

## **Relation Between PMBOK and IT Project Failure: The Billion Euro IT Disaster at NHS**

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**Abstract:** The combination of technology and healthcare has brought in a new era in the healthcare industry, emphasizing the significance of effective project management. This study investigates the crucial significance of project management in the context of healthcare IT initiatives, as stated in the Project Management Body of Knowledge (PMBOK). It examines the National Programme for Information Technology (NPfIT) for the United Kingdom's National Health Service (NHS) to demonstrate the implications of poor project management. With its significant financial ramifications and early closure, the NPfIT serves as a cautionary tale, emphasizing the importance of proper risk and cost management in healthcare IT efforts. The report finishes by emphasizing the critical role of project management in ensuring effective technology integration in healthcare.

**Keywords:** Healthcare IT Project Failure, Risk Management, Cost Management

## 1. Introduction

The convergence of technology and healthcare has become critical in the rapidly changing health sector, bringing in a new era of efficiency, accessibility, and digitization. As we set out on this digital adventure, developing an Information Technology website specifically suited to the demands of the healthcare industry is more than just an advancement in technology—it's a dedication to improving patient safety and healthcare professionals and government management productivity. IT project implementation is a crucial undertaking that has the potential to greatly impact patient outcomes, operational effectiveness, and overall quality of care. However, the intricate nature of healthcare systems and the quick speed at which technology is developing present special difficulties that, if not handled carefully, might result in project failures. Some of them are lack of user participation, unrealistically long timelines, inadequate specifications, scope creep, subpar control systems, and subpar testing can all cause IT projects to fail. (Chowdhury, R., et al 2007)

The Project Management Body of Knowledge (PMBOK) is a collection of standards, best practices, and procedures for planning and executing projects successfully. It was originally published by the Project Management Institute (PMI) in 1996 and is now in its seventh edition. The PMBOK Guide is the flagship publication of the PMI and serves as the foundation for the vast body of knowledge in the field of project management. The PMBOK Guide is a valuable resource for project managers in any industry, and it provides a comprehensive overview of project management principles and practices. By that, project managers are professionals responsible for leading projects from start to finish. They are organized, passionate, and goal-oriented individuals who understand what projects have in common and their strategic role in how organizations succeed, learn and change. Project managers are change agents: they make project goals of their own and use their skills and expertise to inspire a sense of shared purpose within the project team. The PMBOK Guide provides a comprehensive framework for project management that can be applied to any project regardless of its size or complexity. It defines best practices, processes, and tools for successful project delivery. (Project Management Institute. (n.d.))

One of the incidents happened in the Information Technology industry that cause by lack of project management is the National Program for Information Technology (NPfIT) for National Health Service (NHS) lacks a standardized method for sharing information, various NHS organizations use different strategies. The distribution of healthcare information is not fairly governed by this lack of standardization. For example, in certain postcode areas, the information needs of ethnic minority groups—especially in their native languages—may go unmet. This poses a risk and adds to the phenomenon known as the "postcode lottery," in which the availability and caliber of health information are dependent on an individual's place of residence (Chowdhury, R., et al, 2007). The inconsistency in the information provided presents obstacles to attaining fairness in healthcare accessibility and emphasizes the necessity for a more uniform and comprehensive strategy.

This project was intended to be provided better services for patients and healthcare facilities and was the biggest effort at a public sector IT program in the United Kingdom, with an initial budget of almost £6 billion over the course of the key contracts. The scheme had a ten-year schedule that began in 2002, however it had to be prematurely discontinued in 2009 (IvyPanda,2022). The primary objective of NPfIT was to modernize the NHS's utilization of information technology by implementing integrated electronic patient records systems, online 'choose and book' services, computerized referral, and prescription systems, and supporting network infrastructure. However, for a variety of uncontrollable factors, the program was unable to meet expectations and had to be halted, despite the non-delivery of several of these services, the government and, ultimately, taxpayers faced substantial expenses related to the program (Campion-Awwad, O., et al, 2014). These costs included transition and exit expenses from contracts, which persistently accumulated into the fiscal year 2013/2014.

## 2. Discussion of Project Management Body of Knowledge

### 2.1 Risk Management

Risk management, as used in the Project Management Body of Knowledge (PMBOK), is the process of locating, evaluating, and controlling risks that could have an impact on a project's goals. It is one of the 10 knowledge areas listed in the PMBOK Guide that the Project Management Institute (PMI) has established. Project managers and teams can reduce negative effects, maximize positive effects, and take advantage of opportunities that present themselves during a project with effective risk management. Ensuring the effective completion of projects is a crucial aspect of project planning and execution. There are five key components in risk management which are Risk Identification, Risk Analysis, Risk Response Planning, Risk Monitoring and Control, and Contingency and Reserve Planning.

The much-debated IT Disaster at the National Health Service (NHS) is set to be abandoned by the UK Government after accumulating billions of pounds in bills. Instead of pursuing the creation of the world's largest single civilian computer system, local health trusts and hospitals will be granted the option to purchase or develop independent computer systems suitable for their individual needs. A much smaller central server will be implemented to aggregate the data from these disparate systems. While the original concept of centralizing a database of electronic patient records remains valid, the £11.4billion program was found to be "beyond the capacity of the Department of Health to deliver" in a cross-party committee report. The report also highlighted the department's failure to demonstrate what benefits had been delivered from the £2.7bn spent on the project thus far. The Government now faces recommendations to urgently review whether it is worth continuing to invest in the remaining elements of the care records system. According to the Chair of the Public Accounts Committee, Margaret Hodge, the remaining £4.3bn expected to be spent on the project may be better used to evaluate and acquire proven technology. The report suggests that this approach would offer better value for money and deliver demonstrable benefits to the NHS. (BBC News, 2013) (Oliver Wright, 2011)

Healthcare is considered high-risk due to unpredictable events with a high potential for loss, which makes risk management imperative. Risk management is a systematic approach to managing and evaluating risks, aimed at minimizing harm from clinical or resourcing errors. With the NHS facing increasing risks, risk management has developed and expanded in recent years to cover areas such as clinical governance, risk reporting, guidelines, audits, risk assessments, and training. The Audit Commission recommended that trusts review their risk management framework, which led to the development of improved governance policies (Clinical Medicine, 2012). Therefore, this case study can be associated with five key components of risk management.

The first one is risk identification which is the process of identification of any potential risks associated with a project, as failure to identify risks may snowball into a big problem later. In this case study, the failure to consult healthcare professionals before the project's implementation led to one of its failures. Secondly, the process of evaluating the potential impact of identified risks on the project, which we call risk assessment. The NHS project faced significant risks including inadequate training, technical issues, and slow implementation which will impact the project's success. Other than that, risk mitigation is also one of the key components in risk management in which this component involves a properly developed strategy to reduce or avoid identified risks. Project managers alongside various stakeholders are to determine suitable solutions or plans that will help to negate or reduce any anticipated project risks.

As the project manager responsible for the project, any unanticipated risks and anticipated risks must be monitored to ensure their implementation over the project as time goes by. Inappropriate risks mitigation strategies or inability to react to any type might result in the realization of risks that can harm the project's objectives. In this case, the project was behind schedule and over budget which suggests

there may have been a neglect to monitor risks during the implementation stage. Lastly is risk monitoring, the lack of interaction with healthcare personnel and professionals resulted in uncertainty and confusion. The project's failure risk was elevated by ineffective communication, underscoring the significance of risk communication in all project stages. To guarantee that stakeholders are aware of the project risks and the actionable measures being taken to mitigate them, effective communication is essential. It is important for the project manager to have open lines of communication to voice concerns and update teams, senior management, and stakeholders on the project's progress.

To conclude, the £10 billion NHS IT Disaster serves as an indication of the vitality of effective risk management within the PMBOK framework. Project managers should identify risks, assess their effects, create plans to reduce or eliminate them, keep an eye on them constantly, and effectively communicate with stakeholders to manage risks. By doing so, they can guarantee the efficient management of the risks and lessen the likelihood that they will materially impair the project. The NHS story emphasizes how crucial it is to give risk management priority as it is essential to project success.

## 2.2 Cost Management

Other than risk management, cost management is one of the Project Management Body of Knowledge (PMBOK) that could be linked to the IT project failure at the National Health Service (NHS). Cost management can be described as one of the key tasks for project managers. Combined with time management and the project's quality, these three make up the foundation of project management. Throughout the project life cycle, cost management remains a critical focus (Georgas, P. C. & Vallance, et al, 1987). Without putting focus on managing the cost, a project could fall into delays or be forced to fail with problems such as underestimated cost.

The IT project disaster at the NHS has resulted in taxpayers having already paid about £10 billion for the NHS patient record system that was abandoned. The cost of the plan was expected to be £6.4 billion when it was originally abandoned. When the project was first started in 2002, it was years past schedule and over budget due to a variety of issues, including shifting specifications, technical difficulties, and disputes with the suppliers. The government's projections of future expenses do not account for the breakup of agreements with Fujitsu, a significant IT supplier. The Japanese company and the government continue to disagree over compensation even after that contract was terminated in 2008. Over the past years, the government has spent £31.5 million on legal fees [Guardian News and Media (17AD)]. The trusts will face serious financial difficulties because of the program's suspension. To create a trustworthy records system, they will now need to have confidence in what they can do. Notably, the National Audit Office had advised that it would take time to determine the program's true financial benefits and that its benefits could not be evaluated in the early phases of its implementation (IvyPanda ,2022).

The death knell for the National Program for IT (NPfIT) had begun to go off in January 2009. This was a result of the Public Accounts Committee beginning to evaluate the programmer's expenses and progress thus far. Despite NPfIT's seven-year operation, costs were rising, and benefits were not being demonstrated. The challenge that NPfIT faced as a result of serious misuse of centralized control and government officials making decisions that affected every NHS trust was decreased. Although considered as the biggest civil sector program in the world, it was officially discontinued. Once so much money and time was lost, the terrible accident and eventual collapse raised a lot of questions and focused attention on why it took place that way (Verner, C. M., & Sarwar, D. ,2021). As the healthcare sector struggles with the difficulties of digital transformation, the lessons learned from the NPfIT tragedy continue to resonate, prompting discussions about the role of management, transparency, and stakeholder engagement in public projects.

For a project manager, there are several ways to prevent or manage the cost management challenges that were present in the NHS IT project failure. Firstly, cost estimation, in which project managers use a variety of methods to create precise estimates of the costs related to project activities. This involves figuring out and recording every expense that will be paid for during the project. Initial cost estimates for the NHS IT project were much lower than expected, which highlights the importance of accurate cost estimation. Other than that, an additional crucial element of cost management is cost control, which includes continuing project cost monitoring and budget comparison with the approved budget. Project managers must perform quick decision making to realign the project's funds when differences happen between the displayed and actual spending amounts. The NHS IT project's budget grew out of control due to unchecked spending caused by the failure of cost control procedures. Moreover, cost budgeting is one of the solutions that can be used, which involves developing a financial plan for using resources wisely. This budget guarantees that the work stays inside the budget it was given and acts as a guide for financial distribution. The lack of a clear budgeting procedure in the NHS project led to financial difficulties and cost overruns. The incident highlights the importance of careful budgeting and well-defined networks of accountability and direction in project management to guarantee financial control all the way through the project.

To sum up, the £10 billion IT disaster suffered by the NHS IT project serves as a reminder of how important efficient cost management is to the PMBOK framework. To maintain financial discipline, project managers must guarantee accurate cost estimates, careful budgeting, cautious cost control, and strict change control. Financial incidents can be avoided, and project managers can guarantee project success within the budget by encouraging open communication with stakeholders. The insights gained from this NHS case highlight the importance of cost management in project management, which is an essential part of project success.

### **3. Conclusion and Recommendation**

If a project is to be completed successfully, planning and execution must be done correctly. Weaknesses in the planning will cause the development of the project to be interrupted or if it is successful, it will have side effects that cause the project to be corrected from the beginning or worse to be halted (Globerson, S., & Zwikael, O., 2002). Therefore, the project manager plays an important role starting before the development of a project until it is completed and delivered to the client on time, coming with great quality and within the budget. A responsible project manager will ensure that every planning and analysis is done carefully because these two phases will determine the ability of the project results whether it successfully achieves all client requirements and expectations so that it does not cause the project to be declared or labeled as a failure. Owing to the fact that 39% of the project fails because of this aspect pertains to the insufficient clarification of requirement that demoralizes staff and serves as a clear indication that the project lacks effective management and oversight (Hughes, D. L., Dwivedi, et al, 2016).

The National Health Service (NHS) IT project failure highlights the critical importance of effective risk management within the Project Management Body of Knowledge (PMBOK) framework. The project faced challenges such as inadequate risk identification, assessment, and mitigation strategies, leading to significant delays, budget overruns, and eventual abandonment. Key components of risk management, including risk monitoring and communication, were neglected, resulting in uncertainty and confusion. This case underscores the necessity for project managers to systematically identify, assess, and manage risks throughout the project life cycle, emphasizing the vital role of risk management in ensuring project success. Some additional recommendations to minimize risk management are to have active user involvement to ensure more accurate identification of potential risks (Wallace, L., et al, 2004). Next, project managers should try to avoid scope changing in the middle of development because new requirements can lead to uncertainties and potential complications which

can impact project timelines and budgets. Lastly, project managers can minimize the risk by selecting knowledgeable professionals involved in project development because they contribute to better decision-making during the project lifecycle that can avoid pitfalls and mitigate risks before they escalate (Keil, M., et al, 2002).

Furthermore, the costing taxpayers £10 billion, underscores the critical role of cost management in project management. The project, initially budgeted at £6.4 billion, faced delays and overruns due to shifting specifications, technical challenges, and disputes with suppliers. The lack of effective cost management led to financial difficulties, legal disputes, and eventual project abandonment. Key lessons include the importance of accurate cost estimation, vigilant cost control, and well-defined budgeting procedures. Project managers must ensure financial discipline through open communication with stakeholders to prevent such disasters and ensure project success within budget constraints. In cost management, there are four points that project manager should handle which are Plan Cost Management, Estimate Cost, Determine Budget, and Control Cost (Jainendrakumar, T. D., et al, 2015). Together, these processes establish financial discipline, minimize risks, and contribute to the overall success of the project by maintaining cost alignment with approved budgets. The NHS case highlights the significance of cost management as an essential component of the Project Management Body of Knowledge (PMBOK) framework.

In conclusion, the intersection of technology and healthcare holds immense potential for revolutionizing patient care and operational efficiency. The development of IT solutions tailored to the healthcare sector represents a commitment to advancing the industry, yet the implementation of such projects requires meticulous project management. The Project Management Body of Knowledge (PMBOK) provides a comprehensive framework for project managers, emphasizing the principles essential for successful project delivery. However, the cautionary tale of the National Programme for Information Technology (NPfIT) for the UK's National Health Service highlights the challenges that can arise when these principles are not diligently applied. The NPfIT's premature discontinuation, coupled with significant financial implications, underscores the critical need for skilled project management in navigating the intricate landscape of healthcare IT initiatives. As the healthcare industry continues its digital transformation, effective project management remains paramount in ensuring the seamless integration of technology, contributing to improved patient outcomes and the overall advancement of healthcare services.

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