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### **Project Management of Construction Industry**

The article is dedicated to the identification and investigation of the concept Project Management of Construction Industry. Project management is increasing in importance as companies strive to gain competitive advantage in today's tough business environment. Project implementation has become a critical aspect of managing assets and resources effectively. A small drop-off in effectiveness can put a company at a distinct competitive disadvantage. It can negatively affect market share and the bottom line. Construction project planning is a process of documenting action based plans for completion of project in time. Construction project planning includes defining the work task, sequence of work, construction methods, roles and responsibilities and planning of resources to complete the work as per schedule. Companies in Construction industry are looking for ways to improve the reliability of their systems and those of their business partners.

**Key words:** Project Management, construction companies, construction industry.

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### **Құрылыс саласындағы жобаны басқару**

Мақала құрылыс саласындағы жобалық менеджмент түсінігін анықтап, құрылыс жобасын басқарудағы ерекшеліктерді қарастырған. Заманауи нарықтық заманда жобалық менеджмент компанияның бәсекеге қабілеттілігін арттырудың кілті болып табылады. Сол себепті, бәсекеге қабілеттілікті арттыруда жобаларды басқару ерекше сипатқа ие болуда. Нарықтық қатынастардың дамуы нәтижесінде кәсіпорындар бәсекеге қабілеттілігін арттырудың барлық жолдарын белсенді түрде іздеуде. Кәсіпорын басшылығы бәсекелестерді бақылап, тұтынушының қажеттіліктерін және болашақ талаптарын басқа кәсіпорындарға қарағанда ертерек білуге тырысуда. Көп компаниялардың тәжірибелеріне сәйкес, жобаларды сәтті жүзеге асыру бәсекеге қабілеттілікті жоғарылататыны анықталды. Ал, жобаларды басқарудың отандық мамандары ғылыми-методологиялық дәрежеде жобаларды ұйымдастырудың стратегиялық басқаруына және бәсекеге қабілеттілікке әсеріне жеткіліксіз көңіл бөледі. Сонымен қатар, жобаларды сәтті жүзеге асыру компания қызметінің тиімділігін арттырады. Сол себепті, компанияның бәсекеге қабілеттілігін жоғарылатуда жобаларды басқаруды қолдану маңызды сипатқа ие болуда. Ол құрылыс саласында да өз маңыздылығын жоғалтпай емес. Құрылыс жобаларын жүзеге асыруда және басқаруда жобаларды басқарудың өзіндік ерекшеліктері бар.

**Түйін сөздер:** жобалық менеджмент, құрылыс компаниялары, құрылыс индустриясы.

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### **Управление проектом строительной промышленности**

Статья посвящена определению и исследованию понятия проектного менеджмента в строительной индустрии. В современных рыночных условиях проектный менеджмент является важным элементом для повышения конкурентоспособности компаний во всех секторах, так же и в строительной индустрии. Одним из путей повышения эффективности управления сроками и стоимостью строительства в мировой практике является внедрение подхода управления проектами (project management). Отличительными чертами данного подхода являются: концентрация ответственности за выполнение проекта в одном органе; параллельное проектирование и строительство; использование математических методов и информационных технологий для анализа вариантов реализации и оптимизации сроков и стоимости проектов. Управление проектом строительства объектов недвижимости – это комплекс взаимосвязанных мероприятий и управленческих решений по созданию жилого комплекса с развитой инфраструктурой, в наивысшей степени отвечающего потребительским предпочтениям, в рамках установленных ограничений по срокам, бюджету и качеству. Проектный менеджмент и его составляющие имеют некоторые особенности в компании строительной индустрии.

**Ключевые слова:** проектный менеджмент, строительные компании, строительная индустрия.

**PROJECT MANAGEMENT  
OF CONSTRUCTION  
INDUSTRY**

Project Management is the art of organizing the components of a project, whether the project is the launch of a new product, or a birthday party. It's all about carefully organizing and planning for a specified objective. The methods used for defining goals, plan and monitor task for a particular project. PM includes developing a project plan, which includes defining and confirming the project goals and objectives, identifying tasks and how goals will be achieved, quantifying the resources needed, and determining budgets and time-lines for completion.

PM helps a lot in business especially in keeping their documents and projects well-organized. Even in history, people in 1900 are already practicing project management – developed from several fields of application including civil construction, engineering, and heavy defense activity. Aside of business, we can also use Project Management in different fields and surely because of it, we are able to finish a project orderly and well-organized, less problems will occur and we can even finish our tasks in a matter of time.

Through PM, we are able to organize our projects easier than manually keeping it in order. It will just give us headache! It had a big contribution to our economy and business world. Lots of plans for a project have been strategically realized with the help of project management.

Yet, in our society of modern age, realization of our objectives (projects) is quite crucial and hard to achieve. Lots of competitors are in the market, cost pressures and technology is getting more and more advanced.

The term «project management» has been applied widely in various industries for several decades. Project Management Institute (PMI) in United States claims that the five processes are specially emphasized in project management. They are also necessarily applied with the nine great knowledge aspects of project management, integration, quality, time schedule, scope, cost, communication, human resources, risk, and procurement. Project Management Association (IPMA) under European system indicates that method application is a key aspect to achieve efficiently the planning schedule, cost, quality, and scope.

Not surprisingly, finance plays a central role in the achievement of project management goals. These initiatives involve not only the

obvious direct costs, but also an array of indirect financial issues, such as decisions about how money flows through the organization and whether the company should change scheduling, payment processes or other activities to improve cash flow. It's essential for companies to maximize working capital and assess risk and determine which project managers and teams are the best fit for a particular project [1].

These five strategies can help take project management to a higher level:

1. Use software that measures project results. By definition, a project is a temporary activity designed to achieve specific objectives. Project leaders must manage people and resources effectively to reach those goals. In today's fast-changing business environment, this can be particularly challenging, as projects often cross departmental and sometimes corporate boundaries.

Managing small projects at small companies might require only a spreadsheet, but most organizations require more sophisticated tools. When you have hundreds or thousands of people involved in a project, it's important to coordinate resources and prioritize tasks within a specific time frame. Unfortunately, most companies are at an early stage of managing high-end projects. They're focused more on inventory and scheduling than the spectrum of issues related to project management.

Some companies examine construction cycle times, labor costs, materials costs and the time required to complete specific tasks. Gathering this data for projects company wide enables Intel to implement best practices globally – even when contractors, subcontractors and outside consultants are involved. They can examine a specific task and how long it takes to accomplish it at different construction sites. Once they know the best methods, they can adopt the process throughout the world [2].

2. Tie together employees across the enterprise. It's important for people to collaborate and communicate on a real-time basis. Leading-edge projects include a wide array of technologies, including online chats, instant messaging, e-mail, faxes, interactive paging, portals and design-collaboration software. The latter can prove especially valuable for joint review of plans by geographically dispersed people. Online dispute resolution is another option that's attracting growing attention. These applications -- often part of a core project-management suite – can automate and simplify an often frustrating process.

At Barton Malow, a Southfield, Mich.-based architecture and construction firm, technology has

played a huge role in boosting project management capabilities. Using IP telephony, unified messaging, IP video conferencing and wireless networking, the company has put data -- including key financial indicators – in the hands of those who need it, when they need it. In addition, project management software has helped the company reduce the time required for dispute resolution by as much as 66 percent. «That's significant because the earlier we can get a project done, the greater the profit,» explains their project manager.

3. Put data to work quickly. A project management solution is only as good as the data it provides. Finance and other departments must get their hands on key indicators as quickly as possible. The longer a company waits to make changes to a project that's veering off course, the more costly it will be. If you catch a problem right away, it might result in a slight cost overrun; if you wait longer, it can lead to a problem that's 10 times more expensive, even 100 times more expensive.

4. Align business processes with software. Although a particular department might oversee many of the activities related to a project, effective project management must be collaborative. It requires the input and oversight of a variety of functions, including finance, HR, operations, sales and marketing. These departments should be involved in project management initiatives from the start, and finance should be intimately involved in designing the business processes and systems that will support projects.

5. Use systems for more than cost control. Fiscal responsibility is clearly the foundation for effective project management. By wringing out excess costs, companies can ensure the success of all their endeavors. Project cost overruns, change orders and other factors directly affect the bottom line. The better defined a project is and the better equipped an organization is to make changes quickly, the more likely it is to meet financial goals. One study by Aberdeen Group found that project management applications can reduce billing cycles by as much as four weeks [3].

Construction project planning is a process of documenting action based plans for completion of project in time. Construction project planning includes defining the work task, sequence of work, construction methods, roles and responsibilities and planning of resources to complete the work as per schedule [4].

Construction Project Management is project management that applies to the construction sector. Construction Project Management includes

the overall planning, coordination and control of a project from inception to completion aimed at meeting a client's requirements in order to produce a functionally and financially viable project. Construction managers plan, coordinate, budget, and supervise construction projects from early development to completion. Construction Management includes the leadership activities designed to provide a quality project, on schedule, on budget. Planning and design phase activities include support toward value engineering, constructability and commissioning. Construction phase activities include the management of project scope, schedule, budget, risk, quality, safety, staffing procurement and communication.

The documents for construction planning includes designs and drawings, quantity estimates, construction methods to be adopted, contract documents, site conditions, market survey, local resources, project environment and the client's requirements.

The objectives of a construction project planning should be:

1. Planning of each activity: The construction project planning should identify and include every activity of the project in a sequential order. Every activity should be scheduled in a timeline for tracking of construction project.

2. Construction Methods: Plans should include construction methods to be adopted for different construction activities and tools and planning for tools and tackles for each activity so that they can be made available whenever required.

3. Planning for Construction Equipments and Machinery: Cost of a construction varies greatly with the use of construction equipments and heavy machinery as their renting cost could be very high per day. So, planning and scheduling for such equipments and machinery should be done in advance so that project activities goes on smoothly without keeping these equipments in waiting. Project should be planned in such a way that the use of these machinery can be made to maximum during the given period to make it cost effective.

4. Procurement of materials: Project planning should also include procurement planning for materials. It is not advisable to keep the material unused for site for long time. This can degrade the material as well as much of the cost is spent on such materials. So, proper planning of material procurement also helps to complete the project within budget.

5. Planning for employee skills: Some of the construction activities requires availability of skilled

person to execute that work. It is not necessary to employ such person throughout the project, so proper planning of such work can reduce the cost of operation for that activity.

6. Planning for required documents and drawings: Construction projects are executed based on the drawings and specifications. It is necessary to track and make available these drawings at site on time so that the construction activities are not stopped. Thus construction project planning should also include the schedules of drawings, specifications and other documents to be made available at site for review and execution without delaying the project.

7. Financial Planning: Financial planning of construction is the most important aspects. Different amounts are required at different stages of construction project. Proper planning of funds for construction helps the project proceed smoothly. There is no point in investing all the budgeted amount on the construction project during start of the project. This can be done in phases as and when required.

Companies that succeed at project management maintain tight control over projects. They assess each project's value and minimize its risks, conduct audits of its performance, carefully manage the labor and other resources dedicated to the project, develop highly qualified project managers, and monitor projects on an ongoing basis to ensure they stay within established guidelines.

Construction software is an umbrella term that refers to a class of applications that help firms manage everything from materials takeoff and estimating to job costing and project management.

While it's never easy to balance competing demands related to time, quality, cost and risk, a growing number of companies are recognizing that project management is a building block of success. With the right software and business processes, an organization can become more efficient and competitive. Effective project management allows companies to prioritize resources based on key business issues. If a company uses it the right way, it can provide enormous benefits [5].

The scope in management is not respected enough in construction industry. The main scope is not usually adjusted, yet the content is some how adjusted for design and budgets. That affects the efficiency of the project execution. Therefore, the prior appropriateness of the content and the budget control and modification during the project should be examined carefully in order to avoid the change of the expected scope. Outsourcing is highly conducted in construction industry, which becomes the reason

for educating and developing the talents are not taken seriously. It also influences the execution of Human resources. The only way to change is to modify entirely the whole construction team and the way of running [6].

Time, costs, and quality are the key cores in project management. Thus, three executors should consider all the aspects in knowledge areas, and control these three aspects precisely to reach the expected plan.

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