**RESEARCH REPORT**

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# Project Failures: Classic Mistakes and Mitigation

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# SECTION 1. IT Project Failures

## Introduction

Failure of a project in an IT industry is quite common problem. So many examples that we can learn from to avoid fiasco of a project and save yourself from a huge loss of money and time.

According to R. Ryan Nelson (iT projeCT managemenT: infamous failures, ClassiC misTakes, and besT praCTiCes) It’s happening mostly because of Insufficient planning, unrealistic budget, poor estimation and/or scheduling, insufficient risk management, scope creep, lack of user involvement.

In my research I am going to find 10 one of the most famous and biggest failure in IT industry, investigate reasons of failure, costs, and consequences. Find a best practice solution to avoid those mistakes.

## Failure 1: Canada's Phoenix Pay System

### Overview

Phoenix - National Canada’s new centralized pay system.

In 2009, the Government of Canada launched a project to replace the 40-year-old system that used to pay the salaries of 290,000 workers in 101 departments. TPAI (Transformation of Pay Administration Initiative) would also centralize payroll services for almost 50% of all departments and agencies, which previously handled payroll for their own employees. The goal of this initiative is to reduce costs and improve efficiency in handling government payroll, which is about $22 billion every year. ( https://www.oag-bvg.gc.ca/internet/english/parl\_oag\_201805\_01\_e\_43033.html)

According to Report of the Auditor General of Canada in 2017 - Project supposed to be finished by 7 years and cost $310 million. The government expected that project will save about $70 million per year, starting in the 2016-17 financial year. This achievement would be possible through:

* clearing about 1,200 job positions down to 550 positions – 90% of which 460 pay advisors of Miramichi Pay Centre
* full automation of processes that were previously performed manually
* removing any data entry that duplicated and processing by integrating pay operations with the government approved HR management system.

( <https://www.oag-bvg.gc.ca/internet/English/parl_oag_201711_01_e_42666.html>)

### What went wrong

In April 2016 Phoenix was “ready” to be launched, although many problems became apparent when it first went live in February of that year.

As of 2018, around 372,000 Phoenix payroll transactions are still pending and fixed. Phoenix executives instead of asking for more money from Government to fix a problem, they have decided to integrate the project's new forces into the existing budget with a help of main contractor company IBM. This requires reduced functionality, testing, schedules, and project development staff. The extent to which Phoenix's development was affected by these decisions was never communicated to the departments and agencies whose employees would be most impacted by the faulty program. <https://spectrum.ieee.org/canadian-governments-phoenix-pay-system-an-incomprehensible-failure>

The system had issues shortly after implementation and that they continued to grow. Agencies and department have problems with a paying to workers accurately and on time. By June 30, 2017, due to some errors more than $520 million in pay outstanding for workers, because some of the workers were overpaid or paid less. Turns out around 51% of employees had errors in their payslips issued on April 19, 2017, compared with 30% on payrolls issued on April 6, 2016. 2017(<https://www.oag-bvg.gc.ca/internet/english/parl_oag_201805_01_e_43033.html>)

To this day Phoenix still operates and people trying to get their money back.

Diagram

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https://mikesmoneytalks.ca/trans-mountain-pipeline-expansion-brought-to-you-by-the-people-responsible-for-the-phoenix-pay-system/

### Flaw of a system

In the summer of 2016 after the system has been up and “working” Phoenix executives carried on pretending that and claim system works as designed. Unfortunately, due to the project`s terrible setup and shortage of oversight this was true. System does work as planned, but system and plan itself were terrible. Only after 12 months government realised that this project is a “bottomless hole”, no matter how much money will be spent on the system, it will not cope with the tasks.

(<https://spectrum.ieee.org/canadian-governments-phoenix-pay-system-an-incomprehensible-failure>)

### Solution to an existing problem

In May 2019, the federal government designated three companies that will compete to replace the Phoenix payroll system. In 2018, the government announced plans to phase out Phoenix, but only after a new system with improved technology was introduced. Companies - Ceridian, SAP and Workday will compete to provide an alternative of Phoenix pay system. (<https://en.wikipedia.org/wiki/Phoenix_pay_system>)

### Reason of failure

After research of Phoenix failure, I come up to conclusion that main reasons for this project to fail are

* Insufficient planning. System had no contingency plan. So, there was no backup plan if something goes wrong. No plan for future maintenance. According to 2018 Spring Reports of the Auditor General of Canada “the Department had no plans to upgrade the PeopleSoft application on which Phoenix was built, despite the application’s need for regular upgrades.”
* Mismanagement. Inadequate behaviour of a Phoenix Executives might be the reason of failure. Phoenix system was launched with 20 percent failed testing and no plan how and when to fix it. Instead of fixing code that failed – they removed it without thinking of consequences.,
* Insufficient risk management. Risk management was very poor. Phoenix executives shut down the previous payroll system when Phoenix was launched, instead of running them in parallel.

(<https://www.oag-bvg.gc.ca/internet/english/parl_oag_201805_01_e_43033.html#p48>)

### Cost

Total planned cost of the Payment system was $310 million ,but instead it went up to around [at least C$1.2 billion](http://www.cbc.ca/news/canada/ottawa/phoenix-cost-more-than-one-billion-dollars-1.4594115) through 2019. Unfortunately, tens of millions will be spent on it before year 2025,which should be an year of replacement (<https://spectrum.ieee.org/canadian-governments-phoenix-pay-system-an-incomprehensible-failure>)

Total cost of this project illustrated in a Diagram below:

Diagram

Description automatically generated

<https://www.itworldcanada.com/article/phoenix-failure-will-cost-government-2-2-billion-senate/407636>

### Classic mistakes

* People related. Executives showed inadequate behaviour.
* Process related. Project had a very poor planning, was implemented with a failed tests.
* Technology related. They shut down previous system instead of mild integration

## Failure 2: **US Depart of Défense EHR System**

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https://healthix.org/healthix-support-veterans-care/covid-19-va/

### Overview

In the end of 2010, the Deputy Secretaries of DOD (Department of Défense) and VA (Department of Veterans Affairs) administer the development of an new integrated Electronic Health Record (iEHR), supposed to help both Departments to reduce cost, collaborate and improve interoperability. In 2011, both Departments agreed to work together on development of the Secretaries of DOD and VA reached an agreement to work cooperatively on the development of a unified health record and opportunity for transition of those record to iEHR by 2017.( <https://sgp.fas.org/crs/misc/R42970.pdf>)

Original plan for each department was to create a new system that would help to achieve next goals:

• Promote transparency.

• Makes easy a common process (such as billing).

• Maximize interoperability.

• Manage efficiency of cost and scale.

• Speed up health services delivery.

• Improve the quality of delivered services through reliability, maintainability, completeness, and accuracy of data captured.

• Improve interoperability and data sharing of medical history between Departments.

• Support capture of an electronic medical data and exchange it between the private health care system and local government, federal and state local government.

• Improvement a patient experience <https://sgp.fas.org/crs/misc/R42970.pdf>

### What went wrong

In 2013 was announced that system required more work to be done before it was ready to launch. Instead of creating a single integrated system, it was decided to focus on integrating VA and DOD health data by using existing solutions.

Around 2 years after this project it was announced the VA and DoD jointly decided to terminate the program, which would cost $29 billion through a 17-year life-cycle. Both Departments did not calculate their strength properly, so the project remained unfinished and it was decided to abandon it.( <https://www.chiefhealthcareexecutive.com/view/gao-details-failed-va-ehr-initiatives-as-agency-requests-new-interoperability-rule>)

Failure of this project may be an early sign that achieving interoperability of iEHR across all departments of healthcare will be extremely hard, expensive, and time-consuming. <https://www.darkdaily.com/2013/06/14/after-4-years-and-1-billion-the-va-and-dod-abandon-plans-for-a-fully-integrated-ehr-614/>

### Reasons of failure

* **Insufficient Planning. Insufficient Planning of DOD and VA** have not provided explicit goals, plans, and time frames for future system, what makes a project to create an unique common system very hard. (<https://sgp.fas.org/crs/misc/R42970.pdf>). **Management** Director of Information Management and Technology Resources - [Valerie C. Melvin](http://www.veterans.senate.gov/hearings.cfm?action=release.display&release_id=79cbdcda-5cda-4a82-a57c-218d44b92e53) said that project had poor planning and project management weaknesses, including poor supervision and inadequate accountability https://www.darkdaily.com/2013/06/14/after-4-years-and-1-billion-the-va-and-dod-abandon-plans-for-a-fully-integrated-ehr-614/
* **Wrong choice of development system.** Health IT consultant [Tom Munnecke](https://plus.google.com/105940005966112599552#105940005966112599552/posts), an independent health IT consultant and Investor, had worked on early versions of both systems. The big problem (flaw) was that the DOD’s new EHR could not communicate with the VA’s EHR. According to [Munnecke](http://www.modernhealthcare.com/article/20130212/blogs02/302129891#ixzz2VH4odsA0?trk=tynt), the Défense Department picked the wrong approach for the iEHR project. Instead of developing bottom - up system they have created a top-down system. This prevented important and ongoing end-user feedback.( https://www.darkdaily.com/2013/06/14/after-4-years-and-1-billion-the-va-and-dod-abandon-plans-for-a-fully-integrated-ehr-614/)
* **Poor estimation. The seriousness and difficulty of the project was much higher than the spirit and plans of both companies. DOD and AV were not ready for an integration because both departments did not provide a clear goal. (** **https://sgp.fas.org/crs/misc/R42970.pdf)**

### Cost

After $1 Billion and 4 years have been wasted because, the VA and DoD have decided to abandon idea for a fully Integrated system. https://www.darkdaily.com/2013/06/14/after-4-years-and-1-billion-the-va-and-dod-abandon-plans-for-a-fully-integrated-ehr-614/

### Classic mistakes

* People related. Project had a week management, poor supervision.
* Process related. Planning and time management were insufficient.
* Technology related. Wrong choice of development system was one of the reasons of failure.

## Failure 3: National Program for IT (NPfIT)

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### Overview

The NHS Connecting for Health (CFH) was created in 2005 and was part of Department of Health in UK and has replaced the original NHS information authority. Main task of CFH was to develop and maintain National Health System IT infrastructure. Department of Health in England wanted to move NHS (National Health Service) towards a single centrally – controlled electronic system, which would record all necessary information about patients and connect around 30000 GP to 300 hospitals, all records are secured and can be accessed only by authorised health professionals.( https://en.wikipedia.org/wiki/NHS\_Connecting\_for\_Health)

The main purpose of the National Program for IT (NPfIT) in the NHS in UK is to supply better details for health and patient care. The program supposed to deliver:

* IT infrastructure which is fast and reliable
* an intеgrаtеd electronic health records system for all patients
* new ways of online booking services and transferring prescriptions online <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1266256/#:~:text=INTRODUCTION,where%20and%20when%20it's%20needed>.

### What went wrong

The project failed due to the fact that it did not gain trust from users, since end users could not figure out how the system works. Poor system performance and service availability issues cave caused constant problems and fails of a system. For example, according to (https://www.digitalhealth.net/2006/09/npfit-systems-failing-repeatedly/) some clinics had frequent failures with Patient Administration Systems becoming unavailable and staff losing access to system, leaving them without information of upcoming appointments, patients or planned treatments for them.

### Reasons of failure

* Bad time management(haste). Program managers and politicians rushed to processes of procurement, implementation and policymaking instead of spending enough time to consult with key stakeholders and deal with confidentiality problems. This resulted in:

1. Unreal timetable
2. Privacy campaigners and users left without attention
3. Inadequate preparatory work
4. Privacy campaigners and users were left without attention
5. Failure to compare expectations and actual progress
6. No test for the system

https://www.henricodolfing.com/2019/01/case-study-10-billion-it-disaster.html

* Design problems. To reduce costs and ensure rapid implementation at the local level, government followed an overambitious centralized model, not giving any consideration how this affects user satisfaction and privacy. This resulted in:

1. Risk mismanagement
2. Privacy issues
3. lagging behind technology (time concern)
4. Project was too big

https://www.computerweekly.com/opinion/Six-reasons-why-the-NHS-National-Programme-for-IT-failed

* Culture and skills. With no clear direction, mitigation plan or project management the NPfIT program became an expensive failure. Besides, Department of Health was not fond of swift identification and recognition of strategic errors or issues. This resulted in:

1. No unambiguous leader
2. No clear aim and goals of a project
3. incorrectly estimated budget from the very beginning
4. lack of necessary training
5. No mitigation plans
6. Price over a quality
7. Absence of interest in privacy issues
8. Low project management skills

<https://www.henricodolfing.com/2019/01/case-study-10-billion-it-disaster.html>

### Cost

Original plan was to spend around £ 2.3 billion in 3 years. in June 2006 by the National Audit Office was announcedеd the total cost and it has changed to £12.4 billion over 10 years. Officials who elaborate in the program have declared that the final cost will be around £20 billion, showing a cost overrun of 440% to 770%.

https://en.wikipedia.org/wiki/NHS\_Connecting\_for\_Health#Data\_security\_risks

### Classic mistakes

* People related. Project did not have a strong leader, low project management skills. On top of that there was lack of user involvement.
* Process related. Project had an insufficient risk management, planning and time estimation. Absence of a mitigation plan
* Technology related. Project was lagging behind a technology, also government followed an overambitious centralized model what led to design problems.
* Product related. Project was too ambitious.

## Failure 4: e-borders

A group of people at an airport

Description automatically generated with medium confidence

### Overview

The e-Borders project started in 2003 by the company Home Office, aim of this project was to create a modern and efficient immigration control system. The system was supposed to speed up the process of passing the border of arriving people air, land, sea sea by collecting and processing data on them before they get to the border. This will reduce airport congestion. In addition, the system was supposed to address legal obstacles, which would allow collaboration between security agencies and a border, what makes sharing information more convenient. Also, it was necessary to allow the entry point and exit point to collect and share information quickly to effectively measure the demographics situation in the UK. <https://pmworldlibrary.net/wp-content/uploads/2016/03/pmwj44-Mar2016-Alami-uk-eborders-project-failure-featured-paper.pdf>

### What happened

According to (pmworldLibrary) Home Office is the government Department that was placed to manage the activities of the project as an end-user. Company Raytheon was in charge of the supplying the project after signing a contract in 2007 with the Home Office. But in 2010 Home office terminated a contract with a Raytheon. The main reason to terminate £750 million contract was based on issues with the quality of the services provided, general misunderstandings and disagreements. Company still received £188 million of the contract but was replaced by IBM-company that was involved in the project right from the begin.

Two main goals were never achieved, namely:

1. Collection of passport data up to 95 percent of incoming and outgoing passengers by the end of 2010, in March 2014 result was expected to be 100 percent.

2. The second aim was to replace the existing current two separated systems with a single integrated system. This system supposed to receive and analyse data in advance prior entering border and directly at the border. <https://pmworldlibrary.net/wp-content/uploads/2016/03/pmwj44-Mar2016-Alami-uk-eborders-project-failure-featured-paper.pdf>

### What went wrong

The program failed and could not achieve its intended goals, instead of collecting and analyzing 95 per cent of data it analyzes only 86 per cent of passengers travelling to UK. Program supposed to be completed in 2011 but in 2015 it was still unfinished, despite that £830m was spent on it. Besides, £89m was spent over four years by the Home Office for patching up an old system.

https://www.ft.com/content/ed156742-990f-11e5-95c7-d47aa298f769

### Reasons of failure

* Mismanagement. Due to bombing in the July 2005 and 2012 Olympics Games in UK, too much pressure was applied to project executives. Project had to be finished in time with a 100 per cent accuracy. This contributed to ambitious commitments that were not possible due to various obstacles. On top of that contractors changed several times. <https://www.ft.com/content/ed156742-990f-11e5-95c7-d47aa298f769>
* **importance of the stakeholder was underestimated.** The project was with no clear strategy of stakeholder’s management. Important relationships were underestimated and left without proper attention. Relationships with transport carriers were extremely important to the program. However, these relationships have received less attention. "The department made unrealistic assumptions about program delivery without realizing the importance of managing a wide range of stakeholders”( <https://pmworldlibrary.net/wp-content/uploads/2016/03/pmwj44-Mar2016-Alami-uk-eborders-project-failure-featured-paper.pdf>
* **Insufficient planning.** Project was too ambitious. The system was designed to process huge amount of data of about 200 million transits per year, which must be connected and coordinated with 600 berths, airports, and stations along 30 government departments. The Home Office had used a concept, instead of a well-defined set of requirements. Concept was never tested for “reality”. Consequently, the program was executed with an untested concept and unknown requirements, leading to controversy.

.( <https://pmworldlibrary.net/wp-content/uploads/2016/03/pmwj44-Mar2016-Alami-uk-eborders-project-failure-featured-paper.pdf>)

* Inconsistencies in the design work. The execution of the program was based on a proposed blueprint project, not on actual needs, a realistic and proven concept. Design work had already begun before the designers were properly aware of the details and requirements of the United Kingdom government.( <https://pmworldlibrary.net/wp-content/uploads/2016/03/pmwj44-Mar2016-Alami-uk-eborders-project-failure-featured-paper.pdf>)

### Classic mistakes

* People related. Project did not have a strong leader, low project management skills
* Process related. Contractors changed several times. Project had an insufficient risk management
* Product related. Project was too ambitious.

## Failure 5 Roskomnadzor versus Telegramm

### Overview

Roskomnadzor is The Federal Service for Supervision of Communications, Information Technology, and Mass Media. This department is responsible for controlling, censoring and monitoring Russian mass media <https://en.wikipedia.org/wiki/Roskomnadzor>

Telegram is cloud-based an online messaging app, very similar to WhatsApp and Facebook Messenger. This messenger was founded in 2013 by Pavel Durov - creator of largest Russian social network VKontakte (founded in 2006). In 2014 he was fired from a post of General Director, but before that he sold all his shares in a company. Durov left the company and said that VK was under the control of the political party in power After that, the government became 100% owner of the largest and most famous social network in the Commonwealth of Independent States (Post Soviet Countries) Full control with no privacy for users. <https://www.gazeta.ru/business/2014/04/21/6001381.shtml>

### What happened

On July 1, 2018, Yarovaya law was adopted, which states that the government has the right to record and store all traffic - voice and messenger for 6 months in order to fight terrorism and extremism. Based on this law, it follows that Telegram must give the key to the messenger's encryption to the Roskomnadzor.

Problem was that Telegram's specialty is security. It claims that all activities, such as chats, groups, and media shared between participants, are encrypted. This means that they will not be visible unless they are first decrypted. The app can also use the built-in secret chat feature to set a self-destruct timer for shared messages and media ranging from 2 seconds to 1 week. It also provides end-to-end encryption that leaves no trace on Telegram's servers. Users also have the option to verify the security of "secret chat" using an image that acts as an encryption key. By comparing the encryption key to your friend's key, you can effectively verify that the conversation is secure and less vulnerable to man-in-the-middle attacks. https://justaskthales.com/en/telegram-different-messaging-apps/

So confident are the creators of the application of its high security standard that they recently even dared to name a contest to decrypt the Telegram encryption, commonly known as the Crypto Contest. Whoever was able to decrypt Telegram messages by skipping the controls could qualify for a $300,000 prize. To date, no one has succeeded <https://movilforum.com/ru/%D1%82%D0%B5%D0%BB%D0%B5%D0%B3%D1%80%D0%B0%D0%BC%D0%BC%D0%B0-%D0%B1%D0%B5%D0%B7%D0%BE%D0%BF%D0%B0%D1%81%D0%BD%D0%B0%2C-%D0%BC%D1%8B-%D0%B2%D0%B0%D0%BC-%D0%B2%D1%81%D0%B5-%D1%80%D0%B0%D1%81%D1%81%D0%BA%D0%B0%D0%B6%D0%B5%D0%BC/>

Despite all attempts by Roskomnadzor to cut off oxygen to the messenger, it continues to function. It turns out that the team of programmers Pavel Durov came up with a cunning scheme to bypass the lock. They set up a special service push (usually this technology is used to increase stability and speed up sending and receiving messages), which is tied to the servers of Google, Apple and Microsoft. Therefore, when Roskomndzor began blocking IP addresses, Telegram continued to work anyway, but 2.5 million Google and Amazon addresses were blacklisted. Some users even stated that they did not have an analogue of the TamTam messenger and the Roskomnadzor website itself <https://peopletalk.ru/article/tsifra-dnya-skolko-roskomnadzor-potratit-na-blokirovku-telegram/>

### Reason of failure.

Throughout all these banned years, telegrams continued to function properly, Durov's team provided information on how to use VPN and bypass the blocking of Rosomnadzor. In 2020, the state decided to remove the ban from the messenger, referring to the fact that Telegram made concessions and began to cooperate, but the most obvious reason is that Roskomnadzor did not cope with the task.

* Insufficient Planning and risk management. There was no clearly formulated action plan, only a task was set, which had to be completed in the shortest possible time. Thanks to an extensive and decentralized network of servers located around the world, it was not possible to put all their IP addresses on the block list. Then Roskomnadzor began blocking them in parties, but this turned against it. Because of this, many legal services and sites stopped working, which lost millions of dollars of profit due to blocking. As a result, the rating of the department in the eyes of the population has fallen sharply, and the costs of blocking have not justified themselves. <https://appleinsider.ru/analysis/roskomnadzor-oficialno-razblokiroval-telegram-v-rossii.html>
* Wrong approach to problem solving**.** Rolling blocks of the first days of the execution of the judgment touched many services that are not related to Telegram. Even with 18 million blocked IP addresses, the degradation of Telegram, according to the head of Roskomnadzor, amounted to 30%.  
  Roskomnadzor recognized the technical complexity of blocking the messenger. To restrict access in 2019, the agency proposed deploying a system with deep packet analysis. These measures did not help, and Telegram continued to grow its audience. At the end of last year, there were 20.2 million users from Russia, and at the beginning of June 2020, Durov announced 30 million Russians in Telegram.

https://www.kp.ru/putevoditel/tekhnologii/blokirovka-telegram/

### Cost

Roskomnadzor could spend at least hundreds of millions of rubles over several years of this "struggle" in quotation marks. The expenses consisted of the payment of employees who were engaged in blocking these resources, mirrors, VPN services.

According to the CEO of the information and analytical agency TelecomDaily, the spending of the Russian state on the fight against Telegram amounted to hundreds of millions of rubles.

Unfortunately, information about total cost of this program is classified and cannot be view by common person.

<https://pikabu.ru/story/yekspertyi_poschitali_raskhodyi_gosudarstva_na_blokirovku_telegram_7530865>

### Classic mistakes

* People related. The developers could not go against the government and just did their job, knowing that it would not work.
* Process related. Executives chosen a wrong approach to achieve a result.
* Product related. Project was too complicated and ambitious.

## Failure 6: Lidl

### Overview

Lidl is a huge chain of grocery shops across a Germany, with around €80 billion in annual revenue. Old inventory control system “Wawi” reached the limits of it capacity and in 2011 supposed to be replaced by new shiny system – 'eLWIS', but something went wrong, and it never happened. https://www.panorama-consulting.com/lidl-erp-failure/

To create a new solution Lidl hired a SAP – multinational software corporation, whose main field is making enterprise software for managing customer relations and business operations.

New system supposed to not just implement individual functions but combine process chain from customer to supplier. A lot of new features planned to be implemented, for example analysis of a key figures and forecast would be accessible in a real time. <https://www.henricodolfing.com/2020/05/case-study-lidl-sap-debacle.html>

### What Went Wrong

Chain was basing its inventory management system on purchase prices, SAP’s standards for software were to use retail prices. Instead of meeting halfway and come up with some mutual solution like change business process, Lidl refused to use retail price and decided to modify software. It was a mistake because software was not designed for that. <https://www.henricodolfing.com/2020/05/case-study-lidl-sap-debacle.html>

### Reasons of a failure

* **Project Duration**.The project took too long. An implementation of a project took 7 years, retail and distribution market is changing all the time. Project have to cope with those changes.
* **Executive Turnover.** Executive turnover became a big problem for a Lidle. Because every new executive had own idea and perspective, it was hard to maintain main idea and direction of a project. As executive priorities and personalities change (both in this case), ERP projects can become uncoordinated with these new people. This often causes the project to fail. <https://www.henricodolfing.com/2020/05/case-study-lidl-sap-debacle.html>
* **Disorganization.** Wrong choice of outsourcing company or wrong distribution of responsibilities. The KPS was in charge of transformation, in particular to manage the adaptation process for Lidl, but Lidl criticize KPS for being too slow. In his defence, the head of KPS said that the time frame was too limited, and it was not their fault.

<https://www.henricodolfing.com/2020/05/case-study-lidl-sap-debacle.html>

### Cost

The project carried on for long seven years. In 2017 SAP recognized a Lidl as a top customer in 2017. That top customer in the end had waisted €500 million. <https://www.panorama-consulting.com/lidl-erp-failure/>

### Classic mistakes

* People related. Project did not have a strong leader, but had a very high staff and executive’s turnover
* Process related. Project took too long, 7 years it is too much for an IT project in a modern world.
* Product related. Project was too ambitious.

## Failure 7: Digital Media Initiative (DMI)

### Overview

The Digital Media Initiative was established in 2006 as a business transformation programme that would allow BBC staff and partners to develop, create, share, and manage video and audio content and programming on their desktops. It meant to fully integrate an archiving system and digital production.

<https://www.nao.org.uk/wp-content/uploads/2015/01/BBC-Digital-Media-Initiative.pdf>

In February of 2008 BBC contracted a Siemens company to build the system. Original contract stays that project will be finished in 18 months at a cost of £79 million. After numerous delays contract was terminated in July 2009.

### What went wrong

The BBC took the system’s implementation in-house from September 2009. The BBC believed it could fill the potential by hiring experienced staff or by using third party vendors to build system components that the BBC would later integrate.

After a large number of delays, the inability to provide working systems and internal and external reports, the BBC decided to terminate the remaining DMI projects in May 2013 but continued to maintain the archive database.

<http://downloads.bbc.co.uk/bbctrust/assets/files/pdf/review_report_research/vfm/dmi/pwc_dmi.pdf>

### Reasons for a failure

* **High risks of developing in-house.** When the BBC was responsible for developing the DMI system In July 2009, they had little time to meet the important internal deadline.
* **Mismanagement, lack of accountability.** The BBC did not appoint a senior responsible owner of the project who would be accountable and bring together all elements of the project (National Audit Office, 2014). The absence of a senior responsible owner led to unresolved issues between divisions that develop the system and its intended users. Key leadership roles in the DMI, including the programme director and technical director, changed several times, creating a gap in knowledge of the project (National Audit Office, 2014).
* **No transparent reporting.** Reports of transparency and consistency was not provided in the DMI. Reporting supposed to be on progress against plan, cost to complete, or delivery of benefits to enable effective decision-making. In addition, reporting on a quarterly basis resulted in the reported status of DMI being behind the actual status (National Audit Office, 2014).
* **Time mismanagement**. DMI supposed to be gradually implemented by releasing a set of technologies that add new features. However, the BBC have decided to change its technology release plan due to technical and timing issues, causing confusion about what each release should offer.
* **Bad requirements**. All Requirements for the DMI project were on a different repository instead of being on a central repository for an easier access. Some parts of requirements were fragmented on a different services like JIRA and Confluence. Around 80% of end-to-end tests for new features did not link straight to a business requirement. Repositories were so unorganized that some of the specs lived within temporary Excel or Word documents.

<https://medium.com/north-code/tech-fails-bbcs-100m-digital-media-blunder-ca397bb99ecd>

* **Bad Testing.** Some components are not part of the formal testing software release process. Therefore, during the project life cycle, these have not been officially converted to production systems. Most components lacked a comprehensive suite of repeatable tests such as data and media validation, stress tolerance, and stability. Many components have failed integration testing.

<https://medium.com/north-code/tech-fails-bbcs-100m-digital-media-blunder-ca397bb99ecd>

* Faulty Governance.DMI was unable to provide a clear and transparent report of progress on planning, cost to completion, or provision of benefits to enable effective decision making within the governance structure.
* **Wrong methodology and poor engagement with the users.** The project supposed to be delivered by using AGILE development methods. However, the business refused to work closely with the development team and instead waited for the full functionality of large incremental pieces. As a result of scrapping agile, the users kept changing requirements (like first wanting an in-house developed product but then refusing to use it and asking for an off-the-shelf product from Adobe instead) and never fully understood the scale of changes required and adding additional work for the IT team and causing delays in delivery https://www.computerweekly.com/news/2240213773/The-BBC-DMI-project-what-went-wrong

### Cost

In May of 2013 project was finally abandoned. Just between 2010 and 2012 £98 million were spent on the project. BBC lost around £38.2m, fortunately for BBC company they were entitled for a compensation of £27.5m from a Siemens company.

<https://en.wikipedia.org/wiki/Digital_Media_Initiative>

### Classic mistakes

* People related. The BBC did not appoint a senior responsible owner of the project.
* Process related. Project did not have a clean plan and requirements, was time limited. Proper testing has not been done. On top of that poor time and cost estimation.
* Product related. Requirements were constantly changing.

## Failure 8: SIREN



<https://www.bbc.com/news/uk-27911416>

### Overview

Surrey Integrated Reporting Enterprise Network or SIREN – project which was supposed to replace an old crime, intelligence, and custody suite (CIS). Old system has not been changed since 1992 and was declared obsolete and unusable. The Force has also determined that the system poses a higher risk of failure and will no longer be supported by the supplier. After a procurement and evaluation process, SIREN was determined to be the most suitable alternative.

### What went wrong

Procurement began in 2008, year later MEMEX Technology was chosen as contractor to develop the system. During the developing the project experienced several delays and failures. In the summer of 2012, new Chief Constable Lynn Owens expressed concern, she pointed out that SIREN was no longer the best choice for the Force. On the first day of his term, the Sheriff notified the PCC of her concerns, and the PCC subsequently took action that resulted in the termination of the contract.

<https://mycouncil.surreycc.gov.uk/documents/s16121/Project%20SIREN%20update.pdf>

According to Police and Crime Commissioner (PCC) Kevin Hurley Police Department would achieve more benefits from collaborating with other regional forces rather than work just with SIREN. The decision was taken to terminate Siren and immediately start to work up for an alternative solution.

<https://www.governmentcomputing.com/outsourcing/news/newspolice-accused-of-it-management-weakness-over-148m-axed-siren-project-4299027/>

### Reasons of failure

* **Staff turnover.** Since project started 5 different Program Managers and 5 different Senior Responsible Officers worked on system.
* **Wrong management approach.** Approach was not understood by the forces and was eventually rejected.

https://mycouncil.surreycc.gov.uk/documents/s16121/Project%20SIREN%20update.pdf

* **Failing to follow chosen methodology.** Memex failed to follow Agile methodology. Police was not accepting new versions of modules, but Memex carried on delivering them, instead of resolving an issue straight away. If Memex and Police Department would pay enough attention to such a crucial aspect and fix all misunderstandings at the very early stage, there is a chance that they could avoid that failure.
* **Poor scope and time management.** This reason can be attributed to the previous one, but I decided to highlight it in a separate. While project existed, there was no control of a scope, it led to big delays and shortage in money late in the process. This can be seen as a consequence of not following a right Methodology.

<https://techmonitor.ai/techonology/10-reasons-why-surrey-polices-15m-siren-it-project-was-binned-4299023>

* **Incorrect reports.** Project reports have not been thoroughly reviewed and there has been no adequate or meaningful intervention by the review functions in response to the revised long-term status of the project.

https://mycouncil.surreycc.gov.uk/documents/s16121/Project%20SIREN%20update.pdf

### Cost

The police and crime commissioner negotiated with the developer to be released from contractual liability to pay all additional support costs, helped to avoid further financial loss. However, considering all known expenses, the total cost of the project is believed to be at least £14.86 million, yielding no benefits.

<https://www.surrey-pcc.gov.uk/wp-content/uploads/2014/06/Public-QA-PDF1.pdf>

### Classic mistakes

* People related. Project had a high staff turnover. A change in the governor who was one of the executives of this project, but this may just be a rumour. Inaccurate reports were made to please superiors.
* Process related. Project had a poor scope and time management, company was not following chosen methodology - Agile.
* Product related. Force did not like the product and did not like it from the very beginning, which was not paid any attention to.

## Failure 9: Oregon

### Overview

In 2010, Oregon chose to build its own healthcare exchange program rather than adopt the Federal exchange.  The state leveraged federally granted money of over $300 million dollars to build Cover Oregon’s website.  This was paired with another program to replace the IT systems supporting the state’s Health and Human Services departments.

Cover Oregon was the State of Oregon’s program to create a website that would process online enrolments. For that purpose, state hired an Oracle Corporation.

In 2010 Oregon Department of Human Services launches broad initiative to replace healthcare systems, then in 2011 received a grant of $48 million. Plan to spend around $100million failed and became more and more expensive. After two years project missed a “go-live” date. In March of 2015 state closed a project.

### What went wrong

The website was a disaster. After so much money have been spent website was unable to process main task – enrolments, but state found a “solution” – get back to paper enrolment. State hired around 500 new workers to process those paper applications. Oregon citizens had to mail their enrolment forms to a company, so they can be enrolled manually.

https://upperedge.com/wp-content/uploads/Cover-Oregon-Failed-Implementation-Infographic.pdf

Timeline

Description automatically generated

### Reasons of failure

* **Poor Project Management.** It was a very bad idea to change a plan in the middle of a project which had a deadline placed by federal law. To keep taxpayers cost low, state decided to expend a scope to include all systems from a Department of Human Services
* **Mismanagement.** Instead of engaging with variety of system integrators state decided to engage only with Oracle. They decided to train their team on Oracle products to run a self-sufficient organization. The logic behind this decision is clear, if you train your staff yourself, you can create service provider independence and ultimately create the potential for greater value for the organization's customers. Unfortunately, the State of Oregon did not have available staff to be taught.
* **Insufficient risk management.** Combining projects increased a risk of failing. Despite numerous reports that the project is not ready and has serious problems Oregon decided not to follow the advice of independent risk assessors and still launched a website. The Program did not have a single point of responsibility from which to make specific decisions about the risk reduction measures to be taken.
* **No contingency plan.** With all the problems that were in front of everyone, it's unclear why Cover Oregon didn't have a backup plan in case it failed. According to documentation, even 3 weeks prior the expected launch, it was obvious that the team was not ready.

<https://upperedge.com/erp-program-management/7-decisions-that-doomed-cover-oregon/>

### Cost

With around $300 million waisted and not a single application could be enrolled, Oregon and Oracle have met in a court in 2014. https://www.forbes.com/sites/jeffreydorfman/2014/04/26/the-failed-oregon-obamacare-website-is-just-the-tip-of-a-6-billion-iceberg/?sh=fc114fe2b859

### Classic mistakes

* People related. The company did not have enough staff to train new technologies.
* Process related. Project had an insufficient risk management, poor project and time management.
* Product related. The project has gone through many scopes and requirements changes.
* Technology related. Instead of engaging with variety of system integrators state decided to engage only with Oracle.

## Failure 10 U.K.’s FiRe Control Project Summary

### Overview

FiRe Control system aimed to improve the productivity of the Fire and Rescue Service. This system supposed contain network of 9 purpose-built regional centres to replace 46 local control room. Plan was that national computer system would handle calls, manage incidents and (National Audit Office, 2011).

Project was initiated in 2004 with original plan to complete FiRe system by October 2009 with a budget of £120 million. In 2007 EADS (European Air and Defence Systems) joined a program to develop and install the computer system for the project.

### What went wrong

However, the project was accompanied by frequent delays, an increase in the final cost, because of this it received a lot of criticism. In 2010 Local government have decided that project cannot be delivered in before deadline and it is getting too expensive to carry on with it.

### Reasons of failure

* **Lack of leadership and high staff turnover.** The project had high staff turnover, over-reliance on poorly managed consultants, and inconsistent leadership. There were five different senior managers, four different project directors and five executives who oversaw the execution of the project.
* **Insufficient communication and engagement with stakeholders.** Insufficient communication and involvement between local fire and rescue authorities and their fire and rescue services during project initiation and design has raised concerns about regionalization and lack of clarity on the regional approach will help increase efficiency. As a result, the ministry did not liaise with local fire and rescue agencies, they were discouraged from assisting in project implementation. (National Audit Office, 2011).
* **Underestimated complexity.** The department underestimated the complexity of developing a system to meet the needs of the fire and rescue services. Substantial changes to key components are required to meet many of the Service's operational needs. The Department has entrusted EADS with the responsibility of achieving the necessary standardization without providing it with appropriate user requirements.
* **poorly calculated time frame and cost.** Project based on underestimated cost of£120 million, problem was those estimates not including installing equipment, local and regional implementation. That is why Department assessed costs in 2007 and came up with a new cost of £340 million.
* **Miscommunication and mismanagement.** The Department failed to make sure that EADS following the agreed approach in developing the system when having problems with integration of sub-systems. The miscommunication between both parties towards problem solving led to the slow resolution of issues.

In addition, the EADS’s contract stated that they would be paid only once a key milestone for the building and testing of the system had been passed. The delays to delivery led to cash flow difficulties for EADS, creating further misunderstandings with the Department.

### Cost

The Department for Communities and Local Government came to a mutual decision to save a money by terminating a project. Very pricy failure of £245 million could and it up with a price of £635 million and couple years of delay if not that decision.

https://www.nao.org.uk/report/the-failure-of-the-firecontrol-project/

### Classic mistakes

* People related. The company did not have a clear strong leader. There was miscommunication and mismanagement in the project. Project had insufficient engagement with a stakeholders.
* Process related. Poor time and cost management.
* Product related. The project was too ambitious and complex.

## Summary

Almost all researched projects fail due to poor cost and time planning. In most projects, they are government owned, which means that they are financed from the budget, so most often the funds are fixed, in addition, the state departments are in charge of the project. But the problem is that, as a rule, they do not have enough experience in developing projects of this size. The projects themselves were too ambitious, but if you have little or no experience, then it's hard to notice.

Another big problem in project management is customer focus. Often companies ignore this very important aspect because they "know better" how it should be.

# Section 2 classic mistakes

Below is a table of the most common mistakes that cause projects to fail. Justification for each case and common mistakes in the section on failures.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Project** | **People related** | **Process related** | **Product related** | **Technology related** |
| **Canada's Phoenix Pay System** | **✓** | **✓** |  | **✓** |
| **US Depart of Défense EHR System** | **✓** | **✓** |  | **✓** |
| **National Program for IT (NPfIT)** | **✓** | **✓** | **✓** | **✓** |
| **e-Borders** | **✓** | **✓** | **✓** |  |
| **Roskomnadzor versus Telegramm** | **✓** | **✓** | **✓** |  |
| **Lidl** | **✓** | **✓** | **✓** |  |
| **Digital Media Initiative (DMI)** | **✓** | **✓** | **✓** |  |
| **SIREN** | **✓** | **✓** | **✓** |  |
| **Oregon** | **✓** | **✓** | **✓** | **✓** |
| **U.K.’s FiRe Control Project** | **✓** | **✓** | **✓** |  |

In conclusion to the table, I can safely say that the most common mistakes in project management are People Related, Process Related and Product Related. This is quite logical, because without a good captain, the ship will not sail far. Often, all projects were poorly planned both in terms of time and cost. Seven out of ten projects were too ambitious with an insufficient risk management, which eventually led to the failure.

2:Categorise the Classic Mistakes Most causes of project failure can be grouped into people-related, process related, product-related or technology-related mistakes. Categorise your failed projects into these groups (1 or more) and justify your choices. (20 marks)

3: Mistakes versus Best Practice Matrix Nelson wrote his article in 2007 so some of the ideas may be out of date. Using the matrix (Figure 3) from Nelson’s article as a guide, do further research and create your own current version of the matrix of Classic Mistakes and the Best Practices that would have helped mitigate them. Also, briefly explain how you arrived at your best practice(s) solutions. (20 marks)

4: Choice of Development Methodology Identify which IT Project failures from (1) that may have been related to the wrong choice of development methodology and identify a suitable development methodology that would have prevented those project failures.

# Section 3 matrix

Often, knowing what went wrong is not enoughб you also need to know what went exactly as it should, which caused the success of the project.( https://aisel.aisnet.org/cgi/viewcontent.cgi?article=1102&context=misqe) Best practice aims to improve an existing system or methodology. This method is based on the experience and mistakes of others. “To be better you need to learn from the best” – this should be a motto for those who decided to use that practice.

|  |  |  |  |
| --- | --- | --- | --- |
| **Project** | **Group of mistakes** | **Classic Mistake** | **Best**  **practice** |
| **Phoenix** | Technology related | Wrong Implementation (cut over) | Phased conversion, back up. |
| **Department Of Défense** | Process related | Insufficient time management | Agile or Incremental methodology. |
| **NPfIT** | People related | Lack of user involvement | Design Thinking Methodology |
| **e-borders** | Process related | Frequent change of contractors |  |
| **Roskomnadzor** |  |  |  |
| **Lidl** |  |  |  |
| **Digital Media Initiative** | Process related | Absence of a mitigation plan | Develop a mitigation plan at planning stage. |
| **SIREN** |  |  |  |
| **Oregon** | Product related | Scope creep | Define Requirements, Determination of impacts. |
| **FiRe control** | People related | Ineffective engagement with a stakeholders | Create a communication plan, Agile Development Methodology |

# section 4 Methodology that would change

It is very easy to judge an incident after it has happened, after a little analysis, obvious errors become visible, sometimes this is not a correctly selected or missing methodology. I do not think that I have the right to say that in any particular case the methodology was chosen incorrectly, since there is no much information about chosen development methodology. I can only guess what methodology was chosen, if at all.

* Phoenix's project. By all indications, the methodology used was a waterfall, which is a mistake for the particular situation. Since the project was too large, it did not involve changes in the scope, the price was fixed. If they had chosen a methodology that included iteration, then perhaps this would have saved the project from a failure. The management would have seen progress, they would have tested much more often, because the problems began immediately after implementation. A very good example of such a methodology is Agile.
* In the second case - the US Defense, it is obvious that the waterfall methodology was used, if used at all. Because the project had no main goals, there was no agreement between the parties. For such problems, it is best to use methodologies where frequent meetings are provided – Agile would work perfectly here too.
* In the third case - NHS, it is difficult to say which methodology was used. But in view of all the existing conflicts and problems, three methodologies can be assumed that would fit this project. The first methodology is the Spiral one, in which a lot of attention is paid to risk management, since the insufficient risk management led the project failure. The second methodology is Prototyping, because customers could not understand the product, and the presence of a prototype would help to understand the client. This methodology is more client-oriented. And the third methodology is Agile combined with the Design Thinking process to make the project more user oriented.
* In an e-borders project, the most appropriate methodology is Agile, since the main problems of the project were lack of testing, clear strategy of stakeholder’s management, and insufficiency planning. In addition to Agile, it was possible to try the Incremental methodology, since the project was very large and had to be divided into iterations in order to implement features in batches.
* Fifth project - Roskomnadzor failure. I don't think any particular methodology was chosen. In addition, I am sure that no methodology will help if the idea is obviously stupid, impracticable, and doomed to failure. In this situation, the Design Thinking processes would help. For example, Planning and Ideate phases would help to find the right solution, if any.
* Sixth project – LIDL. Based on the fact that only at the end it was revealed that SADS used retail prices, which was the opposite of what Liddle used, it can be assumed that there were not many meetings and iterations, otherwise everything would have surfaced much earlier. So, the waterfall methodology was chosen. Which was a big mistake, since the project is too big and complex for such a methodology. An iteration-based methodology is best suited - Agile or incremental model, with the correct use of one of these methodologies of course.
* The seventh project is DIGITAL MEDIA INITIATIVE. Unlike all previous projects, this one had a clearly chosen and voiced methodology - Agile. I think that the correct methodology for this project, but the problem was that no one followed it. They did everything in a big scope and did not check with the client and his requirements. This was one of the reasons for the failure. Also, incremental methodology suits this project.
* The eighth project - SIREN. As in the previous project, the Agile methodology was chosen in the Siren project, which is a good choice. Again, the problem is that MEMEX ignored this methodology and did everything in its own way. Force was not happy with the product in the early stages, but MEMEX continued to work on the project without making any adjustments. Perhaps this kind of methodology like Prototype would be suitable here too. In that case, the Force were able to make their own adjustments early on, provided that MEMEX listened to them. Incremental would also probably fit here.
* The ninth project is Oregon. It's hard to tell which methodology was used in this case, as the scope changed so much in the middle of the process, so Waterfall couldn't be, except that the leader didn't follow it. It is also possible to exclude the Spiral methodology, since one of the reasons for the failure is an insufficient risk management, although they simply did not follow the recommendations. Probably the most suitable methodology is Incremental, since the risk of changes is very low with this methodology and the product is divided into iterations, which would allow to immediately notice the defects of the system.
* Finally, to FiRe control system. Due to Insufficient communication and engagement with stakeholders, I would recommend Agile methodology, which would allow for frequent meetings and debriefings, which could lead to resolution of conflicts and misunderstandings. In addition, this method implies a strong leader, the lack of which we observed in the analysis of the tenth failure. As with many other failures, the incremental methodology could be appropriate in this case.

In conclusion, I would like to add that the right methodology does not guarantee the success of the project. It is very important to follow this methodology. Those projects that had explicitly chosen a methodology - they just didn't follow it. There can be many reasons, but the most banal of them is an incompetent leader. If incompetent leaders are at the head, then the methodology will not help. If it is customary in the team to please and indulge the top-brass, then the company and the project will fail. In addition to bad leaders, there are many more reasons why a well-chosen methodology may not work - for example, a deliberately bad idea, incorrectly estimated budget and time.

In the report about the failure of the BBC’s Digital Media Initiative, project, it is said that one of the main reasons for the failure it is not following the chosen methodology, namely Agile. Business side of the project have not done proper job to cooperate with a developers, resulting in a conflict and failure in the end.

I can safely say that in almost all cases it was possible and necessary to use the Agile methodology in combination with a Design Thinking Process.

# Summary

### Armchair critic

# References