies and procedures to diminish the adverse effects of their activities on the environment. By having appropriate and effective.
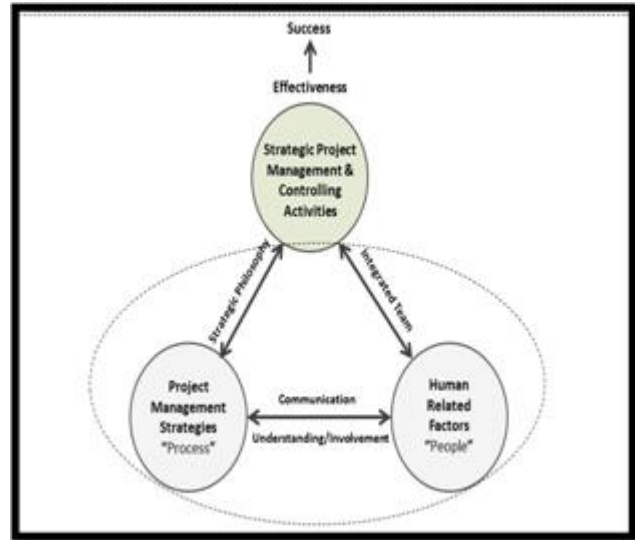
III. METHODOLOGY

Fig 2 the Effectiveness Model Of Airport Construction

3.1 Microsoft Project

Microsoft Project is really a computer database that uses two main tables of data to keep track of your project. Project uses one table to store information about the tasks of your project and the other for resource information. By using the many views available in Project, you can display your project data from these tables in many different ways.

The Microsoft Project screen will vary depending upon the view, table, and filter that is currently active. However, you will need to become familiar with the basic components of the screen as shown below. Understanding the layout of the screen, and its components and terminology will help you in using Microsoft Project.

IV. PROBLEM STATEMENT

Purandar Airport

Initially a site near Chakan was fixed for the airport. But due to opposition from local farmers and the mountainous terrain, the government decided to set the new airport in Purandar taluka as it was a flatter region compared to Chakan. The proposed airport in Purandar will be spread over 2,400 hectares.

Connection of proposed purandar airport

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Latitude and longitude

18.2825° N, 73.9735° E

Target Population

20000

Navi Mumbai International Airport Project

- MMR Area – 4355 Sq. Km
- Population - 22 Million (2011)
- MMR Projected Aviation demand - 100 MPPA
- Mumbai Airport to cater to 45 MPPA   (million passengers per annum) and Navi Mumbai Airport to handle at least 60 MPPA.
- CIDCO has been designated as Special Planning Authority (SPA) for Navi Mumbai Airport Influence Notified Area (NAINA) – about 600 sq.km area earmarked for planned development around the airport

V. RESULT AND DISCUSSION

Scheduling In MSP of Mumbai Airport
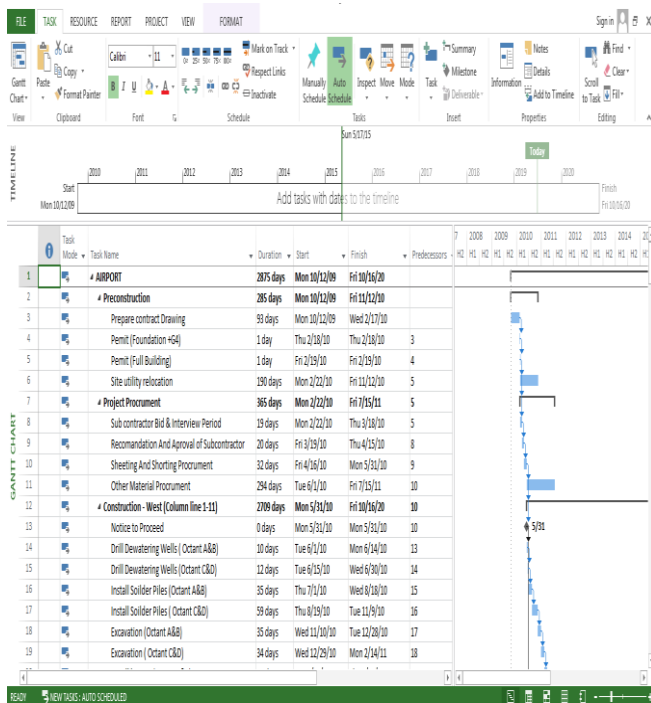
Scheduling In MSP of Purandar Airport
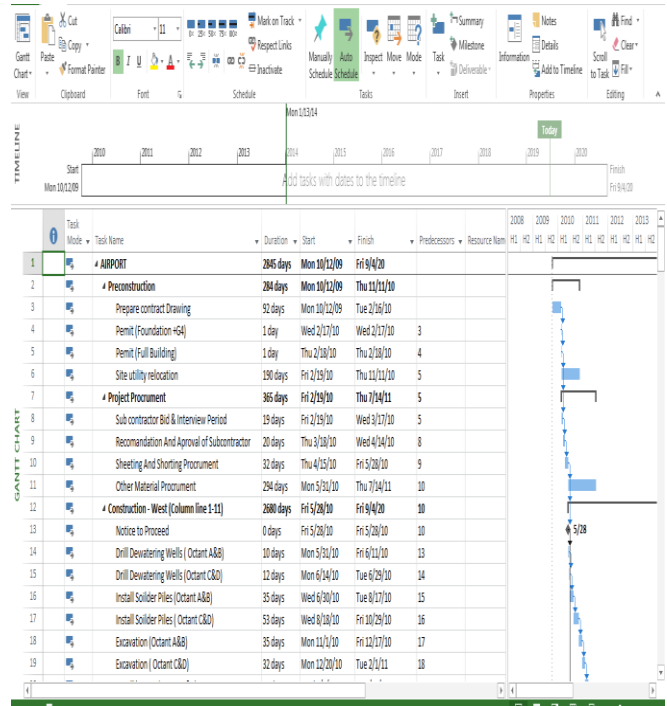
Above MSP Sheets Shown exactly days calculated of Mumbai Airport as well as Purandar Airport. For Mumbai airport planning and designing schedule of 2875 days will calculated but in Purandar Airport we have calculated 2845 days for planning design as well as execution of Purandar airport. That will take 30 days ore to execute Mumbai Airport. So Cost, execution days, Delay project, Labor charges will increases. As compared to Mumbai airport Construction is traditional way to construct as minimum complexity. Modern construction design management models such as the Process Protocol and the Analytical Design Planning Technique have been examined and found to provide a holistic project view. Furthermore, they are backed by a consistent design process management framework that aids the different levels of coordination between disciplines involved in modern construction projects.

VI. CONCLUSIONS

- Construction of airport using traditional way proves to be uneconomical and consumes more time with many complexibility and enormous error which actual execution of the Project.
- Traditional way of planning doesn't sub divide the main task which future gets the hurdle of over allocation of resources, improper judgment of resources for particular activities etc.
- Microsoft Project is the modern tool of Project Management that aid to overcome the obstacles faced

owing to traditional way of Planning and Management. Hence MSP helps for the optimum and effective organization of activities which helps to give the vision to complete the project in planned duration and within the Economy.

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- It is widely understood that modern construction projects face complexity at different levels such as the organizational, operational, technological, planning, and management layers. However, Airport construction projects have additional complexity factors such as the long stakeholders list and the considerable number of building components and systems.

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