

Case study of engineering project outcomes



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CASE STUDY ANALYSIS

Introduction

Case studies are important in studies as they provide an in-depth investigation regarding a particular group, period, or an important event. By studying that event, one can apply the lessons to improve his/her experiences. In this regard, this paper entails a case study analysis of a student's personal experience during an internship period. With engineering works, it is expected that engineers must engage the community during the establishment of various projects. In this regard, different social impacts are encountered. Therefore, this case study analysis seeks to establish the social impact experiences of the student and the ethical implications of the activities he engaged in and how they affect the overall success of engineering projects.

Case Study Summary

The case study entails an internship experience of Gideon Chapman. Chapman describes his experiences at Ku-ring-gai Council, where he was engaged as a Trainee Design and Project Engineer. It should be noted that Ku-ring-gai Council is a governmental agency that employs about 500 people. The organization is located in Sydney's North Shore and covers about 84 square kilometers. As noted in the case study, the student was engaged as a trainee design and project engineer in the operations department. In this regard, he was particularly engaged in access design, design, road design, and construction as well as the construction of stormwater drainage among other assigned duties. During his placement,

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Chapman was engaged in a period of 2 years and seven months. His engagement with the council and the projects that they undertook noted that they were very professional although he also noted causality regarding communal engagement. In this regard, when he was tasked with a project, Chapman undertook all activities with skills to ensure community engagement was professional. The student was given the opportunity to redesign project briefs. The case illustrates that the student was facilitated with an opportunity of designing the upgrade of a pedestrian intersection at a train section. Through this, it was possible to evaluate how his leadership impacted on the society for this engineering project.

Case Study Analysis

During his placement project, Chapman realized that the original design of the pathway was responsible for numerous fatalities that existed on the roads. In this regard, it was important to investigate the problem that resulted in the fatalities before making any recommendations or new designs. This is an important consideration in engineering projects considering the importance of such projects. In this regard, the student demonstrates an understanding of the engineering principles especially when engaging in engineering projects. To identify the problem and how it can be solved, the student involved the community and other society stakeholders in talks regarding the intended plans and how they were to be solved. Engaging the society gave the residents an opportunity to give their views and ensure that there was no hidden agenda in actualizing the project. It is imperative for project engineers to ensure that everyone is satisfied with the project. Besides, the importance of the project should not override the <https://assignbuster.com/case-study-of-engineering-project-outcomes/>

community interest. In this regard, engaging the community enabled Chapman to identify the possible risks that faced the project. Some of the risks that were identified included inadequate drainage, damage to utilities, and the challenge of large vehicles to turn safely. Identification of the drawbacks enabled evaluation of the action goals that subsequently enabled solving of the underlying problem.

When conducting any project, it is important to ensure public trust. For example, human safety should be facilitated. To achieve this, a project manager should engage the community during the project development to ensure that their views are taken into consideration and hence ensuring public trust. These are important leadership skills that any project manager should demonstrate successful and ethical projects. From the information provided, it is notable that Chapman showed proper leadership by maintaining the required code of conduct. Before his engagement, the Kuring-gai Council did not have an elaborate community engagement program when carrying out projects. This adversely affected the relationship between the community and the council thereby affecting the success of the projects. However, Chapman demonstrated an ethical leadership by facilitating community engagement when assessing the area. Chapman interviewed residents as well as other stakeholders to identify the underlying issues of concern by the community. The engagement was done openly, and transparently hence the stakeholders felt to be part of the project. For example, the concerns of the shopkeepers were solved since the design integrated their vision for the pathway and land use. In this regard, the

project followed important ethical and professional guidelines that facilitated its success.

Impact of Concepts

Social responsibility is a concern in all professions. According to Angela (2018), just like any profession, the profession of engineering entails diverse details of social responsibility and important ethical considerations that must be undertaken to ensure that the overall community impact is positive. In this regard, the description of the major social responsibility concepts is important for me as an engineering student as they form the basis of practical behavior. From the discussion, I noted that the interests of the community override the importance of any engineering project. In this regard, it is critical to get community approval before undertaking any project to avoid ramifications that may entail such actions. By ensuring the community is involved, collisions will be avoided hence ensure that the project will serve its intended purposes. Also, ensuring social responsibility in establishing the projects ensures that the issues of health and safety are facilitated (Johnson, 1992). It should be noted that engineering projects should ensure environmental concerns and prevent the spread of toxic chemicals. Therefore, it is important to establish the health and environmental concerns of the community before starting a project. Although different countries have different established paradigms for regulating the distribution of waste and other forms of chemicals, community education is important in dealing with society fears.

I also noted that professional engagement during a project is imperative. Communication should be done to all stakeholders openly and transparently. Transparency ensures that the overall wellbeing, including the potential inclusive happiness, material wealth, health, feelings, and security are taken care of. In this regard, I would undertake stakeholder involvement especially community collaboration during projects to ensure professional and ethical behavior. Besides, transparency in all the undertakings ensures important ethical considerations. Ethical projects acquire support from all stakeholders thereby ensuring sustainability. I noted that engineers have an important role in ensuring environmental protection and preservation. However, such activities demand professional leadership from the project manager. Chiocchio, Kelloway, and Hobbs (2015) noted that without proper leadership, organizational activities are likely to deviate from the established codes of operation. Therefore, it is important for a leader to be conversant with all the principles, social responsibility, and ethics of the project. In my practical work, I will ensure ethical and professional leadership that takes educational requirements to the practical field. Therefore, I anticipate that my projects will be significantly successful since they will follow professional and ethical guidelines. In this regard, the concepts learnt from the case study are critical and informative for the student engineers.

Project Outcomes

Following the leadership of Chapman, the project showed a massive success. It should be noted that besides the success of the project, some Ku-ring-gai Council activities changed and improved the overall success of their activities. For example, the council did not have a community plan for

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engaging with different stakeholders when carrying out a project. However, the approach undertaken by the internship student to engage the community changed their approach. Considering that the engagement was very successful, Ku-ring-gai Council started developing a collaborative plan with the stakeholders. In this regard, the project was successful in identifying some challenges that faced the council in fulfilling their mandate. Also, the project was successful in identifying different hazards that involved such projects to the community. Therefore, the design involved an in-depth investigation which showed a significant departure from the set procedures. Finally, all the major concerns including café safety, drainage, pedestrian access and safety, turning paths, and parking zones were all addressed in the new design making the project significantly successful and was finally approved.

Conclusion

From the case study analysis and discussion, it is evident that an engineer has an important professional and social responsibility that must be taken into consideration when engaging in any form of projects. Besides, competence in engineering tasks, professional behavior and leadership play an important role in the success of any project. In this regard, leadership must be established in line with the professional and ethical guidelines for the project. The case study demonstrates that the project was successful due to the professional behavior followed in all activities. It can also be learned that creativity is important. Chapman undertook a different path from the organizational behavior and started community engagement which played a role in establishing a social responsibility important for project

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success. Following the outcomes of the case study, I will deploy the lessons learned to ensure community engagement in my professional career. Besides, I will ensure creativity in my internship to solve problems and help the particular organization in solving their problems.

References

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