

## **The Breakdown of Health-care.gov project - A Study with Specific Emphasis on Project Management Body of Knowledge (PMBOK)**

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**Abstract:** This case study examines the disastrous launch of Healthcare.gov, initiated by US President Barack Obama as a commitment to revamp the nation's public health system. A portion of the Affordable Care Act 2013 proved a failure due to mismanagement, technical difficulties, and politics, which, as a result, caused repercussions among other projects. This study aims to identify the primary determinants of e-government project failure, encompassing inadequate integration management, time limitations, project quality concerns, ineffective resource and personnel allocation, limited participation in riskassessment and guidance, and a scarcity of managed government contracts. The examination of project failures is conducted within the framework of the Project Management Body Of Knowledge (PMBOK), which comprises the management of integration, time, risk, scope, quality, human resources, and procurement. Every incident has been analyzed and discussed to address the issue and how it impacts government project initiatives involving project stakeholders. This report analyses the Healthcare.gov incident to shed light on the project's failure and offer recommendations for enhancing the planning and execution of government technology initiatives on a large scale in the future. It underscores the significance of efficient project management and prioritising user experience.

**Keywords:** Healthcare.gov, e-government, Project Failure, Project Management Body Of Knowledge

### **1. Introduction**

HealthCare.gov was established in October 2013 with the purpose of enrolling Americans in health insurance plans under the Patient Protection and Affordable Care Act of 2010. This implementation aims to provide millions of Americans with comprehensive health care. This ambitious initiative centres on HealthCare.gov, the federal health insurance marketplace that helps people get crucial treatment. HealthCare.gov is an extensive endeavour that seeks to enhance the process by which millions of Americans get and oversee government-funded health insurance. HealthCare.gov and

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HHS Secretary Kathleen Sebelius faced consumer criticism due to prolonged wait times and system challenges lasting about four weeks. The countrywide impact of HealthCare.gov has been disrupted by project management failures, causing significant disruptions for several communities and people. Administrator of CMS Marilyn Tavenner expressed regret to Congress regarding Americans' unsatisfactory experience as first-time users of HealthCare.gov [1].

The necessity to register at HealthCare.gov and complete system verification before viewing insurance plans could be more favourable. HealthCare.gov needed help to authenticate individual identities or identify clients in two insurance companies' systems because various insurance firms might use different customer IDs. Before examining these insurance options, individuals must register at HealthCare.gov and check in on several systems. Several states have rejected HealthCare.gov data due to quality and Medicaid eligibility issues. The Department of Health and Human Services (HHS) required clarity about the specific states that would be responsible for developing their own insurance markets or participating in the federal insurance market. Additionally, HHS sought information on the timeline for finalising the rules and the methods by which each subsystem would share data. These factors affect a system's architecture, design, and implementation. HealthCare.gov and federal markets require several methods. The system must communicate with 34 Medicaid systems with various enrollment eligibility standards. Every state establishes distinct income thresholds and additional eligibility criteria and manages its own information system, which adds complexity when certain states choose not to participate in the required 'Medicaid Expansion' [1]. As HealthCare.gov issues were fixed, more clients could enrol, forcing insurance providers to correct data quality mistakes in digitally submitted 834 forms manually. Some state Medicaid systems have data exchange concerns with HealthCare.gov. If they qualify for Medicaid, more than 183,000 Act applicants will have their information immediately sent to their state's Medicaid system. Texas rejects this data stream owing to Medicaid eligibility limits and data quality issues. Previous health IT systems' diverse and restricted capabilities hamper language data collection, storage, and exchange [2]. Here, project managers must provide weekly goal updates for each HealthCare.gov sub-project as CMS is experienced at handling the various contractors our programmers need. Unfortunately, some HealthCare.gov contractors don't satisfy the criteria.

In addition, as stated previously, the initiative lacked a defined procedure for defining requirements. The specifications were informal, therefore shortcuts were made and the project's scope and challenges were not recognized. These issues suggest better project management, particularly in coordination, leadership, decision-making, design and requirements definition, and design [3]. The primary responsibility of the project manager is to incorporate the project management corpus of knowledge into the undertaking in order to ensure its accomplishment. This segment of the report shall analyse every HealthCare.gov project concern by applying the Project Management Body of Knowledge to each issue, with an emphasis on procurement, human resources, integration, time, and quality management. This research seeks to provide leaders, managers, and project stakeholders who influence the future of the nation with a deeper understanding of the challenges, barriers, and actions associated with project management.

## **2. Project Management Body Of Knowledge**

The Project Management Body of Knowledge guidebook standardize project management practices. It defines commonly used project management methods, knowledge areas, and best practices. The guide is updated often to match industry advances and approaches. It is primarily a reference and resource for project managers, giving guidelines for project planning, implementation, monitoring, and management. This comprises nine areas of knowledge that a project manager should be skilled with in order to execute a successful project. These areas of expertise are project integration, time management, scope management, cost management, quality management, communication management, risk management, and procurement management. This section will focus on the six body of knowledge

referring to the obstacles faced by HealthCare.gov and how the project manager should play a role in dealing with them.

## 2.1 Project Integration Management

Integration management oversees the integration of all knowledge areas, including developing project charters, management plans, work management, knowledge management, monitoring, change control, and closing phases as a project guideline [4]. Project Integration Management is critical to the successful implementation of a project where can achieves this by facilitating a comprehensive project strategy, streamlining workflow, ensuring coordination and accountability, promoting stability, and facilitating effective decision-making. Project integration management activities and processes assist in coordinating and integrating all facets of a project through the facilitation of project execution, the management of interdependencies, and the alignment of project objectives with those of the organisation. Thus, project management should prioritise project integration to guarantee that all project components operate together to meet project goals.

HealthCare.gov is a website that functions as a health insurance exchange in the United States. It was introduced on October 1, 2013. The platform is designed to help individuals and businesses purchase health insurance plans. However, HealthCare.gov faced several problems that led to its failure. The site needs to meet the reasonable requirements for providing the services at any time. In addition to the 16 official contractors, 55 other contractors are working on the Healthcare.gov website [5]. The contractor says the company's software components performed well in independent unit tests. This was due to a lack of end-to-end testing to expose defects, but several contractors said they could not reveal the names of government officials responsible for fixing problems or making essential choices. The lack of thorough testing resulted in numerous crashes, system crashes, and performance issues once the site went live. HealthCare.gov also had another problem, which was poor communication and coordination. There needed to be more efficient coordination and communication among the many contractors, subcontractors, and government organisations involved. Incompatible system components and misaligned objectives resulted from this lack of coordination, impacting the integration process [6].

To address these challenges in Integration Management, project manager should implement and upgrade a better solution such as enhanced communication, collaborate and discuss with each other often. Using this solution, project manager can establish better communication channels and foster collaboration among various teams and contractors involved in the project. Besides that, project manager should do monitoring comprehensively in project management [7]. Project manager will implement effective project management methodologies to oversee the integration process comprehensively, ensuring that all elements worked cohesively before deployment. Lastly, project manager need to make strong change management procedures [8]. This helps to manage modification to integrate the project and prevent disruptions in system operation. Efforts to address these issues include improving project management practices, increasing emphasis on integration testing, and improving stakeholder communication. However, due to the nature of government projects and complex integration requirements, addressing these challenges was an ongoing process involving continuous adjustments and improvements to integration management. Hence, project managers must fulfil their respective duties in order to prevent such failures in the future.

## 2.2 Project Time Management

Time is an essential factor in project management as it governs the allocation, coordination, and monitoring of project resources to guarantee their timely and cost-effective completion. Therefore, most projects are considered to have failed because they exceeded the scheduled time. When a project is completed within the scheduled time, it will increase project costs, causing it to exceed the allocated budget. This schedule's estimates and costs need to be revised as the information

available during work progress is one of the factors that cause the project's failure [9]. Also, sometimes schedules need to be used correctly to guide the project, which causes the project to be delayed.

The testing of the healthcare.gov system was originally scheduled for July 2013, but it was postponed until mid-September 2013. The system's implementation was hindered by unidentified complications and the ever-expanding scope of the exchange activities that each state will require the Content Management System to execute. Additionally, the substantial quantity of tasks that need to be executed indicates the possibility of future implementation difficulties that extend the delivery time of the system [10]. During the design phase, the team needed proper identification of which hardware and software caused the healthcare.gov system to be delayed. The software that CMS chooses has yet to be discovered by some of the team members. This causes the members to have difficulty during the deployment of the healthcare.gov system.

The project manager plans, organises, monitors, and controls all project aspects and motivates everyone to meet goals safely and within schedule, cost, and performance constraints [11]. Hence, in order to tackle this problem in the future, it is necessary to discuss the activity scheduling process between team members. It is essential to define activities that are needed to produce project deliverables. As a project manager, he or she should allocate tasks to group members based on their abilities. The project manager should also check the activity schedule for on-time completion. During the progress of each phase in the schedule planning, project managers need to constantly supervise the work of each team member to make sure the system is processed smoothly. This demonstrates that in order to plan and manage their own and their team's time, project managers must prioritise time management. Project managers have the ability to enhance productivity, adhere to deadlines, and successfully complete projects through the implementation of time management strategies. As a result of challenges within the healthcare system, particularly with regard to time management, the project manager must implement a structured project plan, maintain well-defined task lists, utilise project time management tools, and adhere to the 80/20 rule, which posits that 20% of effort yields 80% of results. Hence, project managers can optimise their workload and time management by prioritising and focusing on the best tasks.

### 2.3 Project Quality Management

If a project comes in on time and within budget, it is regarded successful, even if the resulting product doesn't satisfy customers or has an inadequate commercialization process [12]. To be sure, quality management plays a crucial role in regulating and maintaining quality by standardising outcomes and identifying where adjustments to the project are needed to guarantee outcomes that satisfy the needs and expectations of clients, stakeholders, or customers, depending on the context of the end user. According to Collins and Baccarini, quality management systems reinforce other criteria and elements in project management [12]. Prior to starting a project, project manager should consider quality planning, assurance, and control. Checking the quality of a completed or delivered project does not allow for improvements if quality is lacking. The backbone of every quality management system is the interplay between quality control and quality assurance [13].

The Health-care.gov project is facing numerous challenges, particularly in quality management. A significant portion of individuals in the United States are experiencing incredible frustration when attempting to access Health-care.gov. Users experience frustration due to encountering a blank screen upon completing the application process, enduring lengthy wait times during enrollment, facing technical difficulties such as system glitches, and being required to register and authenticate on multiple systems before being able to browse for insurance plans on Healthcare.gov. Consequently, the first user experience of Health-care.gov failed to fulfill the expectations of the American populace [1]. Users emphasized this issue throughout the early days of the system's launch, where President Obama even attempted to use it and proclaimed it "Undeniable"

on October 30 in reference to the recurrent website crashes exacerbated by Verizon network disruptions [14]. This proves that the lack of quality in a website that does not fulfill its purpose is due to a lack of expertise in planning all the information in more detail before starting or during the initial process of starting the project. This makes things more difficult for users because a low-quality website may not adhere to accessibility requirements, making it difficult for users to access and utilize the website, resulting in disappointment and a bad user experience as stated above.

As stated in the Project Management Body of Knowledge Guide, the Plan Quality process of Project Quality Management is a key area of engagement for a project team and management [15]. For a project management system to succeed, it requires a project manager who possesses strong managerial skills [16]. As a project manager of the project, clear project objectives and scope should be defined in the initial stage of the project to ensure that everyone involved understands the desired outcomes. Next, a project manager should develop and stick to the schedules to prevent hurrying and affecting quality of the project. This method allocates enough time to each work, lowering the chance of quality issues due to time limits. Third, implement quality control measures which includes establishing processes, checklists, and audits to ensure that project deliverables meet the required quality standards. Project manager should prioritize developing quality metrics and checklists, and creating a defect tracking system that normalizes defects against a standard criticality [15]. Not only that, but the underlying cause of the quality problem should be investigated which will involve project data analysis, audits, or stakeholder feedback. Root-cause analysis is essential for effective solutions as as the project manager is in control of the majority of the project or operational baseline work, it is his or her responsibility to establish a good quality measurement system [15].

## 2.4 Project Human Resource Management

The success of a project depends on its human resources. Human resources management (HRM) involves hiring, managing, and developing employees. [17]. Human resource management is essential to the project in order to guarantee its completion and fulfilment of its requirements. Boxall asserts that the physical and mental health of employees is fundamental to human resource management [17].

Throughout the system's installation phase, the healthcare.gov programme encountered various problems. Difficulties emerged as a result of the Content Management System's choice to use NoSQL which stands for “non-SQL”, a query language capable of querying both less-structured and relational databases. It facilitates data exchange without needing organisations to agree on a single common data model and less expensive middleware [1]. Nonetheless, some database specialists were subsequently needed to have skills and expertise in it. This presents an issue as numerous database specialists employ Structured Query Language (SQL), which is widely recognized as the dominant query language for relational databases. In this regard, improved communication between the project manager and team members is essential where the project manager should examine the team members' skills to determine which duties they are capable of completing competently.

In order to avoid a recurrence of this situation, the project manager should allocate work based on the competencies of the team members. An organization's project success depends on human resource management (HRM), according to several academics and practitioners [18]. A project manager must engage in discussions with superiors regarding utilizing appropriate tools or equipment. Nevertheless, employees need to become acquainted with used tools or methods. In that case, it can be imperative to enlist the assistance of external experts or guides to instruct them on its operation. A project manager is responsible for driving process change, guaranteeing effective project delivery, and managing day-to-day operations in addition to directing and managing HR-related initiatives inside an organisation.

## 2.5 Project Risk Management

Integrating risk management principles into managerial cognition and implementation is critical for

successful project management. Neglecting the significance of risk involvement in the decision-making process can lead to substantial financial setbacks and detrimental effects on the project's overall outcome [19]. Risk management is critical as a strategic management measure throughout the project's inception, planning, and execution phases. Acknowledging potential risks and devising appropriate control measures is essential in this regard. Among the best resources for identifying and managing risks following the Project Management Body of Knowledge standard is risk management in a project-based organization. This entails gathering information through interviews with project-related employees and reviewing secondary data obtained from consultant reports and documents. The project manager assumes a substantial role in this particular situation by identifying, evaluating, and addressing any potential risks that emerge during the project's life cycle. This is done with the intention of assisting the project in remaining on track and accomplishing its objectives.

Risk management must be a top priority for project managers since mismanaged or unavoidable risks are one of the primary causes of the Health-Care.gov project's failure. The large HealthCare.gov systems development project involved many stakeholders, including state and federal legislators, government staff, insurance firms, hardware and software vendors interest at stake, and Americans looking for affordable health insurance [1]. Contingency project management has the potential to adversely affect the reputation of numerous stakeholders and result in unforeseen financial losses, even if the project team could have anticipated such losses. In addition, approximately one in every four 834 forms contained data errors, which prompted insurance companies to lodge complaints regarding absent or duplicate forms in addition to inaccurate information. The resolution of additional HealthCare.gov issues resulted in an increased number of enrolling consumers, albeit at the expense of insurance carriers, who were compelled to manually rectify data quality errors in the 834 forms that were submitted digitally [1]. Duplicates have the potential to introduce an imbalance in the content distribution of the learning sample, which can consequently impact the entire classification process in a manner reminiscent of class imbalance scenarios. An additional issue emerged throughout the data transfer process pertaining to HealthCare.gov and multiple state Medicaid systems. The intention was for more than 183,000 records of low-income Medicaid applicants to be transferred automatically to their respective state Medicaid systems under the Act [1]. This middleware's complexity makes system changes and data exchanges difficult. Consumers wait longer for page loading due to design faults and increased computer usage. Users must pass the enterprise identity management module and the federal data service hub eligibility test to see insurance plans. The ineffectual project planning will increase the likelihood that user data will be disregarded or inadequately accounted for across numerous system components. Conversely, documented cases of system malfunctions affecting the calculation of applicant subsidies were reported, resulting in the inability to verify the identities of applicants on HealthCare.gov. This issue affected the sixteen state marketplaces on HealthCare.gov on October 29; as a result, applications were unable to be processed [1]. The fact that CMS has a history of supervising the numerous contractors on which our programmes rely for operation effectively indicates that the contractors have fallen short of expectations.

Constantly verifying project variables, reassessing the status of project objectives, and modifying established plans are all components of the risk management procedure. More precisely, it must be able to promptly reassess project alternatives when confronted with evolving environmental circumstances [20]. As a project manager, one is responsible for conducting a qualitative and quantitative risk analysis when the most significant risk has been identified and categorized in terms of its potential and impact. In addition, if the risk is genuinely going to be a problem, then the reaction needs to be written in advance with the owner, who is the only person who can guarantee that the risk will be appropriately identified and handled. Reviewing the risk register regularly and eliminating threats that are no longer relevant to the project are both essential parts of effective risk management.

On the other hand, potential risks that may impact the system's success should be identified and analyzed by the project manager. These risks should be derived from the project context, past experience, and stakeholder expectations. The project manager can ascertain any possible risks that

might emerge during the course of the project's lifetime by appealing to team members for guidance and evaluating previous experiences. In addition to undertaking project analysis and planning, project managers ought to engage in proactive risk identification throughout the Joint Application Development (JAD) process in collaboration with diverse stakeholders, customers, meetings, and management. This practise will facilitate communication management's understanding of the project. Portfolio risk management is the responsibility of the project manager, subject to their degree of involvement throughout the pre-project and project phases [21].

## 2.6 Project Procurement Management

The procurement process in project procurement management entails the acquisition of externally sourced products and services. The potential for disparate customer identifiers among insurance providers posed a difficulty for the HealthCare.gov system in authenticating individual identities and identifying individuals listed as customers in the databases of two insurance providers.

Regarding which states would opt to create their insurance markets or participate in the federal insurance market, the completion date of the regulations, and how each subsystem will share data with other subsystems, HHS was confronted with substantial uncertainty. A system's general architecture and design, as well as its implementation, will be influenced by these and other aspects. Many systems are required for federal marketplaces and links to HealthCare.gov [10]. This is owing to the system's obligation to interface with 34 different Medicaid systems, each with its own set of regulations and eligibility requirements. Each state sets distinct income restrictions and other criteria for eligibility and manages its own information system, where the situation gets more complicated when some states choose to opt out of the compulsory 'Medicaid Expansion'. According to sources, there were difficulties in keeping contracts with the project's many vendors. This created challenges in terms of teamwork, quality control, and meeting deadlines.

In order to mitigate such issues in project procurement management going forward, it is essential to ensure a more robust procurement process, stringent vendor selection, explicit contracts with well-defined deliverables, successful project planning, continuous communication among stakeholders, rigorous testing, and a well-thought-out contingency plan. Project manager is important to clearly define the issues within the procurement process that could related to supplier selection, contract management, or quality control [22]. They also need to continuously monitor the procurement process, analyse performance, and make improvements as necessary to improve this system. The project manager should identify the procurement project manager's needs based on the scope and complexity of the procurement process. As an example, project managers could build a procurement management plan into their overall project management operations by detailing the procurement strategy, identifying procurement needs, and defining the procurement method to be used. This ensures that all procurement initiatives are well organised and integrated with the other project activities. Furthermore, the project manager ought to notify the procurement manager or department of critical status meetings to ensure that the project team and the procurement team work together to guarantee that the contract's terms and conditions are accomplished. As a result, the project manager is accountable for ensuring that the procurement process contributes to the overall success of the project by effectively planning and executing procurement, involving stakeholders, and ensuring that the selected vendor adds the most value to the project.

## 3. Conclusion

The journal paper discusses difficulties related to the management of the HealthCare.gov project, which provides significant insights into the challenges and complexities of project supervision as specified in the PMBOK. Project integration management, project time management, project quality management, project human resource management, project risk management, and project procurement management are all critical skills in large-scale initiatives like Healthcare.gov. This project failed because of insufficient project integration management, which is critical for managing critical project parts. The

intricate architecture and inadequately engineered elements of the Healthcare.gov platform lead to technological challenges and an unsatisfactory user interface. This undermines the importance of a balanced approach to large-scale project management and the need for effective management, communication, and integration among different project modules. Another part of the failure of Healthcare.gov was the poorly made time management schedule. This project had ambitious yet tight deadlines, which resulted in insufficient testing to validate its integrity. This shows that any large-scale project management requires an adequate amount of time to be allocated for testing and quality assurance, which should be taken into consideration to avoid or minimise risks. The Healthcare.gov project faced a significant challenge in terms of project quality management. Issues arose due to insufficient quality control and assurance processes, which resulted in numerous problems that frustrated the public and eroded trust in the project. This situation emphasises the critical need for rigorous testing, quality assurance procedures, and continuous monitoring to prevent the kind of catastrophic consequences experienced during the Healthcare.gov launch. In summary, the Project Management Body of Knowledge framework offers a valuable perspective to examine the difficulties encountered in the Healthcare.gov project. It underscores the importance of effectively managing integration, time, and quality in complex projects, reminding us that following best project management practices is crucial to avoid costly and high-profile failures. The lessons drawn from Healthcare.gov can provide valuable guidance for future projects and serve as a warning about the significance of comprehensive project management.

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