**RESEARCH REPORT**

## IT PROJECTS FAILURES & PROJECT PROCUREMENT ANALYSIS

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by Sasha Stepanov

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# SECTION. 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

Case:

Canada's Phoenix Pay System

### Overview,some locations,information

[Phoenix](http://news.nationalpost.com/news/canada/canadian-politics/phoenix-explained-why-federal-civil-servants-arent-being-paid) – 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, reasons of failure.

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.

### Reason of failure.

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

Inadequate behaviour of a Phoenix Executives or to say with other words Mismanagement.

* 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.,
* System had very low level of security, what led to documented privacy breaches.
* System had no contingency plan. So, there was no backup plan if something goes wrong.
* Risk management was very poor. Phoenix executives shut down the previous payroll system when Phoenix was launched, instead of run them in parallel.

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

Flaw of a system

Diagram

Description automatically generated

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

In the summer of 2016 after the system has been up and “working” Phoenix executives carried on to pretend 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>)

### 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>

## Failure 2 US Depart of Defense EHR System

A picture containing calendar

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

What happens and when

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>

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/>

Cost

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. After 4 Years and $1 Billion and 4 years have been wasted because, the VA and DoD have decided to abandon idea for a fully Integrated HER. 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/

Why it happened

**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/)

**Complication and size of a project (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)**

## Failure 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>.

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/) come 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.

What Went Wrong

Bad time management(haste)

Program managers and politicians rushed to processes of procurement, implementation and policymaking instead of spend enough time to consult with key stakeholders and deal with confidentiality problems. This resulted in:

* Unreal timetable
* Privacy campaigners and users left without attention
* Inadequate preparatory work
* Privacy campaigners and users were left without attention
* Failure to compare expectations and actual progress
* 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:

* Risk mismanagement
* Privacy issues
* lagging behind technology(time concern)
* 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:

* No unambiguous leader
* No clear aim and goals of a project
* incorrectly estimated budget from the very beginning
* lack of necessary training
* No mitigation plans
* Price over a quality
* Absence of interest in privacy issues
* 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

# Failure 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>

The program failed and could not achieve its intended goals, instead of collecting and analyzing 9 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

**what went wrong**

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>)

## Failure 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 can be view by common person.

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

## Failure

## Failure

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## Failure

## Failure

# matrix

# Methodology that would change