The UK e-Borders Project Failure

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ABSTRACT

The e-Borders project commenced in 2003 by the Home Office, which aimed to deliver an immigration control model in the UK that was modern and efficient. Raytheon Systems was awarded the contract in 2007 to implement the £750 million project. However, the contract was terminated in 2010 after the Home Office expressed dissatisfaction towards the execution of the project. No milestone based on the timeline of the project had been achieved by that time. Following the termination of the contract, Raytheon sued the Home Office for wrongful termination. The proceedings led to the award of £150 million to Raytheon plus legal charges by the UK government. The project has cost the UK government more than £830 million for a project that was yet to be delivered according to the original mandate. According to the National Audit Office, it is attributed that the Home Office did not have in place a consistent strategy to deliver the project on such a scale and failed to develop an integrated system that could process all the information it collected. The e-Borders program failed because it did not survive the conditions of its ecosystem, failed to execute the delivery process, and exhibited poor project management practice.

INTRODUCTION

According to Gartner Survey 2012, large IT projects are more likely to fail as compared to small IT projects. Key findings based on the report identified that one-quarter of failures among IT projects that entail a budget of over $350,000 were as a result of runaway budget costs. Comparison of the projects that were below $350,000 and those that exceeded $1 million shows that large IT projects had a failure rate of more than 50 percent. Standish Group identifies a successful project as having been completed within the budget, completed on time, and all functionalities delivered. The report concluded that successful projects were 16.2 percent, projects with partial failure were 52 percent, and those considered to be complete failures were 31 percent.

Border control in the UK relied on procedures and a system that operated on the border itself in 2003. At this particular time, there was the realization that more checks had to be undertaken in advance before passengers arrive in the UK. Also, the same was attributed before persons could leave their point of origin. The e-Borders project was initiated based on these projections (Vaz, 2009). The 2003 vision is quite similar to the current concept of the programme that seeks to make use of traveler information through data collected from passengers that are about to enter or leave the UK (Rees, Lomax and Boden, 2015). Undertaking data analysis in advance before arrival or exit and presenting the results of the
analysis to officials at border control can foster informed decision making. Also, the program sought to create records with which authorities can identify “persons of interests” and whether they are in the country, together with their travel patterns. Raytheon Systems Limited was awarded the contract in 2007 to implement the system with an expected timeline for completion in 2011 (Vaz, 2009).

The contract was terminated in July 2010 by the Home Office due to the claim that significant milestones were not delivered. Successor programmes have since been commissioned due to the failure of the e-Borders project. These programmes seek to realize the original vision of the e-Borders project even if the strategy that was set to achieve the objective has evolved over time. This paper will undertake an in-depth analysis to determine the reasons behind the failure of e-Borders.

RESEARCH METHODOLOGY

Secondary qualitative method of research was used where data is collected from what is already being gathered either through primary research or information that has become public. The challenge of this research methodology pertained more to the validity and the reliability of the collected data. To reach good validity and high triangulation quality, multiple sources of data were used. Hence, multiple source of data collection approach was adopted. Public records, news articles, published reports, and official statements were used to collect data subject to analysis.

As Merriam (1988) pointed out, ‘Documents of all types can help the researcher uncover meaning, develop understanding, and discover insights relevant to the research problem’.

THE PROJECT

A business case for the e-Borders scheme was introduced in 2003 by what was then the Immigration and Nationality Directorate. The objective of the project was to deliver an immigration and border control that is modernized in order to make the process more efficient, secure, and effective (Foxton, 2014). The e-Borders project sought to address various strategic issues, which included addressing legal obstacles that prevented collaboration between border and security agencies, through information sharing (Vaz, 2010). Focus was on concerns in relation to disproportionate resources that were put up for arrivals control and mitigating the effect of increasing airport capacity and the number of aircraft and passengers on the immigration control process (Hampshire, 2009). Also, there was a need to enhance the collection of information at both entry and exit points so as to effectively determine the demographics of persons in the UK. The project entailed a set of high-level business requirements that would foster “export of the border,” where passengers were to be assessed in advance before arrival and promote inter-agency operability between border control and intelligence agencies (GOV.UK, 2014).
The key business requirements included maximizing the effectiveness and efficiency of resources accessible to border control by deploying them based on measured risk. The second requirement was to minimize entry for individuals in the UK that are categorized as inadmissible due to security risks posed, which in effect could reduce the cost associated with removal and refusal. The next requirement was to come up with an inter-agency approach, where information captured by e-Borders can determine a “person of interest” to the UK. Interests of the external stakeholders that are common are exploited to result in maximum mutual benefits. This includes interests from governmental departments and the travel industry.

**EXPECTED OUTCOME AND BENEFITS**

In order to satisfy the business requirements, the project encompassed an “Authority to Carry” (ATC) scheme, where passengers that were part of scheduled services would be screened before entry and denied exit where permissible. For both incoming and outgoing services, e-Borders would entail universal electronic collection of Advanced Passenger Information (API) in terms of passport bio-data. A wide range information on details pertaining to passenger travel is accessed electronically through the carrier Passenger Name Records (PNR) (Hampshire, 2009). Through the new Primary Line System and biometrically controlled gates, effective and efficient arrival control operations are supported, and risk assessment processes are undertaken. Lastly, records of all entries to and exits accessed through e-Borders are used to undertake a complete audit trail of movement of passengers (Press Association, 2015).

The attributed benefits that were set to be delivered by the e-Borders program included:

1. Improvement of security by offering support to both intelligence and security agencies to analyze and track terrorist activities or other targets that may hinder national security (National Audit Office [NAO], 2015).
2. Improvement of borders control activities, efficiently and effectively, through the provision of risk assessment of persons; thus processing of persons is facilitated, and a platform for automated clearance services is also provided.
3. Cost savings from the process are accrued as a result of eradication of the landing cards together with the ability to easily access electronic movement records for lengthening stay in the UK (GOV.UK, 2014).

E-Borders was further expected to impact the penetration of smuggled goods in the UK market together with identification of perpetrators that directly or indirectly are involved in excise duty avoidance. The time an individual has spent in the UK can be established, which permits easy identification of benefits claimants that are presently located outside the borders of the UK (Press Association, 2015). Also, the system could ease identification of persons that falsely are claiming non-domicile status for purposes of income tax.

Other benefits included were within ports and carriers, which included reduction of cost associated with the detention and removal of persons that have been refused entry into the UK.
Detention spaces at ports are used more effectively, thus enabling control agencies to be free of rent. The requirement to undertake procurement and administration of landing cards is removed. Accurate statistical data is enhanced by the expected ability of the system to take count of foreign and national passengers that are in and out of the country.

**PROJECT ENVIRONMENT**

Having perception about a project is fundamental towards understanding the project environment. The e-Borders project seeks to bring about the positive impacts to both political and social contexts. It was expected that through the project, “security of UK citizen will be improved.” The work of border control together with the intelligence community is made easier (Foxton, 2014). Home Office is the governmental department that was tasked to manage the activities of the project as an end user. Raytheon was the supplier of the project after entering into a contract with the Home Office in 2007 (Hampshire, 2009). Raytheon company led the Trusted Borders consortium, which was involved in creating the business case for the project in 2007 and which ultimately resulted in being considered in the awarding of the contract. Other suppliers that were involved in the project included IBM and Serco, which were involved after the termination of the contract with Raytheon. Serco was given the function of handling the interface between the carriers and the Border Agency, while IBM participated in running the data storage management.

However, cancellation of contracts, legal disputes, and government spending brought about the negative impact on the political environment in the UK. Many watchdogs attributed the failure of the IT project to mismanagement by the Labour government (National Audit Office [NAO], 2015). These allegations were made because the Labour government was in power when twelve other public sector IT projects failed. Some of the failed IT projects include the National Health Service program, Rural Payment Agency, and the Benefit Processing Replacement Program.

**MAJOR EVENTS OF E-BORDERS PROJECT**

**Launch of e-Borders project**

The e-Borders project was initiated in 2003, and at first it was devised to undertake the collection of passenger details from lists of all persons that are entering and leaving the UK. Initially it was identified as the Semaphore project, where its main purpose was to test the e-Borders concept in advance so as to promote the procurement of the e-Borders main solution. In 2006 the test was considered “successful,” which resulted in the release of funds by the Home Office Group Investment Board towards the e-Borders program.

**Raytheon awarded the project contract**

Raytheon was awarded the e-Border contract in November 2007 to implement the program within a period of four years. Raytheon is a U.S.-based company that focuses on technology and defense (Vaz, 2010).
Termination of Raytheon’s contract

In 2010 the Home Office terminated the e-Borders IT contract with Raytheon. The £750 million contract termination was mainly based on a succession of missed milestones together with the existence of issues associated with quality of service rendered (Khan, 2015). The company had been paid £188 million of the contract, where later it was replaced by IBM. It is believed that the selection was made because IBM was initially involved in the pilot project.

The two measurable deliverables that were expected to be completed, but were never achieved, entailed:

1. Advance collection of passport data to 95 percent of inbound and outbound passengers by the end of 2010 and 100 percent by March 2014.
2. The second deliverable was to replace the current two systems with a single integrated system responsible for receiving and analyzing data in advance and at the border by April 2011 (Khan, 2015).

Splitting of e-Borders contract

In order to fast-track the implementation of the e-Borders project before the 2012 London Olympics, the contract was split between two companies: IBM and Serco (Foxton, 2014). The rationale for the decision was to ensure that the project milestones were active before the 2012 London Olympics because it was expecting a large number of tourists. During the same time, Raytheon filed a case against the Home Office for wrongful termination of the contract. The Home Office terminated the contract because there was no single milestone based on the project timeline that was complete.

Arbitration Tribunal

After a litigation period of four years between Raytheon and the Home Office, the Arbitration Tribunal established wrongful cessation of the contract and awarded Raytheon £186m plus accrued interest of £38m for a total amount of £224m. The August 2014 judgement was challenged by the Home Office in the high court in February 2015. Following the proceedings, the Home Office and Raytheon decided on out of court settlement, which includes a final payment of £150 million to Raytheon (Khan, 2015).

The Project’s Challenges

The delivery plan of the e-Borders project was too ambitious as compared to the time that was envisaged. It was a challenge for the UK government to determine ways to proceed with the vision, especially after the termination of the e-Borders contract. Following the July 2005 London bombings and award of the 2012 Olympics, immense time and resource pressures were placed on the main decision together with leadership. This contributed to the emergence of ambitious commitments that were not realistic due to various hindrances (National Audit Office [NAO], 2015). Design works were already in place before the designers were adequately aware of the detailed requirements of the UK government. The detailing process of the
requirements was undertaken after the contract was awarded to Raytheon. This brought confusion because a solution was devised based on the requirements of the contract.

Collection and assessment of advanced information related to passengers on more than 200 million transits a year was a huge challenge because it involved coordination of data supply from 600 ferries and air and rail carriers together with 30 government departments. In conjunction with this difficult task, the project faced creaking computer systems, legal disputes that drained the project, high turnover of key staff members, and overreaching ministers and other governmental officials. The business case for the project was majorly based on non-financial benefits, which in this particular instance was difficult to quantify. This resulted in the project being based on overall net financial cost.

The project faced legal difficulties associated with the collection of data on European flights. In addition, it was challenging to test the concept on sea and train routes. The data sets were not extensive enough for the project to count foreign national passengers that were in and out of the UK. Both legal and policy constraints were exhibited towards sharing information between agencies. Inadequate management of external stakeholder relationships presented various challenges because of two main issues with regard to data supply (GOV.UK, 2014). The first issue was that stakeholders felt it was a burden to the passengers and cost. The second issue was whether the data request was consistent with the European law together with data protection rules practiced in each and every country of departure.

**THE FAILURE**

The e-Borders project was a failure because it did not fully deliver the objectives despite the UK government spending £830 million between the period of 2003 and 2015. During the inception of the e-Borders project, the year of completion was slated for 2011. At the present moment, the original vision of the project has yet to be delivered (National Audit Office [NAO], 2015). Compared to a target of 95 percent analysis of data collected, e-Borders has only managed to analyze 86 percent.

According to the National Audit Office (2015), it is attributed that the Home Office did not have in place a consistent strategy to deliver the project on such a scale where it failed to develop an integrated system that could process all the information it collected.

The importance of the stakeholder was underestimated, where during the period of the project, unrealistic assumptions were given in relation to delivery. This was in disregard of the importance of managing an enormous portfolio of stakeholders who were estimated to be over 600. Despite this, it was indicative that plane, ferry, and rail carriers experienced improved relationships (BBC, 2015). The ability to make decisions was incapacitated because of the existence of gaps in resourcing and capability. The National Audit Office established that the e-Borders scheme had a total of eight program directors between the period of 2003 and 2015. The project solely relied on having IT systems other than including staff in the project that are well resourced and properly trained (Khan, 2015).
Inconsistencies in the design work were experienced because the work of subcontractors from Raytheon was not integrated sufficiently. Delays during the program contributed towards limiting the availability of skilled staff, which also overlapped with the next phases of the project. The project was continually faced with commercial and contractual differences because the agreements were ill-conceived and the contractor had a high-risk transfer. There was an absence of an agreement related to a working partnership, and as a result, the parties could not work together adequately (Vaz, 2010). The non-existence of an agreed program plan between the contractor (Raytheon) and the UK government department also contributed to the failure.

**Consequences of the Failure**

A substantial amount of work is still duplicated and undertaken manually, where, over a period of four years, £89 million was spent to patch up the old systems; the core objective of the e-Borders project is to eradicate these systems. This has made government departments not able to exploit fully the potential of received data. The current process entails duplication of effort, extensive manual effort, and various restrictions with regard to making use of travel history records. Information regarding travelers is processed through two different systems that are not sharing information or analysis effectively.

The Warning Index and the Semaphore are the two systems that operate alongside each other to deliver the intended capabilities of the e-Borders project. The inability to integrate the two systems resulted in staff continuing to check passports manually and use sheets of paper to check for information such as vehicle registrations (National Audit Office [NAO], 2015). Failure to replace old IT systems hindered some of the valuable capabilities that were in place following commencement of the project.

Following the lack of a fully-fledged border control system and a rising terrorist threat, the UK is limited to rendering national security. This is because of the limitation towards having information in advance in relation to the person that may enter the UK for illegal or dangerous activities (BBC, 2015). Borders operation has become inefficient where there is no linkage between relevant systems, which as a result contributes to multiple databases with separate policies. The intelligence capability of the UK government is restricted due to the legacy system, and it is not able to search the history of passenger travel and is limited in integrating data with other systems.

**Management of the Failure**

The UK government has focused greatly on improving systems that focus on countering terrorism and security. Since late 2014 changes have been undertaken towards the program where three individuals have been selected to head the program (Foxton, 2014). All of these individuals have mixed experience with regard to technical, operational, and stakeholder management, which are key to delivering the project successfully. The government is employing a slower approach with respect to the development of new systems; that is realistic.
due to the realization of its experience towards in-house system development and chances of evolving threats at the border (GOV.UK, 2014). The focus of the Department on the use of data was renewed, especially when it comes to making full use of data that has been collected from the ferry, plane, and rail carriers together with improving the completeness, timeliness, and accuracy of data.

Because of the failure to have an integrated system, the UK government became reliant on the two legacy systems, which in this case were unstable. A further £89 million was spent between April 2011 and March 2015 to improve these systems. The spending included £38 million towards increasing the resilience of the Warning Index systems and £51 million on Semaphore so as to take it from the pilot stage to a usable front-line system. Further resources were spent on technical refreshes (National Audit Office [NAO], 2015).

**ANALYSIS**

Project management is more than a process. It is the ability to deliver in an ecosystem characterized by uncertainty, volatility, complexity, and unknowns. The e-Borders program failed because it did not survive the conditions of its ecosystem, failed to execute the delivery process, and had poor project management practice.

**ECOSYSTEM SURVIVAL**

Ecosystems are complex systems made of interconnected entities and resources (i.e., stakeholders, organization culture, business requirements, etc.). Each project has a unique ecosystem, and each entity and resource in the ecosystem has a role and an influential weight in the execution process of the project. Projects’ ecosystems are dynamic, and some entities in the ecosystem can be volatile and have unpredictable reactions to change.

The stability of the project’s ecosystem fosters a healthy execution of the project. However, instability leads to an atmosphere that strains project execution. The e-Borders program is a good example of the ecosystem becoming unstable. Consequently, survival and execution became difficult. The program failed to maintain a balanced ecosystem by managing uncertainty, volatility, and unknowns.

The program was a politically motivated vision. The National Audit Office report (2015) states, “The Department felt it was necessary to be ambitious on scope and timescale to get the maximum improvement in border security in place by mid-2011.” This political ambition is subjective and lacked a sense of reality. The program failed to acknowledge and manage this element in its ecosystem.

Like in any ecosystem, when one participant introduces a disturbance to its balance, it causes a disruption in the balance of the whole ecosystem. The e-Borders political ambition lacked a sense of reality, which created a fragile ecosystem where each participant organically inherited the lack of realism from the vision.
For example, the political ambition was reflected on the schedule and the requirements analysis. The National Audit Office report (2015) states, “Our analysis of Raytheon’s financial model showed that just three months’ delay would halve Raytheon’s profit, and that even if all went to plan the contract would not generate a cash surplus until 2012.” The report explains that “the Department had incorporated Raytheon’s proposed design within the contract with the company. But the proposals had been based on too high-level requirements, leading to disputes after contract award over whether proposals would meet actual needs.” This behavior is a testimony to the lack of realism in the Home Office’s intentions.

**Uncertainty**

Uncertainty is known unknowns. Elements are known to be a threat to the project, but the inflected damage on the project success is unknown. The program experienced unpredictable changes in its ecosystem, organizational changes, leadership changes, Raytheon’s contract termination, etc. These events created disturbances in the project ecosystem. In addition, the impact on the execution process was unknown and couldn’t be managed.

**Volatility**

Volatility is defined as frequent changes to the requirements and/or the scope. Unpredictable change destabilizes the delivery process. Requirements volatility can have a significant impact on the development of a solution. This worsens when the degree of volatility is high. Some instances of volatility can be prevented; however, there is little control over certain causes of volatility.

The National Audit Office report (2015) states, “Throughout the 12-year period there have been some significant changes in the functionality of the proposed border control and security system.” In addition, unexpected technical challenges forced the program to align the requirements to the technological constraints. “Design work was done before designers were fully aware of the Department’s detailed requirements” (NAO, 2015). Moving to the design phase with premature requirements brought volatility to the project ecosystem.

The complexity of the project is directly proportional to the magnitude of the change. Large and complex business transformations tend to be vulnerable to volatility. This is due to the large amount of information processed and the substantial risk of the unknown and quantum change that needs to be implemented. It is assumed that when projects move to the design phase, then the requirements are “complete” and are not subject to change. However, that is not always the case. There is always some level of uncertainty and unpredictability throughout the development lifecycle.

**Unknowns**

The e-Borders program launched and operated in an ecosystem with a high degree of unknowns. Unknown entities generally take the form of undiscovered business needs, rules,
constraints, and behavior. If a high level of unknowns still persists at the time of moving on to the design phase, then the requirements volatility could potentially be high.

**Execution**

Execution refers to the delivery process to produce the prescribed outcome and benefits. The e-Borders project was not to be delivered using a textbook project management process. The National Audit Office report (2015) points out that the execution of the program “lacked strategy.” The Home Office failed to execute the program as a business transformation. It had a simplistic view on how to implement a complex vision.

**Business Transformation**

The execution focused on achieving the outcome rather than the transformation. Transformations are delivered with “road maps,” not schedules. The Home Office failed to develop a road map for the e-Borders vision and the business transformation. According to the NAO (2015), the timescale “was overly ambitious” and had a “lack of clear strategy and scope.”

The Home Office underestimated the magnitude of its operating model transformation. The project’s complex and unstable ecosystem necessitated a robust strategy to effect transformation across people, process, technology, data management, and risk management components.

**Managing Complexity**

The way in which an organization anticipates, understands, and navigates the complexity of a project determines its rate of success. The program failed to manage complexity. The National Audit Office report (2015) states that “poorly understood complexities” were a contributing factor to the failure. Uniqueness, limiting factors, and degree of uncertainty construct the level of complexity of a given project. However, in the case of e-Borders, the uniqueness of the vision is conspicuous.

The vision and its execution are unparalleled to the organization. The organization’s project execution maturity grows organically as it accumulates knowledge through experience. Project uniqueness prevails when the organization has no prior experience in running similar projects. The Home Office failed to acknowledge the uniqueness of its e-Borders vision and the relatively limited experience in delivering projects. According to the National Audit Office report (2015), “the Department’s lack of track record of managing delivery in-house” is a key contributing factor to the failure.

**Project Management Practice**

Despite project management knowledge and practices being extensively documented and promoted, projects fail to apply these principles. In the case of the e-Borders program, three practice areas were unsuccessfully managed, (1) Requirements, (2) Feasibility, and (3) Stakeholders’ Management.
Requirements

The inability to define the exact needs sometimes translates into inaccurate or ineffective requirements analysis. This results in a deviation from an ideal scenario that facilitates the determination of exact requirements. The Home Office had a concept and a vision but not well-developed requirements. The National Audit Office report (2015) states that “the Department has little clear idea of how it expects business processes to change.”

Requirements complexity is managed by investing a significant amount of time in the “Requirements Analysis” phase. This is based upon the assumption that the time invested in analysis will reduce complexity. This provides more time to unravel the “unknowns,” permitting the stakeholders to make an informed decision while the requirements are being understood and defined. “The Department had incorporated Raytheon’s proposed design within the contract with the company. But the proposals had been based on too high-level requirements, leading to disputes after contract award over whether proposals would meet actual needs” (NAO, 2015).

The program appeared to have no proper requirement management process in place to handle changes to scope and volatility of requirements. “The Department frequently found Raytheon’s solutions unconvincing; conversely, Raytheon felt that requirements were growing and shifting, leading to major disputes, including varying interpretations of different parts of the contract” (NAO, 2015).

The program execution was based on a proposed blueprint design rather than real needs, a realistic and tested concept.

Feasibility

The Home Office had a concept, not a well-developed set of requirements. Concepts need reality checks; otherwise, you could be chasing a dream! Even though the program ran a pilot to evaluate the feasibility of the concept, the National Audit Office report (2015) claims that it did not cover all aspects of the solution. Consequently, the program was executed with an untested concept and unknown requirements, which has led to disputes.

Stakeholders’ Management

When the stakeholders are disengaged and alienated, it will more often than not lead to failure to accomplish the desired results. It is of immense significance to seek the buy-in and engagement of key stakeholders and/or a wider population of end users. Without seeking stakeholders’ involvement, the project runs a risk of resentment towards the endeavor.

The program did not have a clear stakeholders’ management strategy. Critical relationships were underestimated and left unmanaged. Transport carriers’ relationships were critical to the program. However, less attention was given to these relationships. “The Department made unrealistic assumptions about programme delivery without recognizing the importance of managing a diverse range of stakeholders” (NAO, 2015).
CONCLUSIONS

The Home Office has spent at least £830 million on the e-Borders project as of March 2015. As a result, valuable capabilities have been gained that are crucial for risk assessment of the passenger before they reach the border. However, there is limited evidence in relation to the effectiveness of these capabilities. The Home Office has yet to implement an integrated system, and it is due to this case that processes at the border are still inefficient. The government is unable to take full advantage of the potential from the data it receives. The e-Border project is deemed to be a failure since it has not achieved value for money spent by the UK government.

It is recommended based on a lesson learned from the failure of e-Borders project that the Home Office department needs to put a higher priority on improving and understanding the ways it uses data to undertake critical functions towards effective operations and systems at the border. Currently, the Home Office has a strategy that is more realistic in relation to the program, but it is crucial that it should refocus its short-term ambitions, which in effect will build confidence together with capacity. It is expected that in the foreseeable future the department will have constrained financial resources, and that is why it is fundamental that priority should be placed on high-value capabilities through a better understanding of its data. It is also crucial that the department work out the best processes to integrate systems that it is either developing or has developed within its business processes. This is because the department has a limited idea of how these processes can change the future so as to address immigration, security, and efficiency challenges.

The program failure is a learning opportunity to draw these conclusions:

- Projects cannot be executed in unbalanced ecosystems. A project’s ecosystem must be kept balanced. Signs of disturbance introduced to the ecosystem must be detected and managed accordingly.
- Delivering complex transformation is not about meeting the deadlines. Transformations are delivered with “road maps,” not schedules, by acknowledging and assessing the magnitude of the change to tailor a delivery strategy.
- Good project management practice, good project management practice, and good project management practice!
REFERENCES

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