**Executive Summary**

The study discloses the project planning and budgeting along with a construction company named DFG. This also elucidates how a thorough method for evaluating operations and work procedures can be specifically designed for a sizable construction firm. The study's foundation is a comprehensive case study conducted at the significant construction firm DFG Sweden. The company's interplay between research and development activities has made it possible to thoroughly understand a thorough understanding of its business operations, culture, and working style. The approach put out is based on the management system now in use at DFG Sweden, and it aims to create an organized means to talk about how processes are carried out.

**Introduction**

Although the majority of construction organizations are concerned about the need for ongoing product and service quality improvement, the rewards for focusing on improvement are sometimes missed. Costs associated with subpar performance because of mistakes, rework, etc., might maybe be the main motivator. While measurements in projects show that direct costs of errors are around 5% of the total cost, the Swedish construction industry looks to be doing quite well from an international perspective. One of the business divisions within the DFG company is DFG Sweden. The business unit's goal of the business unit is to design, construct, and maintain the physical surroundings in which individuals reside, work, and travel. The top contractor in Sweden is DFG Sweden, which has 15,000 employees and a 3.2 billion dollar annual revenue. The company, which consists of approximately 150 local units, is geographically dispersed throughout Sweden and operates nearly completely as a project-based firm. Units are largely autonomous and typically have 15 to 50 personnel, though this number can vary. The recommended method, "Assessing Our Way of Working," was created to evaluate and examine operations and procedures at these units, and it is intended to be utilized continuously once a year.

As a technical advisor whom offers in-depth knowledge and direction in their chosen field of expertise, the primary goal is to identify corrective measures at specific local organizational units. However, the goal also includes gathering ideas for improving the company's management system, referred to as "Way of Working," and mapping how well this management system is implemented within the organization.

**Task 1.** **Critical factors for planning and budgeting**

Before choosing which project to focus on initially, the Technical Adviser to the Director of Planning and Budgets must take into account a number of crucial variables. Some of the important aspects to take into account for planning and budgeting strategies, according to a report by the Project Management Institute (PMI), include:

* Strategic alignment: The project's strategic alignment with the organization's overall aims and objectives should be taken into account as the first factor. This means making sure the project is aligned with the organization's strategic plan and supports the goal and vision of an organization.
* Resource availability: The accessibility of resources, such as those in terms of people, money, and materials, is another crucial aspect to take into account. This involves deciding any challenges that might prevent the project from succeeding and evaluating the organization's ability to dedicate the resources needed to it.
* Risk management : This is a key component of planning and budgeting strategy. In order to do this, it is necessary to identify potential risks and uncertainties that could have an impact on the project's success and to build plans to reduce or manage such risks.
* Time sensitivity: This is an important element to take into account, especially for projects with strict deadlines. The project timetable must be reasonable and achievable, and the required resources must be available to achieve the project's goal.
* Stakeholder Engagement: Engaging the stakeholder is crucial for the project success. This includes locating and involving stakeholders as well as making sure that the project plan takes into account their requirements and expectations.

These factors can help ensure project success and alignment with organisational goals and objectives.

Let’s assume that the construction project has been selected as the first project to attend to. The Work Breakdown Structure (WBS) for the construction project may include activities such as pre-construction, basement, structure, utilities, interior, and exterior.

7. Complementary Works

3. Envelope

Fencing Works

Painting Works

Floor Works

Roof (Ceilings and Tiles) Works

Column Structure Works wwwworkwork

Foundation work wwwworkwork

(Lamps, Glass, Doors, Windows, Switches, Outlets, Locks, Sanitation)

5. Installation Work

6. Exterior

Plaster Works

Sanitary Works and Electrical Installations

Roof Trust Works Works wwwworkwork

Sloof Work

Excavation work

Preparatory Works

4. Interior

2. Sub Structure

1. Pre-Construction

Construction of Building

As the timeline needs to be compressed by 30 percent, let's consider the high-level activity of envelop. Some sub-activities could include foundation, column construction, and parody efforts. Compressing the timetable by 30% would result in finishing the structural framing work in 2.8 weeks if the original timeline for completion was 4 weeks (or approximately 3 weeks)

Many methods can be used to achieve this timeline compression, including:

* Strengthening the workforce: Adding more people to the project is one technique to shorten the timetable. In order to speed up the process, this would need hiring more personnel to assist with the structural framing operation.
* Overlapping activities: This technique is another. For example, the floor beams can be constructed simultaneously with the construction of the steel beams.

**Tasks and activities for construction project**

The building construction process is the procedure used to create the various components of a building on a construction site. Building construction involves several steps, including planning, designing, site preparation, foundation plinth building, column, beam, and slab construction, as well as plastering and finishing work. site preparation or levelling work, excavation and PPC, foundation, superstructure - column, brick masonry work, the information over door window gaps, floor slab or roof construction, door window framing and fixations, electrical and plumbing, exterior finishing, terrace and roof finishing, internal finishes, woodwork and fixture fittings, waterproofing, painting work, and other tasks and activities that need to be completed in a construction project (Delgado et al., 2019).

1. Getting Ready the Site or Levelling

Before beginning work, the construction site must be cleaned. This work entails clearing the area of debris, tree roots, and trees, as well as levelling the land.

1. Finishing Exterior

Following completion of this work, finishing and external plastering work are begun. To stop the wall from becoming damper, waterproofing is also done. To improve the elevation of the house, external cladding can also be done.

1. Completion of the Roof and Terrace

To stop any leaks from entering the slab, waterproofing is applied on top of it. Terrazzo tiling is typically carried out to shield the slab from the effects of aging.

1. Interior Finishing

Interior walls are plaster with a smooth finish, and tile flooring is used. The walls are afterwards painted or given texture.

1. Fixtures and Woodwork

Following the previous step, nearly all building work is finished, and furniture work can then begin. Plumbing fixtures, electrical components, and switchboards are placed next to one another.

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| **Activity** | **Code** | **Duration** | **Predecessor** |
| Preparatory Works | A | 3 |  |
| Excavation Works | B | 5 | A |
| Foundation Works | C | 10 | B |
| Column Structure Works | D | 12 | C |
| Sloof Works | E | 6 | C |
| Wall and Frame Works | F | 12 | E |
| Roof Trust Works | G | 10 | D |
| Roof (Ceilings and Tiles) Works | H | 17 | G |
| Sanitary Works and Electrical Installations | I | 20 | F,H |
| Plaster Works | J | 25 | F,H |
| Floor Works | K | 18 | I |
| Installation Works (Lamps, Glass, Doors, Windows, Switches, Outlets, Locks, Sanitation) | L | 15 | F |
| Painting Works | M | 30 | J,K |
| Fencing Works | N | 10 | L |
| Complementary Works | O | 6 | M,N |

**Task 2.**

**a. Funding strategy and assumptions**

The application of finance functions and their role in the development of the corporate sector has been explored in financial literature, with the majority of these studies focusing on industrialised countries. The topic of investment appraisal in the retailing sector. It addressed one aspect by focusing on investment appraisal for both financial services and distribution. A preliminary investigation was carried out during visits to several organisations to determine the extent of application and perception of these finance tasks in the corporate sector. Finance managers, finance executives, and financial analysts feel that these techniques are vital for improving organisational performance and so can play a critical part in the company’s success (Kopp et al., 2019).

According to the inquiry, one of the reasons for this slide, along with other difficulties confronting the economy, is the improper application of finance functions. As a result, the application of financial activities is crucial for any organization's success and can contribute to the expansion of the corporate sector. This also makes scholars concerned about the perception, level of dedication, and application of financial functions in the Pakistani corporate sector. It also highlights the necessity to analyse the extent to which organisations are adhering to these principles, particularly at a time when economic indicators are dropping after a decade of consistent development (Mitchell et al., 2021).

**Number of options for financing of the project**

* **Investors interested in start-ups**

Venture capitalists (VCs) are outside group that invests in a firm in exchange for equity ownership. The ownership-to-capital ratios are flexible and are usually dependent on the company's valuation. This is an excellent option for firms who don't have physical collateral to serve as a lien for a bank loan, Sandra Serkes, CEO of Valora Technologies, said. But, it is only a match when there is proven strong growth potential and some form of competitive advantage, such as a patent or captive consumer (Belitski et al., 2020). A VC's perks are not solely financial. A VC relationship can give you with a wealth of information, industry connections, and a clear direction for your business.

* **Partnership**

Another player in your sector pays the expansion in exchange for unique access to your product, staff, distribution rights, ultimate sale, or some combination of those items using strategic partner financing. According to Serkes, this possibility is often missed. Strategic finance is similar to venture capital in that it is usually a stock sale rather than a loan, however, it can sometimes be royalty-based, with the partner receiving a percentage of each product sale. Partner finance is an excellent option because the firm you associate with is usually a huge corporation and may even be in the same or related industry to yours. Each Party shall ensure that no capital works are carried out on land or property until all necessary consents and permissions have been obtained and that they have consulted with and complied with the regulatory requirements of the Environment Agency, the relevant local authority, and any other relevant bodies (Kavishe et al., 2019). The Parties shall ensure that capital works performed on their property are completed to the standards specified in the Project specifications or to such other relevant standards as agreed with the Management Agent prior to the start of the work. Each Party is responsible for providing the essential employees, insurance, housing, and services for the operation of their specific Sub-project.

* **Crowdfunding**

Crowdfunding on sites like Kickstarter and Indiegogo can help small firms get a financial boost. Instead of looking for a single financing source, these platforms enable businesses to pool small investments from multiple investors. As an entrepreneur, you don't want to exhaust your financing choices and increase the danger of investing in your business at such a young age, according to Fortney co-founder Igor Mitic. You may raise the initial capital needed to get your firm through the development phase and ready to pitch to investors by using crowdsourcing.

* **Financing of invoices**

Invoice finance, also known as factoring, is when a service provider advances you money on your outstanding accounts receivable, which you reimburse once your clients pay their bills. As a result, your company will have the cash flow it requires to continue operating while you wait for clients to pay their outstanding debts. According to Fundbox, a cash flow management provider, these loans enable businesses to bridge the pay gap between billed work and payments to suppliers and contractors. Only organisations that invoice clients are eligible for factoring, thus the factoring process begins with your company performing work for a client. You invoice your client once the work is finished. If you determine you need cash sooner than the client usually pays you, you can apply with a factoring company. After your company has been permitted to deal with a factoring company, you identify the particular invoices you want to borrow against. The factoring company then verifies the client's payment history (Bakhriddinovich, 2022).

**Assumptions:**

* The project's funding will come from a combination of owner equity and a Partnership.
* 50% of the project's total cost will be covered by the owner's equity.

To guarantee that the project stays under budget and on schedule, the funding plan will be periodically evaluated and revised.

**b. Recourse plan**

Construction resource management is a complete process that includes proactive planning, scheduling, and administration of the construction industry's enterprise-wide resources. It aids in completing each assignment precisely and meeting project objectives on time. It enables project managers to successfully complete projects by meeting project resource requests on time. Resource management that is effective maximises productive usage. People, equipment, space, money, or anything else that you require in order to complete all of the activities that you have planned are examples of resources (Merven et al., 2021). Every task on your activity list requires resources. You must first determine the availability of resources before assigning them to your project. The availability of resources comprises information about the resources you can utilise on your project, when they are available, and the conditions under which they are available.

The following is the asset plan for the work breakdown design:

* The Work Breakdown Structure separates each project into plannable and controlled subtasks during the first phase and thus incorporates both the contents on a meta-level, the temporal delimitation of the individual work packages by start and finish dates, and the responsibilities for the work packages.
* The work breakdown structure is used as the foundation for tracking the development of the work packages step by step and detecting problems, pending decisions, and any delays in deadlines during the implementation phase and project management.
* Each project, no matter how complex, may be made real, structured, and handled in a reasonable manner by constructing a Work Breakdown Structure (WBS). The project manager feels relieved and can concentrate on project management after breaking down the entire project and allocating work packages among the team. The Work Breakdown Structure provides the required structure and orientation for the technical professionals engaged, as well as clarity regarding their various roles.

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| --- | --- | --- | --- | --- |
| **Task** | **Resources** | **Estimated Hours** | **Hourly Rate** | **Estimated Cost** |
| 1. Site Preparation | Excavator, Bobcat,  Dump,  Truck, Site Supervisor | 120 | 75 | 9000 |
| 2. Foundation and Framing | Carpenter,  Mason,  Electrician,  Plumber,  Site Supervisor | 720 | 50 | 36000 |
| 3. Roofing and Siding | Roofer,  Siding Installer,  Site Supervisor | 160 | 60 | 9600 |
| 4.Plumbing,  Electrical Wiring and Installation | Plumber,  Electrician,  Site Supervisor | 300 | 55 | 13200 |
| 5. Flooring and Tiling | Flooring Installer, Tiler, Site Supervisor | 160 | 60 | 8000 |
| 6. Painting and Finishing | Painter,  Finisher,  Site Supervisor | 160 | 45 | 7200 |
| 7. Landscaping | Landscaper,  Site Supervisor | 80 | 40 | 3200 |
| 8. Final Inspection and Handover | Building Inspector, Site Supervisor, Homeowner | 24 | 60 | 1440 |

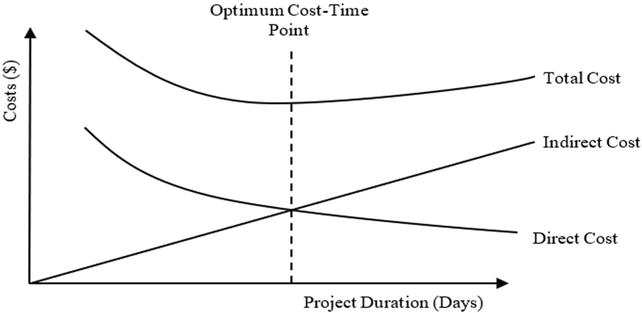
C. Realistic Budget

A budget is an estimate of revenue and expenses for a given future period of time that is usually created and re-evaluated on a regular basis. Budgets can be created for any institution that wishes to spend money, including governments and businesses, as well as individuals and households of any income level. Budgeting is essential for managing monthly spending, preparing for life's unexpected occurrences, and affording big-ticket things without falling into debt. Keeping track of how much you make and spend doesn't have to be a chore, it doesn't require you to be a math genius, and it doesn't mean you can't buy the items you want (Malsuf and Khairunnisa, 2022).

|  |  |
| --- | --- |
| **Item** | **Estimated Cost** |
| Site Preparation | 10,000 |
| Foundation and Framing | $100,000 |
| Roofing and Siding | $20,000 |
| Plumbing | $30,000 |
| Electrical Wiring and Installation | $15,000 |
| Flooring and Tiling | $20,000 |
| Painting and Finishing | $15,000 |
| Landscaping | $10,000 |
| Contingency (10% of Total Budget) | $20,000 |
| **Total Budget** | $**260,000** |

**d) Instructions to supervisors on timelines, costs, and other logistics**

Time Expense Trade-off approaches are designed to execute the project on time and at the lowest possible cost. In general, time-cost optimization can be defined as a process that identifies suitable construction activities for speeding up and deciding how much to speed up in order to achieve the best possible savings in both time and cost. Resource leveling is a project management technique that ignores resource allocation and resolves potential conflicts caused by over-allocation. Project managers must organise their resources carefully while embarking on a project (Mahdavian, 2021). This will assist the organisation because it will avoid disagreements and the inability to produce on time. Resource leveling is regarded as a critical component of resource management in the company. If resources are not allocated properly, an organisation will suffer challenges, such as some resources being over-assigned while others are under-allocated. Both will put the organization's finances in jeopardy.



Time-cost tradeoff analysis involves faster activity durations acquired by assigning additional resources, which results in shorter project duration and reduced indirect cost at the expense of greater direct cost. Hence, schedulers can do a time-cost tradeoff analysis to determine the most cost-effective project length. However, the outcome of a time-cost tradeoff analysis does not represent a realistic decision unless cash availability limits and financing costs are also considered. When retainage is withheld by the owner at the time intermediate payments are paid and when intermediate payments are delayed, the assumption in time-cost tradeoff analysis that infinite cash is accessible during the life of a project is not feasible. As a result, the contractor frequently needs additional funding to avoid shortfalls. Construction activities are planned in such a way that financing costs and cash constraints are met (Son et al., 2023). Although few scholars have explored the finance-based scheduling problem, relatively few have combined the time-cost tradeoff with finance-based. This study proposes a model that delivers an ideal schedule obtained by making the best use of activity acceleration methods. This timetable yields the lowest total cost and the most profit. The suggested approach differs from all previous models that incorporated time-cost tradeoffs with finance-based scheduling in four ways:

A line of credit without considering other financing sources and types, cash provision timelines, interest rates, and repayment possibilities. Furthermore, previous studies assumed a predetermined credit limit (a limit specified by the lender) for a line of credit. Therefore, the minimum financing cost and the optimum financing schedule may differ if a credit limit specified by the lender is considered for each of the several possible financing alternatives. If lenders allow the contractor to specify the required financing, the model must calculate the appropriate limit that minimises the financing cost.

Increase contractor profitability by taking the time-cost tradeoff into account while lowering finance costs. The proposed approach generates a work plan for the contractor by utilising early activity start timings and an optimum financing schedule. The work plan and optimal financing schedule maximise profit while minimising the total direct, indirect, and optimal financing costs between the crash and normal points (Han, 2020).

**E. Uncertainty Management Strategy.**

**CPM (Critical Path Method)**

The goal of CPM is to plan and manage numerous tasks with dynamic relationship to design and construction-related challenges. Project scheduling incorporating time and cost functions is called CPM. Only one time estimate, which corresponds to the typical time, is employed in CPM [9]. The critical route is denoted by a number of notations in CPM:

* If all predecessors have been completed, the earliest start (ES) is the earliest moment an activity can start.
* The time before an activity can be finished is known as the earliest finish (EF).
* The last start (LS) is the last time an activity may begin, ensuring that the project's overall completion time is not delayed.

The sequence of activities of the critical path using the CPM method is A-B-C-D-G-H-I-K-M-O, where the critical path can be seen in the figure below with the completion of the project within 131 days.



**TASK 3**

1. Issues of concerns in organisations and methods to resolve

Businesses must constantly adapt their technologies and business operations if they want to stay competitive. The purpose behind a change must be clear, understood, and in line with the company's overall goals, operational goals, and the growth of its revenue before it can be put into practice. In construction projects, technology is a great tool to implement work based on trends. However, technology integrated problem arises which must be erased soon. Challenges come with every change, whether it concerns a procedure or a piece of technology. Businesses need to consider the difficulties that those who will be impacted by the alteration may encounter as they adapt to and embrace the change when planning for the integration of new technologies. To better comprehend how integrating the new technology will ultimately benefit those affected, businesses need to consider why they are doing so. Implementation will simply serve to frustrate people affected if a comprehensive plan isn't in place that answers the "What," "Why," "When," and "How." A comprehensive strategy program that takes into account the effects on the business, its employees, suppliers, and clients must be prepared to be presented with all the changes' advantages and consequences (Rudolph et al., 2021).

The use of process management by managers helps them make sure that their teams adhere to the best procedures for accomplishing tasks quickly and effectively. The manager must decide which procedures to keep in place and which ones don't provide value. They must also establish the norms and guidelines (Arif et al., 2019).

For managers to be able to give work to the team member who is most competent or to provide training to team members on how to succeed, it is critical that they get familiar with the abilities and interests of their team members. Managers must perform a careful hiring procedure for new applicants in order to select candidates who are a good fit for the positions available at the organization. They might ask recruiters for assistance, as they are better at locating competent applicants for particular positions.

Both the organization and its people stand to gain greatly by identifying and fixing organizational problems. The sooner they can handle organizational problems, the sooner they can improve the environment at work and concentrate their efforts and resources on other business-related concerns. Good organizational practices foster a spirit of achievement inside the business. The pursuit of innovative solutions or proactive modifications to prevent future occurrences of the same problems might be encouraged by organizational advancements (Jordan and Troth, 2020).

**CONCLUSION**

This study makes the case that a method for operations and work process assessment and review in a major construction company should be straightforward, self-generating, and based on standard, defined methods so that overall compilation is feasible. In the specific situation of Skanska Sweden, the management system, "Our Way of Working," and the technique, "Assessing Way of Working," are both intertwined. Workers, with the exception of workers, evaluate the management system's deployment of procedures and rank those they deem most important. They also advocate for enhancing both system operations and procedures at their local unit.

Although while the WBS is crucial for a project's stability, it is important to remember that projects are also used to implement changes. While learning occurs throughout the course of the project, change is typically unavoidable. When creating the WBS, it should be taken into account how updated specifications and job descriptions will be incorporated. It's crucial to control change. The peculiarity of projects is that, even while they provide the instruments for implementing change, change frequently results in complications.