Concrete and Steel Works

Student’s Name

Institutional Affiliation

Concrete and Steel Works

**Background of the Project**

Merck Innovation Center is a company that has positioned itself as an innovative science and technology organization and has its headquarters in Darmstadt. The company is in the construction industry and has approximately 90 construction projects of different sizes and forms. Notably, Merck is known to be the Europe leading construction market, which plays pivotal role in the world economy (Bryde & Unterhitzenberger, 2019). Importantly, existence of low labor markets and poor project management are the key issues that leads to project failures in relation to cost overruns and project delays particularly in the construction industries. The construction companies in German provides a good representation of this situation. Arguably, contractors ought to be fully involved in early stages of the construction projects to be part of evolution of the final design by providing their expertise. The project is set to evaluate different requirements and achieve the set goals through creation of mutual understanding on the technical and qualitative building requirements of the project. The project through the project management processes is geared towards defining a realistic budget on relating to all the requirements of the project. In this project, the aim is to provide an overview of the project charter in the construction projects, particularly concrete and steel work, based on a case study of Merck company. **Reasons for the Project**

Effective construction project management are beneficial to the owners since they play pivotal role in increasing their chances of successful completion based on the timeline and tight budget. According to Vogt (2019), construction management provides professional service that applies specialized project management approaches to oversee the planning, design, and construction project. The primary goal of this this project is to project management processes relating to construction of concrete and steel works. Additionally, this project is geared towards understanding the perspectives of intricate architectural design and project management in the construction projects. Lastly, this project is important as it brings together different stakeholders such as project owner, contractors, engineers and project management team in ensuring the successful completion of this project.

**Project Objectives**

The key objectives in completion of this project include:

1. To understand the project management processes in the construction management project.
2. To build mutual understanding of the technical and qualitative building requirements
3. To familiarize with the planning contents based on the previous design work, limitations and project challenges.
4. To engage in preparation of the common basis for realistic and comparable budget for the project.
5. To provide an overview of the construction requirements for the completion of the construction project by Merck company.
6. To be mutually acquainted the project stakeholders and acting persons by crating mutually understanding and within the project

**Constraints, Limitations and Risks**

Project constraints are limiting factors in a project and they can impact the overall delivery and success of a project. The key project constraints that can affect the success of any given project include time. One of the key considerations in implementation of a given project by stakeholders is time. Completion of construction of concrete and steel works involves several steps from the inception to conclusion. Based on the guidelines provided, it appears the tendering process may take a while due to the number of applicants and as per the durations provided. Another constraint and limitation that might impact this project is budget. Due to complexity nature and change of scope in this project, chances are very high that this might require additional budget for the project completion.

**Leadership Structure**

The leadership structure of Merck construction company is hierarchical in nature. The CEO of the company is the highly ranked leader, his name is Mark. The CEO has a long and outstanding career in the construction industry. Claire is the project manager of the company. She has vast years of experience and has worked as an independent architect in the past. In the leadership of Merck company, there is architect’s project leader, who is bestowed with the responsibility of preparing architectural designs for the buildings and construction management. Structural engineer is another key position in the leadership of Merck; currently the position is headed by John. Importantly, the position of the procurement manager is headed by Frank, who also possesses engineering background. The role of civil engineer will be played by Lilia, who is also a quantity surveyor, and part of team of external specialists in project management. The table below provides a summary of the leadership structure of Merck construction company. Merck company pride itself for being a world leader in construction management projects.

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| --- | --- | --- |
| **Name** | **Leadership Position** | **Career and Role** |
| Mark | CEO | Career in architectural industry. Overall lead in the construction and organizational projects. |
| Claire | Project Manager | Worked as an independent architect. Has been entrusted in managing major and important construction projects. She will be responsible in leading the project managing team for the concrete and steel works/ constructions. |
| Peter | Architect Project Lead | Overall responsible in preparing the design for the buildings and construction management tasks. Ambitious in creating feasible designs, while ensuring compliance with building and construction regulations. |
| Frank | Procurement Manager | Has an engineering background, and will be responsible in the procurement process of the construction materials |
| Lilian | Civil Engineer/ Quantity Surveyor | Will be part of team of external specialists in consultation consultancy services |

**Project Risks and their Mitigation**

**Project Risks.**

Project risks are inevitable and are bound to occur as the project progresses. Considering the environment within which this project is to be executed, one of the key risks on the dilemma on whether to follow the traditional tendering process or use innovate mechanisms such as open book contracts. Importantly, risk on late delivery of the project, over budget and, unexceptional quality of work is the major fear by Stephen and Mark (Bryde & Unterhitzenberger, 2019). Even though tendering process for the concrete work was chosen due to the intricate nature of architectural design, it required fair-faced and complicated services. Additionally, the construction of the concrete still works which is highly precise requires tremendous work with high-quality craftmanship. This possess another risk of delivering high-quality work that would not cost the company additional incentives. Another risk as mentioned earlier is based on the overbudget, whereby the fear would be having incomplete design which would amount to overpricing of the whole process due to incalculable risks. Risks must be assessed, and best measures for mitigating them must be set.

**Risk Mitigations**

Risk mitigation is an approach for developing options and actions to reduce adverse effects of the project risks. In concrete and construction works by Merck company, several strategies to mitigate project risks have been put in place such as risk mitigation meetings with an aim of exploring most appropriate mechanisms for minimizing negative consequences of redesign within a collaborative spirit. Such meetings are geared towards ensuring full disclosure of the regulatory circumstance and their implications on the building structure. Secondly, requesting for ideas as well as optimization potentials in relation to work preparations and sequences with an aim of accelerating the construction works. Another strategy for risk mitigation as provided by Bryde & Unterhitzenberger (2019) is inviting bidders to talk and sharing ideas on the causes and consequences of disturbances in the construction work, and how to mitigate this issue.

**Project Stakeholders and How to Interact with them**

Understandably, in any given project there are internal and external stakeholders who have different interests in such projects. Internal project stakeholders are those within the organization setting and they include top management, resource manager, internal customers, among others. On the other side external stakeholders are external people with different interests in a project; they include external customers, contractors, government, and suppliers (Usmani, 2020). In the concrete and steel work-execution by Merck Company, both internal and external stakeholders will include top management from One Global Headquarters (OGHQ), Merck (contractor), civil engineer, quantity surveyor and government. OGHQ is the customer/ client and interested in construction of the building structure. Merck is the main contractor who will also subcontract some services from other stakeholders, to ensure the completion of concrete and steel works. Civil engineer and quantity surveyor will be part of external specialist from the project management consultancy. Lastly, government will be an external stakeholder and will be responsible in ensuring that legal and regulatory compliances have been adhered to. Regulatory requirements must be adhered to

The company CEO being the top-most leader, all other leaders reports to him either directly or indirectly. Under the CEO there is Project manager who oversee all aspects on building and construction, and work closely with the engineers and architects, to develop plans, establishing project timelines, determining labor and materials cost for the completion of the project. Project manager reports directly to the CEO, and all other project team members like structural engineer, quantity surveyor etc. report directly to the project manager. This forms the interaction process between different stakeholders in the organization, and in execution of the project under consideration.

**Vision of the Project – This section captures what the company aspire to achieve**

The vison of this project is to be a leading organization that enhances better collaboration in the construction industry. The company pride itself for being one of the best in the construction industry. In teams of the project team culture that ought to be promoted include promoting collaboration, which is a key element the project success. According to Binder (2009), a project team that take ownership in terms of their contributions and work together harmoniously, always receive intended results. Meeting regularly is another team culture that is crucial in helping to build rapport, encouraging productivity, and bringing the importance of improving the project team to a forefront. The second type of team culture that the organization seeks to promote is creating a bigger vision around great team culture. This is driven by a compelling purpose, which a fundamental element in building a strong team.

**Conclusion**

In conclusion, construction management projects form part of global economy and they are quite important. This project has looked at different perspectives of concrete and steel work-execution by Merck Innovation Center. The construction management as discussed in this paper has looked at different aspects like project objectives, project constraints, risks limitations, project stakeholders, and vision of this project. Lastly, completion of this project provides understanding of different perspectives of the construction of from One Global Headquarters based on the requirements set for this project.

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