PROJECT MANAGEMENT ASSESSMENT 1

CROSSRAIL PROJECT (ELIZABETH LINE)

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Introduction

The essay is going to discuss Cross Rail Project and analyse the project on Elizabeth Line in recent years. The essay is going to review core project elements including quality stakeholders, time, budget and risk factors. The main goal of the essay will be on the primary project plan and identify things that went wrong which resulted in massive delays and overruns. The Elizabeth Line had taken 13 years to stretch and build 60 miles east-west around the city. Currently, the central, east and west of the Elizabeth Line are connected. In this essay, a new project of Elizabeth Line will be discussed and in the project management plan time, quality management and risk factors are going to discuss.

Main Body

Crossrail Project is known as the public transport project. The project name is Crossrail, Elizabeth Line and it is a Railway line project type. The length of the Elizabeth Line is 73 miles, and the area of the project is 118 km. The location of the Crossrail project is Essex, Buckinghamshire, Berkshire and Greater London, England. This project has 10% additional rail capacity for London, which has nearly 200-280 million passengers every year. The projected lifespan is a minimum of 120 years and as per the current status, more than 90% has been completed. Crossrail Project has a major delivery method called Construction Management (Pollalis, 2019).

Crossrail, Elizabeth Line is the railway project and is recently the biggest infrastructure project in Europe which is under construction. Based on the complexity, cost and size, this new railway project is categorised as a megaproject. In this megaproject, there will be 10 new stations, maintenance facilities, associated depots, works to surface railways and 42 km of tunnels. Crossrail as a public transport project delivers sustainable results by reducing the trip times around London. In sustainable outcomes, this project adds 10% additional rail capacity for London and relieves the overcrowding in the existing train and underground services. Crossrail, Elizabeth Line brings extra 1.5 million people within a 45-minute distance of important business districts of London. Yearly, 200 million passengers can travel on Elizabeth Line. There will be 8 new subsurface stations connected through new twin-bone tunnels with a measurement of 21 km in the length under London. The total line underground and overground length is 118 km,

connecting commerce, transport and business hubs. Crossrail will connect Heathrow airport directly with London's major business hubs, Canary Wharf and London's commercial heart Oxford Street (Pollalis, 2019).

Crossrail, Elizabeth Line can reduce journey times, transform accessibility, deliver a massive economic boost and develop extra capacity. Crossrail project primarily considered design-build delivery method, and effective transfer risk to contractors. This project has emphasised innovation along with embedded sustainability from the starting point, setting the precedent for this type of project scale. This project presents the Innovative 18 program as an example of how innovation may achieve on big projects and highlights this type of program will implement from the early stage for substantial advantages. Even the Crossrail project applied a 'digital-twin' strategy and innovative solution adaptation done by Crossrail-Bentley Academy delivered to eliminate operating costs and minimise waste and innovative engineering designs (Crossrail, 2022).

The cost of the latest railway line in London, the late Queen 2nd Elizabeth project is $25 billion. The final cost has been estimated by National Audit Office for Crossrail Project and the estimated amount will be £18.9 billion. This was set £14.8 billion budget in 2010, that gradually increased in the last couple of years. With the primary funding of £15.8 billion, in the construction between 2008-2019, the new railway line can expand the capacity of rail passenger transport in central London significantly. This project currently has a £42 billion current value net benefit to the economy of the UK for more than 60 years. Crossrail Ltd was built as TIL or Transport for London's subsidiary for delivering a project to sponsors' requirements of the Department of Transport and TIL. Crossrail is a publicly funded project, where TIL's contribution is 40% and the UK Government's contribution is 60%. The initial funding was £15.9 billion in October 2007. This was agreed upon in delivering the Crossrail scheme. The funding budget was eliminated to £14.8 billion in 2010. Various parts of funds were increased by the special tax applied on businesses of London, Crossrail Business Rate Supplement. The small contribution has been made by firms who will be benefited directly from the project including Heathrow, Canary Wharf Group, the City of London and many more. In 2018, the Crossrail project needed more funding and is currently predicted £15.4 billion costs (Pollalis, 2019).

The major stakeholders of the Crossrail, Elizabeth Line railway project is clients and owners. They are Heathrow Airport Holdings (Heathrow Branch), Transport for London (from Old Oak Common to Abbey Wood/Stratford) and Network Rail (Old Oak Common to Reading and Liverpool St Main Line to Shenfield). Another major stakeholder in this project is the project team. There are contractors, designers/Engineers, consultants and project managers present in the project team. The designers/Engineers belong to different organisations and various types of consultants are present. Crossrail is the project manager, and the chosen contractor has experience in 83 logistics and construction contracts (Transport For London, 2022).

Opening a railway is a critical task to do which involves new trains, more infrastructure, new tracks and new stations. The opening of the Cross rail got delayed and it is due in the May of 2023. In the final timetable, the temporary dwell times would be removed between Acton Main Line and Paddington. This was from the year 2022 which would be removed to make it more efficient. The Elizabeth Line was launched on 24th May 2022. On 6th November 2022 some lines in the Elizabeth lines have been started which is into central London from Heathrow, Reading, Abbey Wood began and Shenfield (Crossrail, 2022). In 2023, the integration of all Elizabeth Line Service which is from East to West would happen. There were many reasons that the start of the line got delayed. In the May of 2012, eight tunnelling machines were working under central London 20 individuals for each tunnel. From the UK's National Audit Office some warnings were received. They stated earlier that work on Cross rail was running behind schedule. The budget was a big issue for completing the project as they came across the problem of 'cost pressure'. They had construction delays as they faced issues with a complex signalling system. Due to this reason, they delayed the time of opening from 2018 to late 2019. The pandemic in 2020 also was a reason for their delay which made the possible opening date in the first half of the year 2022 (Railway-technology, 2022).

This project has been one of the largest infrastructure projects of entire Europe and the largest one in the UK. It was important to maintain the quality of the project throughout the time to make this project successful. After many failed attempts the Government proceeded to invest in the Cross rail project in 2007. They have had a Quality Management System that is aligned with

the requirements of ISO 9001. A quality plan was made along with the appointment of a quality team. ‘Inspection and Test Plans’ also needed to be made for ensuring the supplier requirements and work packages. The undertaking of audits and surveillance assessments has been done (Learninglegacy.crossrail, 2020a). Performance review has been done also by monitoring the progress. In this context, meetings have been conducted so that it can be ensured the requirements are fully understood by every stakeholder. Other than that, the quality manager has implemented a developed quality management plan to ensure the quality of all the processes is as expected. The quality of all the personnel has also been measured by the quality manager. The effectiveness of the quality management plan has been measured by the quality manager and they have consulted with the project manager. Quality Performance Indicator has been used to monitor and evaluate performances. Through having this plan and having the framework for performance assurance, a 54% of improvement has been noticed. Tracking the progress of the project, this progress has been clarified as ‘Compliance’ to ‘Value add’ and ultimately to ‘World class’ (Learninglegacy.crossrail, 2022). Through its excellent quality, the Crossrail project has raised the bar. The project has posed a benefit for the UK as it addressed economic, environmental and social benefits. It also decreased the impact on the environment and communities. Through continuous improvement of the project by monitoring the operations, the quality manager of the Crossrail project made the project better (Learninglegacy.crossrail, 2020b).

The delivery risk was a major one that they needed to address to finish the project properly. It delayed its opening time in 2018. Thus, there has been risked management of the project to avoid different kinds of issues while progressing through the project. There can be different kinds of risks like Health and Safety risks, Engineering and Design risks, Funding and Delivery risks, Environmental risks, Interface and Logistics risks, Security risks, Quality risks and Business Continuity risks. This project mainly focused on health and safety risks which are quite different from other railway projects as this risk management is done separately in other projects. Therefore, the Crossrail project has considered all the mentioned categories of risks in the design and construction phases (Learninglegacy.crossrail, 2020c). The risk manager has followed a

framework through which they have done the documentation. In this framework, at first policies of risk management are considered under which there is a risk management plan that is made by following the policies. Cross rail has been innovative in their way of Quantitative Risk Assessment (QRA) methods where four documents have been prepared. They have considered the risk of uncertainty which involves the project's scale and complexity. Some tools of risk management such as the Risk Management Database, Primavera Risk Analyser or PRA, and the Monte Carlo tool have been used (Underwood, 2018). In this way, by analysing different risks, management of the risks has been done by providing assurance, supporting delivery and improving the decision-making process.

The Crossrail project is delayed as there are issues related to the cost of the development of the project. There is a three-year target for completing the project and the total scheme included 26 miles of the new tunnels as well as 10 new stations (budget form 14.8bn pound-18.9bn pound). But it has been seen that only eight channels were developed and the rest of the project was not done as there is pressure related to the cost. It has been seen that part of the cost and delay had been due to the complicated signalling in Crossrail that integrated three types of systems (Topham, 2022). On this note, the delay to the 2021 summer opening was blamed partially on the pandemic of COVID-19. Mark Wild was also blamed for the delay of this project. As per the annual report 2018, overrunning of the cost is a significant issue throughout the project (building, 2022). According to Muruganandan *et al.,* (2022), complex transverse through the delivery life cycle is included with the growth of the coordination costs of the project.

Crossrail is burning 30m pounds of cash within a week and this is struggling for reaching completion. Mark Wild mentioned that the morale of the staff involved with the project has fallen which affects the performance of the project. This is the area that is reflected on the downside of UK construction (building, 2019). However, the pandemic has raised major issues through the development of the project because there was concern about the engagement of the labour within the project. The pandemic has also affected the supply chain which made the major issues in exporting the materials that made the major concern through the project development (Reuters, 2020).

After that, the costs of the different areas of the project increased and this made the concern in using the technology through the development of the project. The delay of the project caused problems for the consumers because the delay of the project is related to the less development of the new route.

As per the analysis of the issues in the project of Crossline in the Elizabethan lime, it can be said that there is a major importance of continuous development. Through this, there should be the consideration of innovation through the development of technology. This is related to the development of the entire infrastructure of the project. There is a concern related to the absence of the labour force after the pandemic. So, it is important to promote the motivation to work on this project. On this note, it is important to focus on the strategic development of the employees that encourage the employee to engage with the project. Through this, the payment system of the staff should be cleaned properly. There are issues related to the management of the supply chain. So, it can be suggested that there is the importance of the development of a large network for the development of engagement with the various types of suppliers. For example, if there is a shortage of steel products, the products can be bought easily when there will be different types of network options. The required material can easily be imported. As there is a concern through the overrunning of the cost. It is essential to focus on the development of a risk management plan that can be helpful for upcoming threats. This can be considered through the development of the ANP model that can make the analysis of the decision. On this note, it is important to focus on the core areas of the investment that can manage the costs of the overall project. There can also be the importance of consumer management. Through this, the technology should be implemented in ticket tracking and through these different activities related to the consumers can also be tracked. However, there should be a proper focus on the technological development of project management.

Conclusion

This is the study that discussed the development of the railway project. The major stakeholders for the Crossrail railway project are the contractor, consultants, project manager and engineer. It is concluded that the estimated budget for this project is £18.9 billion. The project is delayed for different reasons, and it has been seen that the project is in processing. This is the project that has

fallen under the underground railway service of the UK. There are issues related to the overrunning of the costs and this made the development concerns. On this note, the outbreak of COVID-19 was also blamed for delaying this construction project because there is a concern related to the development of labour engagement. Through this, it can be said that lockdown is the major issue in this project development. The issues of this project management are leading to major problems for the consumers. The essay has identified the stakeholders that are involved in this project and through this, the responsibility of the stakeholders with the project is also examined. As per the issues, some suggestions need to be followed by the project manager to improve the project.

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