

Programme: BA Business Management

Module: Project Management

Module Code: LCBB5005

Assignment Title: Assessment 2

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PROJECT MANAGEMENT ASSESSMENT 2
CROSS RAIL PROJECT (ELIZABETH LINE)

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Introduction

The Elizabeth line is a new railway for London and the South East, stretching from Reading and Heathrow in the west via 42 kilometers of new tunnels beneath central London to Shenfield and Abbey Wood in the east. Crossrail Limited is in charge of building and delivery of the Elizabeth line. Crossrail, when in its height of development, was the largest railway infrastructure project in Europe. The Elizabeth line has been built, delivered, and is currently being operated and maintained by tens of thousands of workers from all across the United Kingdom and the rest of the globe. In addition to this, after an earlier effort to get funding for a cross-London railway failed in the 1990s, Transport for London (TfL) and the Department of Transport (DfT) began developing the current concept, which would eventually become the Elizabeth line, in 2001. Royal Assent was granted to the Crossrail Hybrid Bill in 2008, after it was introduced to Parliament in 2005. When completed, the Elizabeth line will add 1.5 million people to the 45-minute radius of central London, increasing train capacity by 10%. Between Paddington and Abbey Wood, there are a total of 41 stations, 10 of which are brand new, underground or above-ground constructions.

Evaluation of the project

The preliminary building work, which got underway in 2009, included one of the most significant and comprehensive archaeological excavations ever carried out in the United Kingdom. The construction sites for the Central Station were required by law to fulfil the obligation of collecting discoveries in advance of tunnelling taking place in order to gain further knowledge on the extensive history of the city. Over one hundred and fifty archaeologists excavated forty different sites and unearthed tens of thousands of artefacts (Muruganandan *et al.* 2022). These artefacts span 55 million years of London's history and pre-history, including the prehistoric, Roman, and mediaeval periods, as well as the more recent industrial past. The project provided archaeologists with a once-in-a-lifetime chance to uncover the buried layers of history that lie just below the surface of the city's streets. At depths of up to 40 metres, the complex subterranean terrain of London is traversed by a network of tunnels that spans 26 miles. In the Tunnelling part of our site, you can find out more about how eight tunnelling machines each weighing 1,000 tonnes were able to successfully finish a tunnelling marathon between the years of 2012 and 2015 (Lawrence *et al.* 2018). Several different approaches, including the use of sprayed concrete, were used in the process of creating the tunnels and rooms that make up the station. The construction of the escalator shafts at Whitechapel and Liverpool Street was carried out with the assistance of a one-

of-a-kind uphill excavator. This was the very first time that this particular piece of machinery had been used on a project of this kind anywhere in the world. Each stop along the Elizabeth line needed to have its own identity, one that was easily recognisable as an Elizabeth line station while also paying homage to the history and culture of the surrounding community. New stations and a line-wide identity comprising shared architectural components were both designed by world-famous architects in collaboration with Crossrail Ltd.

In terms of the positive aspects of the project it is quite certain that the project was infrastructurally well built. At the same time the Elizabeth line project was intensified with advanced technology. The service ranges from different stations across the UK providing on time support to the visitors. It has been seen that the project was built around by the expertise of advanced engineers. At the same time, it is seen that the Improvements to TBM technology has created many facets of development in the railroads of Elizabeth Line (Moore, 2022). Moreover, from a technological point of view the project surpassed the basic levels of delivery information. Transport for London Sort out issues to a great degree when it comes to operational risks. The transaction systems integrated in the stations of Elizabeth line are also technologically immersed. For instance, reporting to the visitors about the time schedule of each and every train on the platform are transparently viewed on the screens. This screen display system of train reporting has been managed in all the platforms of the Elizabeth line. Apart from these features, Elizabeth line comprises features that any excellent train service is required. Furthermore, it has been delivered applied from the core of the management. The touch in at the ticket line has enabled the customer in a great manner and the digital payment method has enabled hassle free service along the way (BBC.Com, 2022).

In terms of the negative aspects that are present in Elizabeth line technical faults have been issued at the beginning of the rail service. Moreover, in the beginning stages it has been seen that many dealers issued and this caused extreme amounts of reputational risks for the rail service committee of Elizabeth line. Apart from these issues, the Elizabeth line used to have signal problems. It means that the complex system in the signal in process used to create operational risks for the railroad as well as to the train drivers. It has been seen that the passengers tend to touch in on re-entry to get the correct fare. The Thameslink service is problematic especially as the customer did not gets the correct fares. Since Elizabeth line is managed in a certain manner which enables them to be covered related to construction or hardly negotiable. That is why tunneling issues have been

strongly correlated with the construction problems. Turning has been managed from the code of the management for a really long time and disco international to be immersed with issues like construction. Systematic self-sabotage issues which caused the extra security measures for the projects (Garner-Pukis, 2022). Waste generated to a great extent because of lack of planning and poor management. Cross rail's delays are one of the common factors of customer dissatisfaction and the issues have been found in the tunnel boring machines as well. It is found that the installation of all the different systems was not in line with proper adjustments.

Critical aspects of the project

The cross project has gone through a lot of delays when it comes to the actual inauguration of the railroad system. The system was first conceived in 1980 and cancelled in 1990. But eventually it was again approved in the year 2020 and main works of the rail road service began in 2009. The 13-year project has employed around 10000 workers. 10 new stations used to get covered from this particular railroad service and it took around 19 billion british pounds to complete it. Since the real service covers a pretty long distance in London the service is quite complicated. For instance, there are three different routes across which the service is operated. The service has central and South East stations and both Western and eastern sections. The main construction works that led the project into a successful end was basically lies in tunnelling. The project delivers economic sustainability, archaeology, environmental sustainability, Crossrail learning, legacy innovation programs and many more (Crossrail, 2022). This project was delayed several times due to signal problems and Transport for London has worked in alignment to provide a solution to that. The official name of this project is Crossrail but it is also given the name by Elizabeth.

The project is a success or a failure

More than the underground change of London, 1,500 passengers each can travel from the cross rail (Low, 2022). From this point of view of visitor capacity, the cross project can be regarded as a success. In the first five days of this railroad inauguration more than a million journeys were made. The rail service is quite advanced because without changing at Paddington, the Heathrow and Reading to Abbey Wood can be reached. The Cross-rail project has been greatly assisted by the government of UK to a great extent and this is the reason why it has become a success.

The service is well known for excellent transport links and is best in providing additional capacity. Similarly, it is also great at cutting journey times and transforming accessibility with spacious new

stations and walk-through trains. Hence, it can be stated that at the very beginning stages, many facilities in the form of benefits were given by the Cross-rail project.

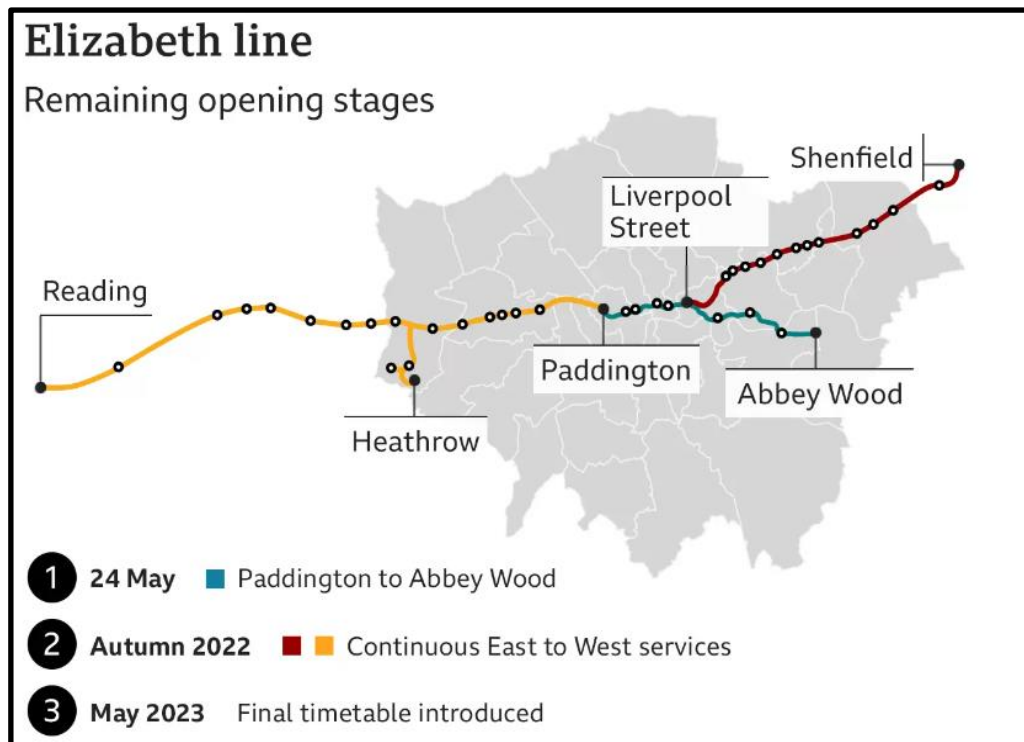


Figure 1: Railroad service distance of Crossrail Project

(Source: Low, 2022)

Since such a long distance is managed, around 29 minutes can be cut or saved by this service. On the other hand, the Covid situation has led to tremendous loss of passengers and their demands for the service. This is the reason why the TFL anticipates that the service may experience fluctuating demands from the people. Hence, TFL believed that not more than 170 million passengers could be accumulated by 2026 (Walker, 2022). The construction work even went above the budget estimation and took longer than expected. An economic boost in the UK economy is registered already by this service of the Elizabeth line. In the beginning of the railroad service, Sustainability clauses were imposed (McKie, 2022). Hence, it can be stated that in future, many issues may come forward as crucial for the project. Many delays were issued in the Cross-rail project because the project's complexity was "off the scale".

The customer demands will eventually rise because the safety related matters of the project and rail service are taken quite seriously. At the same time, any issues created by the project are dealt immediately by the TFL service. The project has installed the safety performance indicators and

by this technology, Operational safety performance has been quite good for the service. It has been seen that the project will continue to deliver the best safety precautions in future (Crossrail.co.uk, 2022). The transaction medium of the railroad tickets has taken the help of pay-as-you-go Oyster cards. On the other hand, the whole service system of the Elizabeth line is quite immersed with technology. Since the service has reached the distance of Heathrow and in Heathrow, airport service is present, a great amount of help is already implied. Hence, it can be stated that people or the passenger who will be in great need to appear at the airport, can take this rail service. Fast service convenience is a great matter of fact related to customer orienteers. The modern customer in any domain of the market expects and demands the convenience of speed. That is why the speed factor has been accurately given a key priority by the service of the Cross-rail project.

Highlight the lessons learnt from the project

It has been seen that in 2018 Crossrail Ltd did not provide any detailed delivery plan. That is why it has been claimed several times by the report that the cross relay has delivery. During the time of construction, train testing operations were made. This is a sign of bad leadership decision making which can be learnt further in upcoming days. Signaling is an issue which has been found from the project and it is due to the complex system of the service. That is why it is learnt to a great extent that complexity mainly creates operational problems for the train drivers. It may sound and look excellent when the signaling is done accurately but excess emphasis on it creates complexities.

But after the pandemic as well, delays were issued in the company and this can be a major issue if it exceeds in future. It is claimed that due to construction-related disruption, delay issues increased for the rail service (Reuters, 2020). Moreover, the project was four years behind schedule and also out of budget (BBC, 2021). This has been the reason why the public has remained greatly dissatisfied with the service to a considerable degree. It was seen that £14.8 billion cost was registered from Paddington to Abbey Wood in 2010. Apart from significant delays, the project also has other two issues of budget complexities and construction work issues (Tonicify, 2022).

Recommendations

Delayed train services are one of the important factors that can be considered as significant faults. On the other hand, poor planning and management decision making has been issued as well. That is why these key operation areas can be resolved with much more emphasis on monitoring. The project leadership has been condemned at significant times and this has been the reason why delays were offered at the very beginning stages of the project. The risk management team should be

much more focused on the areas of risk. On the other hand, it has been found that recruitment challenges are one of the key factors of Crossrail projects. Hence the HR management from Cross rail Ltd should incorporate technology assistance to recruit the best talents in the team. At the same time, precautions can be taken further to invest any money towards development of the rail project. During the time of project operations, the expected costs of the project surpassed the limit. That is why the delivery expense was higher than the expected costs. Thus, the technicians as well have been paralyzed to a significant degree. At the same time the construction of the tunnelling due to its access reach was condemned as faulty. Hence the construction of tunnelling can be reviewed by Cross Rail Ltd for further improvement.

At one stage the money falls short for completing the project and this can be a great problem when it comes to its sustainable future. The line's operations of the Crossrail project can deal with these issues and one financial advisor from a reputed organisation can be hired in the team as well. This financial advising committee can create a plan for further operational decisions related to investment as well as budgeting. Warnings have also been registered from the service and this implies more towards the operational advocacies and efficiencies of the project to a great extent.

Conclusion

From the above analysis it can be stated that the project has been issued with many problems. The most common problems that the project encountered were technical issues. The tunnelling problem was comparatively large but it took assistance from the TFL team. The TFL team is quite responsive to deal with the issues of any sort. That is why it can be stated that if any problems arise in future that can be dealt with proper expertise by the TFL team. At the same time the Government of UK is also quite agile to give responsiveness towards the project because it has given the UK economy a boost after the pandemic. Technology is one of the key areas where the Crossrail project excelled. It is seen that transactions have also been done by the contactless services. Delays have been one of the crucial issues that the project has experienced even after the pandemic. Hence, it can be stated that operational efficiency is required from the management team of Crossrail Ltd. It has been mentioned in the aforementioned discussion about the necessities of a financial advisory committee to give solutions regarding budgeting.

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