

Project Management Analysis: Sydney Metro Project

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1. Sydney Metro Project Overview

The Sydney Metro is Australia's most ambitious infrastructural project which is aimed at transforming the city of Sydney by offering a state-of-the-art transport infrastructure with high-speed driverless trains, and subways that allow fast interchange and higher flow of humans (NWS Government, 2022, para 1). The aim of the project is to connect the various parts of the city. Upon completion, the Sydney Metro will have covered 90 kilometres of rail, and have 39 train stations (NWS Government, 2022, para 2). The strategic context of the Sydney Metro project is to increase the overall attractiveness of the city to investors, and employees by increasing the overall urban mobility as well as connecting the Sydney city's industrial park to the sub-urban metropolis (NWS Government, 2022, para 2). In this regard, the city shall be adequately supplied with human labour while at the same time avoiding the perils that come with overpopulation—which is an increase in the overall traffic and a strain on the urban housing resources. The city of Sydney recognizes that there is a vast population that lives outside the city or around it, and the best method to make this population constructive to the city's development is to create a fast and affordable transport that allows workers to reach their places of work while keeping their housing outside the city.

As the project assumes a subway methodology, there is low congestion within the city which makes the city sustainable. It also reduces the overall rate of population as there is a shift from the use of personal automobiles to reliance on the sophisticated network of urban transport infrastructure. In addition, the completion of the project shall lift Australia's global reputation to be one of the most developed nations with robust and innovative urban infrastructure. This shall be an advancement that shall serve in uplifting the global standing of the nation.

The overall value that the project shall accrue to the city government shall be through an increase in the overall revenues, both directly and indirectly, either through tickets and

taxes collected due to the businesses in the city. The increase in the revenue shall be useful in the continuous development of the city's social infrastructure and services such as investment in the healthcare services, and provision of basic amenities such as water supply, high internet speeds and other social services. In addition, the city will become a preferable investment destination due to the good terms of doing business including a stable labour market, and reputable transport network that makes it easy for fast flow of goods and services. This shall serve in increasing the overall foreign direct investment in the country which shall bolster the overall revenue that the country earns from this investment.

Besides, the national objectives of a sustainable urban life, and economy shall be attained by provision of work and sustainable social amenities which shall inherently increase the quality of life. The government of Australia is concerned with the overall productivity of the people, and increasing the overall human development index as part of its policy mandate (Metro, 2019, p.2). In this regard, the completion of the project shall align with the major goals that the nation has for its people, and as such shall serve to advance the welfare of the people of Australia.

2. Critical Analysis and Evaluation

2.1 Project Schedule Management

The two significant issues in the Sydney metro are the schedule management and the performance monitoring. The issue of project schedule management relates to the time when the various stages or phases of the project should be completed, while the performance relates to how well the project has been executed to meet the aforesaid objectives. The Sydney Metro train project has various components, and there has been different paces of execution, with these sections being at different phases. Thus, the overall project schedule assessment takes into account the progress speeds of the various sections. The Sydney Metro runs

through the different parts of the city, connecting the airport, the Sydney West and the Sydney metropolis.

The process of construction of the various parts of the Metro train has been going at different rates. In general, at least 99% of the tunnels had been bored by 2015 which is an indication of the project being within the time scope. However, there has been delays in other functionalities such as the laying down of the railroads. For example, the Chatswood and Sydneyham are not fully completed, which is an indication of the project falling behind schedule as this 15.5-kilometre section should have been completed by 2021 (NWS Government, 2022, para 3). In retrospect, the project is expected to be completed in 2024 which demands the contractors to consider working on delivering in time.

Also, the key stations have been shifted from the anticipated places of placement such as the Marrickville and Barangaroo stations being transferred (NWS Government, 2022, para 4). Despite the construction of the Sydney Metro station being underway, with the construction of two stations already complete, three stations are behind schedule—the stations at Victoria Cross, Martin Place, and Pitt Street (NWS Government, 2022, para 4). This is arguably due to the improvisations made to make them more suitable to the demands of the different locations. More improvisations have led to the alteration with the need to have the station caverns mined out of the ground. In effect, the adjustments made have created the need to redesign and this has stretched the anticipated time of project execution.

In retrospect, there are external causatives of delay in the Sydney Metro project, including Covid-19 pandemic and contractual reviews vis a vis the policy making organs. At the height of its implementation, the Sydney Metro project faced the impact of Covid-19 pandemic which called for lockdowns and inherently interrupted the speed and flow of execution. The year 2020 was thus one of the years in which the project execution phase

slowed down both from the adjustments within the construction process to consider workers' safety as well as delays caused by slow supply chains.

The politics around the decision to adopt the Sydney Metro project was long overdue, as the planning process started way in 2001 (Gordon et al., 2013, p. 240). However, the controversies around the Sydney Metro project were caused by politicking due to budget considerations and evaluation on the best lines of approach. The political process which included the evaluation by the city and the national government kept shifting the starting date for the project (Gordon et al., 2013, p. 241). It was not until 2010 that the Sydney Metro project was approved and initiated, and since then the time scheduling for the execution of the project was appropriate.

2.2 Project Performance Monitoring

The concept of project performance monitoring is based on recognition of how the project aligns to its goals and objectives. Certain key factors are considered such as a project's economic and social value upon completion, or as assessed in the completed sections. The key questions that guide whether a project's performance is consistent with expectations is whether it is still a preferred project, whether it is still viable, and whether it meets the budget estimations. The Sydney Metro project has exceeded the budget expectations which is a key cause for alarm. By June 2022, the tunnel costs had gone beyond the overall upper limit by \$0.5 billion (Swanston, 2022, para 2). The overall project costs estimation ranged between \$11.5 billion to \$12.5 billion (Swanston, 2022, para 3). The project is expected to incur the cost of \$5.1 billion in the next four years before the project is completed. The projected cost blow-out is approximated to be around \$6 billion which is almost 50% of the project's estimated initial construction costs (Swanston, 2022, para 4)). The consequent effect is the stalling of any other government projects as the Sydney project continues to consume more money (Swanston, 2022, para 5).

The performance management concern is that the project does not occur any further costs, or cause undue pressure to the current budget. The consequent impact that the high costs, beyond the expectations, is that there may be an upward revision of the prices of tickets and fare from one destination to another. Or else, the government and private investors will have to consider a prolonged time period for the project to break even and offer the returns on investment (Gharehbaghi et al., 2019, p.89). Under such circumstances, the anticipated returns on investment from the government exchequer postulates less anticipated returns.

From a project management monitoring of the costs incurred, there is no concrete blame on the managers as the project costs arise from external forces which have affected other projects and even the entire global economy. The key cause of the project cost deviation is from the Covid-19 disruptions in the global supply chain which invariably affected the construction process (Butt, 2021, p.7). The associated construction costs may occur due to the machine maintenance costs and salary overpayments due to overtime and compensation to the workers. The consequence of these unanticipated costs has created a cost creep which is beyond the control of the project managers or the NWS construction company. Further, the project costs have been affected by the global inflation which has had an effect on the overall costs incurred in doing business as well as prices of general commodities. These exceptional circumstances have created a tension among the various stakeholders involved, which has prompted extra spending. This has called for massive mobilization of resources, and as reported by the government, there has been a delay in other projects as top priority has been given to the completion of the Sydney Metro project (Micah et al., 2021. p.1338).

3. Recommendations

3.1 Project Planning and Harmonization of the Phases

Project planning plays a role in ensuring that the project is executed within the set schedule (Kerzner, 2017, p.23). Planning is a key component as it is a way of mapping out the possible time expectation that the project would be executed, including the longest time possible (Kerzner, 2017, p.24). The concept of planning is to avoid complacency and keep everyone on their toes as project timelines act as reminders of the need to take action. Besides this, there is need to have harmonization of the project phases.

The need for harmonization of the project phases is to ensure that there are no delays (Mirza et al., 2013, p.725). In this case, the need to create unity in the approach to projects is to reduce replication of duties or divergence in the project execution. As noted in the changes to design and how this has affected the project execution timelines, there is a need to create better unity by collective planning and management where updates on the phase design, changes and execution are observed and shared. This shall make it easy to keep all the persons in the project to adjust their plans, approaches and expectations. In lieu, the project will be executed within the anticipated timelines.

The use of project management tools, such as the software project management tools help to reduce the project creep. Project management tools have become crucial in managing large projects especially those involving many participants. One of the project managements tools that can be utilized include the platform-based tools and the schedule-based ones. An example of these includes the use of Gantt charts, and communication tools such as Jira, Zoho Projects, Trello among others (Haije, 2022, para 4). The adoption of these tools is useful in increasing communication on the project, and as such reduce the possibility of divergence. Besides, with the use of Gannt chart and other project scheduling systems, it is easy to monitor and control the extent of project creep. In these cases, timely interventions

can be made to reduce the possibility of discrepancies in the project execution. Often, when changes arise and the other parties have to keep up, there is a general delay in the execution phase.

Regarding delays arising from emergencies and unanticipated events such as the disruption arising from Covid-19 and the disruption in global supply chain, the best line of action is to move with speed to reduce the extent of project creep. This can be done by realigning the project assessment and establishing new ethics and approaches to the work and project execution. There might be need to work on harnessing more hours, and utilizing more technological input and human resources. By taking these proactive steps, the overall efficacy of the project management process with regard to the schedule and scope can be attained.

3.2 Fiscal Planning and Controls

In order to increase the degree of financial accountability in the project management process, there is need to establish budget controls and integrated systems of resource management. It is necessary to consider contractual agreements with workers, and the contractors working for the project to evaluate costs. To avoid the consequences of inflation, the cost planning process should anticipate inflationary variations. In the case of a project that is spanning a time period of 10 years, a fiscal realistic approach demands consideration of inflationary costs to avoid financing deficits arising from inflationary gaps. Subsequent actions can be taken in anticipation of this, including taking care of the major costs by bulk buying and stocking of inventory, as well as hedging the initial investment against sovereign stable currencies or assets (Kerzner, 2017, p. 24). Besides, the use of proficient project auditors can serve a role in setting controls of the internal costs and variabilities. The project auditors focus on avoiding unnecessary costs by introducing alternative procedures and interventions. The systems of controls in the planning and implementation process mitigates against runaway costs.

There is also the need to do bulk orders beforehand at a given quoted price that will compel the manufacturers and suppliers of building materials to supply items in time and as per the dictates of the contract. The invariable variations in the costs can be solved by involving experts in the global building industry and banks to introduce bonds and swaps during the financing phase of the project. The use of bonds such as infrastructure bond and swaps can serve in solving the short-term needs of financing which ensures that there is no incurrence of costs associated with delays in financing or costs arising from the inflation in the marketplace (Kerzner, 2017, p. 27). This shall be useful in providing bulk capital amount to purchase the required materials – and thus avoid any variations in the changes in inventory. The market prices at the time of the project planning phase, and in any case at the lowest phase during the project implementation period should inform purchase decisions. This shall reduce the cost-adjustments that come from the rise in the market prices for construction materials.

In the meantime, one of the interventions that can reduce the overall cost, or at least establish control on costs is stakeholder involvement in negotiating market prices of basic project materials. The government being one of the key stakeholders should consider policies that address costs in the given industry by offering lower taxes as this will allow the project to be implemented at lowered costs. The need for proactive intervention is to ensure that the project does not end up taking a longer period to execute or lose momentum on some spheres. On the other hand, actively fundraising and engaging the stakeholders serves in continuous financing of the project.

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