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Sigurður T. Valgeirsson

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Supervisor:

Marta Kristín Lárusdóttir, Supervisor
Assistant Professor, Reykjavík University, Iceland

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Student:

Sigurður T. Valgeirsson

Supervisor:

Marta Kristín Lárusdóttir

Department:

On behalf of School of Science and Engineering at Reykjavík
University MPM

IT PROJECTS – WHO ARE THEY REALLY FOR?

Sigurdur T. Valgeirsson
School of Science and Engineering
At Reykjavík University
Reykjavik
Iceland
Sigurdurtv03@ru.is

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ABSTRACT

We all know stories of IT projects that have gone wrong, such as stories of development failures and how those have had severe impacts on organizations. Additionally, stories on late delivery, exceeded budgets, reduced functionality, questionable quality and various side effects are common. But who are these IT projects really for?

This paper evaluates a real case that addresses several failed software projects that were handled by the same company over a 10 years period, made for and paid for by the government offices of Iceland. All these projects were eventually scrapped for lack of quality and functionality, but at the same time over budget and over time. In this paper the possible effects that an implementation and use of Prince2 methodology would have on these projects are analyzed. The results clearly indicate that there was an opportunity and room for improvements in managing, often complex IT projects, in these projects. These often are influenced more by wishful thinking than realism of professional project management methods.

By Prince2 standards, IT projects are made for the people that are defined in the early stages of the project phase, before the project begins, not afterwards. That was probably the biggest mistake, not doing that in the projects analyzed in the paper, so the questions concerning the stakeholders of the projects was not answered in these, at least not early enough.

1. INTRODUCTION

I was introduced to the IT industry and later Prince2 methodology about fifteen years ago and have been more or less dealing with it since then. This experience sparked an interest in the proper management of IT projects. Later I witnessed firsthand how IT projects often seemed to get overtaken by IT managers that created the impression that they reigned in their cloud of technical jargon. Then the managers did operate the projects on grounds of their personal interests but not necessarily with the interest of the business as a whole in mind, let alone the users of the project outputs, in my opinion. Later when doing my MBA, I was introduced to literature such as *Managing and using Information systems* by Pearlson and Saunders (Pearlson & Saunders, 2003), that emphasized that the business runs IT, not the opposite.

I furthermore soon learned to appreciate a book I once coincidentally acquired from a seminar on Prince2 methodology in managing IT projects, *Managing successful projects with Prince2* (OGC, 2002). That influential book often came in handy, when I needed a strong theoretical ground to rely on, in reasoning with management on how certain projects should be controlled and structured.

I realized that it was vital to have a strong foundation to build projects on, and I was ready to fight for it, even though I often experienced lack of understanding and support from sponsors and management while introducing the Prince2 basics within the organization that have employed me.

“All projects that have to do with computers, software and information technology are always difficult to control, and therefore they need careful preparation before beginning”. These were the words of Sveinn Arason the auditor general of Iceland in a television interview 14th of April 2015. The day after a news coverage involving several IT projects, of the Government offices of Iceland that had gone wrong in terms of cost, time and quality, among other things (Gudmundsson, 2015).

IT literature is full of stories of development failures and their impact on individuals, organizations, and societal infrastructure. Indeed, contemporary software development practice is regularly characterized by runaway projects, late delivery, exceeded budgets, reduced functionality, and questionable quality that often results in cancellations, reduced scope, and significant re-work cycles (Dalcher, 2009).

After my experiences I have the following question: Who are IT Projects really for? I define IT projects, as projects that have to do with information technology, especially software development within organizations, public or private. In this paper I

will explore the above question by looking at a real case of several software projects from the Government offices of Iceland, look at what went right and what went wrong from a project management perspective. I will analyze several IT projects according to the Prince2 methodology of managing projects to find the strengths and weaknesses while running these projects and how it can benefit organizations, especially in the public sector to use the Prince2 methodology.

2. LITERATURE REVIEW

Within organizations the understanding of the stakeholders of IT projects needs to be very clear. IT projects are complex and use great deal of resources both financial and non-financial and therefore can have great effect on the operations of the organizations involved. There are several important foundations to build on, that have paved the road ahead, and added to the understanding of proper management of IT projects, modern understanding and framing of the concept.

According to Pearlson and Saunders *“Mangers that let someone else make decision about their information systems are letting someone else make decisions about the foundation of their business...It is no longer acceptable to delegate IS decisions to the management information systems department (MIS) alone”* (Pearlson & Saunders, 2012).

And Ross and Weil claimed that *“IT executives are the right people to make numerous decisions about IT management... But an IT department should not be left to make, often by default, the choices that determine the impact of IT on a company’s business strategy”* (Ross & Weill, 2002).

Also from the user perspective, Lieberman, Paternò, and Wulf, stated that *„By now, most people have become familiar with the basic functionality and interfaces of computers, but they are not able to manage any programming language. Therefore, they cannot develop new applications or modify current ones according to their needs“*(Lieberman, Paternò, & Wulf, 2006).

Furthermore that *„Programming is a highly complex problem solving task in which the problems are so large that they extend not only beyond the capacity of short term memory, but of any individual, so that they include complex issues of distributed representation use and shared understanding“* (Lieberman et al., 2006).

As well as *“End-user development (EUD) has enormous potential to make computers more useful in a large variety of contexts by providing people without any*

formal programming training increased control over information processing tasks” (Lieberman et al., 2006).

At last *“The fundamental aim of end-user development is to empower users to gain more control over their computers by engaging in a development process. The users we have in mind, called end-users, are typically not professional software developers”* (Lieberman et al., 2006). As these foundations clearly state, IT projects are in their nature complex and need to be controlled in a standardized way and simplified for users and stakeholders.

We live in a constantly changing technical environment, where volume of information and its complexity increases daily. Accordingly people have to pay attention on what really matters and what does not, become more focused and organized than ever before, using the best methods and tools that are available, equally in our private as well as in our professional life. Information is a vital resource, a lifeblood for all organizations, from the moment it’s created to its final destruction, where information technology (IT), plays a central role. This common term, IT, is used for the entire spectrum of technologies for information processing, including software, hardware, communications technologies and related services (Gartner, 2013) (Isaca, 2012).

However, IT projects (i.e. software) have not been supported by same level of standards and procedures found in other business areas like in accounting and financial standards where principles are reviewed by independent auditors and are backed by governmental regulations. This is not the case for IT projects. Despite the fact that IT projects are facing increasing governmental and professional compliance requirements, there is an ongoing need for better IT governance practices today (Moeller, 2013).

All the same, IT projects are an enabler for new products, services, and processes that change existing relationships between organizations, its customers, its suppliers, and among the people within the organizations. In both the public and private sector (Marchewka, 2002).

Therefore IT projects, to be fully utilized, have to be tamed with the help of advanced project management methodology. After all IT projects seem appear in every part of our lives, privately and professionally. Especially are IT projects increasing in importance for almost every organization, and their numbers are escalating. Those projects are constantly growing in size, complexity, and importance. Accordingly, IT project management is becoming more and more difficult to handle and there is an

expanding need for leading IT project management skills and methods, since every IT project is unique and depends on special knowledge, tools and techniques. Moreover there is much to gain from a structured project management process that can improve stakeholder satisfaction, provide better cost control, better time scheduling and increased quality (Brewer & Dittman, 2009).

In looking at public projects in general, they have the tendency to go out of control in terms of time, cost and not meeting quality expectations. According to Icelandic research, the preparation of public projects and the decision about taking on the project, can be based on wishful thinking rather than realism (Friðgeirsson, 2014). This is a risk that many western societies have responded to by issuing detailed guidelines on the processes, procedures and methods required to use at the early stages of project preparation (Friðgeirsson, 2014).

A good example of such guidelines is the Prince2 methodology. Prince2 is an acronym for projects in controlled environment, version 2. It is a method covering the organization, management and control of projects. Although Prince1 was originally aimed at IT projects, the second edition, Prince2 was updated in response to user requirements for improved guidance on project management on all projects (OGC, 2002). It is recognized worldwide as a standard method for project management, and embodies many years of best practice. It provides a flexible and adaptable approach to suit various types of projects and covers the wide variety of disciplines and activities required within a project. Prince 2 focuses on the business case as a driver of a project that should be proved before starting it and to be confirmed at all major decision points while the project is running. Finally, it stresses that expected benefits should be defined in advanced, so they can be confirmed after delivering the final product (Bentley, 2009).

The business benefits of adoption and consistent use of Prince2 should mean improvement in business performance. It will encourage successful project delivery through a common approach for governance and employees will also benefit from a shared and thoroughly understood language and approach to reporting. Prince2 also assists organizations in achieving their strategic targets more effectively and efficiently, facilitate in improving public opinions, enabling better project delivery and provide measurable improvement in performance.

Prince2 is a generic and structured project management methodology based on the foundations of experience from thousands of projects undertaken with input from many stakeholders such as project managers, sponsors, project teams, industry leading

experts, lecturers and consultants. It is also based on many publications that have gone through rigorous review process. It is a methodology, a framework and an umbrella under which project management can be undertaken. It provides guidance on how to run projects in a structured way and why it should be done in a particular way. It explains how to prescribe the project, however it is not about how to do the work and that difference must be understood fully to be able to master and implement the methodology (Clarkson, 2010).

Prince2 sets out a series of processes which cover all activities involved in a project, from start to end. It defines each process, detailing its inputs and outputs, objectives and activities. It specifies the roles and responsibilities in managing a project, including setting up a project board with representatives from the customer, user and supplier.

The methodology also explains how to manage risk, quality and change. It has overall, a controlled and organized start, middle and end, regular reviews of progress against plan and against the business case, flexible decision points, and automatic management control of any deviations from the plan. It also includes the involvement of management and stakeholders at the right time and place during the project and of course a good communication channels between the project, project management, and the rest of the organization (POST, 2003).

Prince2 is based on seven principles of continued business justification, learning from experience, defining roles and responsibilities, manage project by stages, manage by exception, focus on products and outputs, and finally to be tailored to suit the project environment (Bentley, 2009).

Unfortunately the Prince2 methodology is not as commonly used within the Icelandic public sector as in the UK, maybe of the reputation that it is the arch villain of project management bureaucracy or just because of lack of political interest.

Before we go any further it is good to keep in mind that inaccurate projections of costs, demand, and other impacts of plans are a major problem in planning in general, and public projects are especially plagued by too much optimism bias and strategic misrepresentation (Flyvbjerg, 2008). Strategic misrepresentation is the planned, systematic distortion or misstatement of fact (lying) in response to incentives in the budget process (Jones & Euske, 1991)

3. THE CASE - failed IT projects in the public sector

The case that is covered here was made by researching available information on an IT contractor, a small company and four IT project agreements that it received from the Government offices of Iceland over a period of 10 years, where none was successful.

On the 13th of April 2015 a report by Kastljós, a news program on the Icelandic state television, RUV, reviewed a report from the Iceland national audit office that had been released in end of year 2014. The report revealed that the Ministry of welfare, the Ministry of fisheries, and related institutions, had on several occasions for the last ten years, been handing out IT projects to a small company called Forsvar, without any request for a tender, and without what appeared to be proper preparation such as evaluating the contractor company, its particular, skills, knowledge and qualifications.

All of these IT projects failed or were scrapped before launch, costing the government around 200 Mkr in total. The sequel is at this moment in the hands of the Research committee of the Icelandic parliament. But what actually happened?

Forsvar was a relatively small company founded in 1999, owned by individuals and a small local community in the north-western part of Iceland, originally providing book keeping and teleprocessing services.

It all began in the year 2003 when the minister of welfare, Mr. Páll Petursson, signed an agreement for a project (P1¹) on behalf of the ministry, with the company Forsvar, located in his constituency. A project for creating a software solution that would handle financial planning for all the Icelandic local governments (MBL, 2003). However before that, the company had only taken on a single software project in its entire lifespan, furthermore was due diligence on Forsvar not performed either.

The control group of the project consisted of three people, appointed by the minister, thereof Mr. Gardar Jonsson as one of them, but he was at the same time, general director at the Ministry of welfare.

After the signing of the agreement, Gardar became the chairman of the board of Forsvar, still retaining his place in the control group of the project (P1) (Ármannsson, 2015).

The cost of the project (P1) in 3 years' time was estimated 11,5 Mkr but went up to 23 Mkr, even though the software never got finished or delivered, and was finally

¹ P1, P2, P3 and P4 represent the four different software projects related to the company Forsvar.

scrapped as the Icelandic association of local authorities decided to invest in a different and completely new system for their financial planning.

In its report that was released in the end of 2014, the Icelandic national audit office criticized the project (P1). That work was still unfinished when project was scrapped after 3 years work, with cost much higher than planned, no request for a tender, having not consulted with future users, need analysis performed by the same party that took on the project, lack of inspection, payments outside of agreement and no clauses in agreement that addressed possible nonperformance and delay penalties.

Gardar voluntarily resigned as a general director at the ministry in 2004, but still retained his place in the control group of project (P1). Then Gardar formed the company Glax Group with Ms. Elin Lindal, office manager of Forsvar and former reserve member of the Icelandic parliament for Mr. Pall Petursson, minister of welfare.

In 2004 Forsvar was asked by a new control group of the Ministry of welfare, that Gardar was also a member of, to perform a need analysis on a new IT project for an information system for the social service of the disabled (P2). No request for a tender on the project was made and Forsvar received the project. Those two agreements, signed by Mr. Arni Magnusson minister of welfare, and a member of the same political party as former minister, brought 17 Mkr to Forsvar.

Few weeks later the companies of Gardar, Forsvar and Glax Group formed a new company, Glax software, where Gardar also became chairman of the board. The control group that Gardar was still a member of signed a new contract, on behalf of Ministry of welfare in relation to the project (P2), with Glax Software for hosting the software that was to be the output of the project (P2).

In 2007 the new software, the result of the project (P2), was released and introduced by Gardar in a conference under the new name of Groska, there Gardar introduced himself as a member of the control group of the project (P2) on behalf of the ministry, but did not mention his direct involvement as a chairman of the board of Forsvar and Glax software, that now had received a new name, Groska. The software design received criticism for neither consulting with users in the developing phase nor the organization of the disabled. Additionally it had technical flaws relating to lack of privacy and protection of personal information plus limited access control. Analysis of needs seems to have been poorly performed and the software was not performing as introduced by Gardar in his earlier presentation on the project (P2).

In a report in end of year 2007, The Icelandic National Audit Office, after an internal audit at the ministry, criticized the ministry for not requesting a tender for the Groska project and that the cost had become double what was originally planned. Along with that the same company was both performing the needs analysis for the system and developing it.

The Icelandic National Audit Office in a report in end of year 2014 criticized the process of the project (P2) again for flaws and high cost, in total of 52 Mkr. but the software solution was however used for a limited time until 2010.

In minutes from meetings of the control group for the period 2003-2007 relating to the projects (P1 and P2) that the reporters were able to receive from the ministry, it was revealed that Gardar, which was in the control group of the projects (P1 and P2) on behalf of the ministry, was taking part in the projects from all sides. Making cost plans on projects with Forsvar, overseeing communications with Forsvar, creating reports on the projects with Forsvar, drafting agreements with Forsvar and approving agreements with Forsvar. At the same time he was the chairman of the board of Forsvar.

In 2010 Groska (the software company originally named Forsvar) approached the Government Agency for Child Protection, an agency under the supervision of the Ministry of welfare, with another software project in mind (P3), and signed an agreement for developing a software that would assist governmental institutions and local governments in their role of supporting children. The project (P3) was to be delivered in 2010 but went out of control and a prototype of the software was not finished until 2013. The solution was never implemented or used and later regarded by the Government Agency for Child Protection as a total failure with a cost of 4 MKR, not including the invested time of employees of the agency, which also refused to invest in the project (P3) any further.

In 2005 the minister of fisheries, Mr. Einar K. Gudfinnsson that was a member of parliament from the same constituency as Forsvar was located in, decided to start a software project (P4) to develop a system to collect and share information on the waters around Iceland. A contract was made with Forsvar to develop the software and the project was valued at 20 Mkr. including related projects, such as needs analysis and budgeting. This agreement was done without a request for a tender. This was done despite several warning messages that the ministry received relating to Forsvar, its capabilities and former experience. The managing director of Forsvar at that time, Karl

Sigurgeirsson, was a member of the same political party as the minister, and also a former candidate in the constituency.

In 2006 the Fresh fish price agency (VS, 2015), an institution under the ministry of fisheries that the project (P4) was to be created for, did warn that Forsvar was not performing as planned and had expressed openly that it had serious doubts that Forsvar had the capability to finish the project properly. In 2008 Forsvar received a delay payments of 1 Mkr on behalf of the ministry despite the fact that the agreement between the parties did not include such clause.

In a report published in the year 2011, the Icelandic National Audit Office made comments on three different agreements on projects (P4 and smaller related projects) that the ministry of fisheries had with Forsvar in the years 2005-2006. No request for a tender was made on these projects, furthermore it was not considered proper that the same company, Forsvar performed both the needs assessment and the programming of the solution. None of the agreements had any clause of nonperformance and finally there were no minutes or records from status meetings available.

The software solution of the project (P4) was never delivered, since the technical solutions that Forsvar supplied, did not work. However 40 Mkr was paid to Forsvar for the project (P4), despite nonperformance. The Ministry of fisheries that addressed the issue, still it defended the decisions made years earlier.

In grand total the company Forsvar, and related companies, received payments of almost 200 Mkr for its four IT projects, and none of those by invitation to submit tenders. However the government received little or nothing in return. Government officials involved claimed that they had not been aware of Gardar's conflict of interest and that he should have been disqualified from any decisions (Gudmundsson, 2015; MBL, 2003; Seljan, 2015a; Seljan & Ingason, 2015).

Sveinn Arason, the general auditor of Iceland, states that the Icelandic national audit Office can in their audits of government bodies only refer to their reports and provide guidance on best practices, refer to regulations such as the public procurement act of 84/2007 (Althingi, 2007). But it is not in their line of duty nor do they have the legal authority to enforce or punish the ones that do not follow proper procedures (Seljan, 2015b).

4. EXPLAINING PRINCE2

Prince2 is a process based approach for project management. It is a methodology consisting of processes that are structured sets of activities designed to accomplish a specific objective. Prince 2 controls that can be applied through the lifecycle of a project, additionally it takes one or more defined inputs and turns them into defined outputs.

Prince 2 can be used to identify roles involved in a project, tasks to assign to the roles and to identify when to start working on the tasks. The sets of processes and controls used by the methodology help to structure projects and to identify what type of information is needed throughout the whole project.

Prince2 is considered a de facto standard, developed and used extensively by the UK government (ILX Group, 2013). Moreover it is widely recognized and used in the private sector, both in the UK and internationally. It is free and publicly available, therefore users are not tied to any single organization for consultancy, training and support (ILX Group, 2013). It embodies established and proven best practice in project management, is a flexible method that guides through the essentials for running a successful project regardless of project type or scale.

Prince2 is originally designed for IT projects by the UK government (OGC, 2002, p. 1). It was originally based on a methodology called PROMPT II (Project Organisation, Management and Planning Technique), created by Simpact Systems Ltd in 1975, and adopted by the Central Computer and Telecommunications Agency (CCTA) in 1979, as the standard to be used for all IT projects for the government in the UK (OGC, 2002, p. 1). CCTA was later renamed the Office of Government Commerce (OGC). In 2010, the OGC best practice management functions was transferred to the Cabinet Office (ILX Group, 2013). Finally from 2014 the methodology has been maintained by a joint venture, Axelos, that is owned by HM government and the UK business outsourcing organization, Capita (Advantage Learning, 2014).

Although originally aimed solely at IT projects, the principles have also been applied to business projects that have absolutely nothing to do with IT, since the principles of planning and control are similar in most projects. This was further recognised in version 2 and the method was given a structure that made it much easier to use in general. So today it is suitable for all projects and not only for IT projects.

Currently Axelos, the controlling body of Prince2, is working on a new extension module for organizations already using Prince2 and would like further guidance on how to apply agile methods for project management (Graham, 2010).

Prince2 is considered a very robust, comprehensive and pragmatic project management framework, which underwrites project success. Existing features of the framework are ranked very high in mitigating perceived problems and issues. On the other hand, dominant factors that possibly constrain the success of Prince2 projects are not methodological but organizational, such as poor project governance, the inability of organizations to successfully introduce and implement the methodology and lack of project leadership (Sargeant, Hatcher, Bambang, Coffey, & Kraatz, 2010).

5. ANALYSIS - the Case Analysed According to Prince2 Theory

I started by investigating the case above as a whole and evaluating and comparing its visible project management features to a selected sample of factors from the Prince2 methodology (left column of tables 2 to 5). I choose those factors on basis of my own subjective judgement and the fact that together they outline the foundation of the Prince2 methodology.

The rating system used

I created a rating system based on subjectively assessing the case on basis of the aforementioned Prince2 sample factors. I assign a five point scale for the percentage estimations (zero to one hundred) to each factor of the case, based on how Prince2 compliant I subjectively estimated they are, based on the information that is available. The rating scale is explained in table 1. The results of the estimation are shown in tables 2 to 5, the case with its projects was evaluated as one unit.

Table 1 - Rating system based on % estimation of Prince2 compliance

Unknown (estimated 0% Prince2 compliant) equals 1 point
Unlikely (estimated < 10% Prince2 compliant) equals 2 points
Somewhat likely (estimated < 50% Prince2 compliant) equals 3 points
Likely (estimated 50-70% Prince2 compliant) equals 4 points
Highly likely (estimated > 70% Prince2 compliant) equals 5 points

This system was used in evaluating how well the case is compliant with Prince2 factors. The results of all the estimations are summarized for each table to be able to draw an overall conclusion how Prince2 compliant the case is in total.

This method presents a general idea on how the work procedures of the case where actually performed in comparison with Prince2 procedures and give an indication of improvements in the case, if Prince2 would have been applied from the start.

Prince2 Main Processes

There are seven main processes that provide the set of activities required to direct, manage and deliver a project in a successful manner.

Table 2 Prince2 main processes compliance in the case (Bentley, 2009)

Prince2 main Processes	Prince2 steps that could have been taken	Case rating
Starting up a project	<ul style="list-style-type: none"> • A clear project mandate set up in the beginning. • Executive ,and project managers appointed • Learn from previous, similar projects • Design project mgmt. team • Prepare business case • Select project approach • Plan initiation 	2 2 1 4 2 1 1
Initiating a project	<ul style="list-style-type: none"> • Prepare quality mgt. strategy • Prepare risk mgmt. strategy • Prepare configuration mgmt. strategy • Prepare communication mgmt. strategy • Create project plan • Set up project controls • Refine the business case and risk • Assemble PID document 	1 1 1 1 4 2 2 2
Directing a project	<ul style="list-style-type: none"> • Authorize initiation • Authorize the project • Authorize a stage/exception plan • Give ad-hoc direction • Authorize project closure 	2 2 1 4 1
Controlling a stage	<ul style="list-style-type: none"> • Authorize work a package • Review work package status • Capture and examine issues and risks • Review stage status • Report highlights • Take corrective action • Escalate issues and risks • Receive completed work packages 	2 2 1 1 1 1 1 1
Managing product delivery	<ul style="list-style-type: none"> • Accept a work package • Execute a work package • Deliver a work package 	1 1 1
Managing a stage boundaries	<ul style="list-style-type: none"> • Plan next stage • Update the project plan • Update the business case • Report stage end • Produce an exception plan (stage plan) 	2 2 4 1 1
Closing a project	<ul style="list-style-type: none"> • Prepare planned closure • Prepare premature closure • Hand-over products • Evaluate the project • Recommend project closure 	1 4 1 1 1

In table 2 the total score is only 66 of 205 points. The case is only 32% Prince2 compliant. That signals that in terms of Prince2 main processes, there is a large room for improvements in the case and a clear indication of wasted opportunities.

Management Products of Prince2

Prince2 maintains several management products during the life of a project that may be formal paper documents, MS Word files, informal notes, or oral communications. These products provide documentation and traceability of a project.

Table 3 Management products of Prince2 compliance to the case (Bentley, 2009)

Management Products of Prince2	Prince2 steps that could have been taken	Case rating
Project brief	Short explanation of the need for the project, the management team, the structure and goals?	4
Business case	Detailed description of the need for the project and its expected benefits?	1
Risk register	Table of risks that may threaten the goal of the project?	1
Quality register	Status of all quality checking activities?	1
Issue register	Notes about problems, complaints and concerns?	1
Lessons log	Notes of lessons learned?	1
Daily log	Diary about the project process?	1

In table 3 the score is 10 points of 35 available. The case is only 29% Prince2 compliant. That implies that in terms of Prince2 management products, there is a large room for improvements in the case. This is a clear indication that proper records management of projects in the case is not in place, and therefore increased risk on basis of non-documentation of vital matters.

Core Principles of Prince2

The foundation of Prince2 are seven core principles that the methodology is built on. These are the guiding obligations and good practices that determine whether the project is genuinely being managed using Prince2.

Table 4 Core principles of Prince2 compared to the case (Bentley, 2009)

Core Principles of Prince2	Prince2 steps that could have been taken	Case rating
Continued business justification	Update business case at every stage?	1
Manage by exception	Meetings only if deviation from plans	1
Learn from experience	Lesson log	1
Defined roles and responsibilities	Roles separated from individuals, individual may take on multiple roles?	4
Manage by stages	Project is planned in stages and controlled on stage basis	1
Focus on products	Work package is defined by one or more deliverable product	1
Tailored to suit the project environment	Taylor to specific projects – do not apply blindly?	1

In table 4 the score is 10 points of 35 available. The case is only 28% Prince2 compliant. That signals that in terms of Prince2 core principles, there is a wide room for improvements in the case.

Six Aspects of Project Performance of Prince2

Delegating authority from one management level to the next is made by setting tolerances against six objectives for the respective level of the plan: Cost, time, quality, scope, risk and benefits

Table 5 Six aspects of project performance of Prince2 compared to the case (Bentley, 2009)

Six aspects of project performance of Prince2	Prince2 steps that could have been taken/ (Questions asked regularly)	Case rating
Costs	How much?	2
	How effective?	1
	Is cost exceeding plans?	1
Timescale	How long?	1
	How effective resources?	1
	Allowances?	1
Quality	Is the quality right?	1
	Do you know what customer wants?	1
	Do you have enough time for that?	1
Scope	Are requirements known?	1
	Change control procedures in place (avoid scope creep)?	1
	Customer knows that changes mean added cost?	2
Risk	Risk reviewed at the outset?	1
	Risk regularly reviewed?	1
	Risk mgmt procedures in place?	1
	Risk willingness of customer is known?	1
Benefits	Valid reason for project?	4
	Does outcome fit strategy of organization?	1
	Are claimed benefits realistic?	3
	Before measurements of situation in place?	1

In table 5 the score is only 26 points of 100 available. The case is therefore only 26% Prince2 compliant. That signals that in terms of Prince2 six aspects, there is plenty of room for improvements in the case. And the projects in the case are not managed properly in terms of costs, time, quality, scope, risk or benefits.

On the basis of the Prince2 compliant scores of the four tables, there are clear indicators that the Icelandic government could be more Prince2 compliant and could therefore be performing much better on its IT projects. Possibly by encouraging the general, even mandatory use of Prince2 methodology within the public sector.

6. DISCUSSION

The analysis of the case reveals without a doubt that the Government offices of Iceland, could improve their operations by applying Prince2 without doubt, though financial gains cannot be measured directly. It's still good to keep in mind that there are also other factors that can affect public projects and have often caused controversy in our community, and it is not always clear on what grounds individual decisions regarding the projects are based.

Some criticism has been stated decisions are made on basis of political interests rather than based on scientific grounds, facts, logic or proven methodology, for example by Friðgeirsson (2014). Different phrases have been used to describe this topic such as optimism bias or planning fallacy resulting in inaccurate projections of costs, demand, and other impacts of plans causing major problems in project planning (Flyvbjerg et al., 2008).

Flyvbjerg et al. demonstrated that costs are underestimated in almost 9 out of 10 projects (2008). They also state that cost underestimation cannot be explained by only error and seems to be best explained by strategic misrepresentation (lying). The misrepresentation of costs is likely to lead to the misallocation of scarce resources, which, in turn, will produce losers among those financing and using infrastructure, be they tax payers (Flyvbjerg, Holm, & Buhl, 2002). So only implementing Prince2 would not eliminate structural flaws as we can see in the case above, however most likely improve the procedures.

What could makes Prince2 really appealing to the ministries is the structured approach to project management? In my opinion the strengths of Prince2 are the ability to manage projects within a clearly defined framework that describes procedures to control people and activities, design and supervision and adjustments if things do not

go as planned. Each process has key inputs, outputs, specific goals and activities. That helps to keep control of any deviations from the original plan. Prince2 is divided into stages that can be controlled, and allows control of resources such as human or financial. By monitoring the project it can be operated in an organised and controlled way. Management roles and responsibilities that are a part of a project are also described and capable to adapt to various complexity of projects and skills (OGC, 2009).

Even though success and failure in IT projects appear to be difficult to define, and while there is a consensus around the prevalence of project failure, new projects seem destined to repeat past mistakes (Dalcher, 2009). It has been noted in the case above that the absence of proper discipline, methods and standards in operating projects, results in failure of the projects. Things are bound to go out of control, and the mistakes will be repeated over and over again.

In general difficulties with IT projects delivery occur equally in the public as in the private sector. All the same, the public sector has specific issues to address such as long procurement times, 10 years in the case above, high publicity and media attention, the need for accountability and the issue of politics, which seemed to play a role in the case. The government, and taxpayers, should therefore have the incentives to adopt a method like Prince2 to assist in operating, often complex, IT projects.

IT projects have to deal with specific and ongoing issues, such as rapidly changing technology, difficulties in defining requirements and high complexity, that need constant monitoring and discipline. That means that tools like Prince2 are needed, tools that enable organizations to control the projects.

Today, like in our case, most IT projects are delivered by external suppliers, especially since IT departments of small governmental offices are often sparsely manned and therefore not equipped for highly specialized tasks and fast changing technical environment. So ministries, in order to survive in this kind of environment, need to become an intelligent client. That however requires special skills, such as to be able to scrutinize bids, keep up to date with technology, and be realistic about what the IT systems are likely to deliver. Furthermore The IT departments need to possess a framework, a methodology to control the technology, to be able to manage IT projects in controlled way that stands comparison to what is considered exemplary, such as the use of the UK government of Prince2.

Ultimately the case demonstrated the importance of including the final users in project development, from the beginning, not to wonder about it afterwards who was doing what for whom, like seems to be the case with the projects in the case above. The lesson seems to point to an urgent need of a mandatory project management procedures within the Icelandic public sector and certainly the need for a structured project management procedures like Prince2.

Nonetheless the methodology is not without flaws such as not directly addressing challenges such as, ethical issues and the possibility of political favors and corruption.

7. CONCLUSIONS

It would have helped the government officials in the case above to have had an advanced project management methodology to build their projects on and refer to and as a consequence, significantly increased the probability of project success. That would also give the opportunity to be able to monitor and control complex IT projects, under political pressure and with the cooperation of future users. In that case they could have stopped their contractor (Forsvar) in time, corrected them when they were going out of scope and of course consult with the users before accepting the IT systems, or not kicking the project off at all.

The IT industry worldwide, not only within the Icelandic public sector, has experienced a tremendous growth over the last 30 years but is still plagued by high rates of failed projects. After all the fundamental characteristics of IT projects are such that they will always be complex.

The opportunity for IT projects to go wrong is ever present. Failure cases are not only dominated by large and complex projects, but relatively small and poorly managed ones both in the private and the public sector. Often the IT projects are influenced by wishful thinking of politicians rather than realism of professional project management methods. As a consequence, millions of taxpayer's money have been wasted on failed projects, that don't deliver and nobody seems to be responsible for, and nobody seems to be learning from the experience. At the same time officials don't have the necessary tools, knowledge, training or methods to improve the necessary processes.

We have to keep in mind that projects are the medium which organizations use to transform their operations, to be able to survive, abide the law, be effective, efficient and carry out the public will openly.

By introducing and using Prince2 in IT projects for the public sector, institutions will be able to transform and survive. By the means of Prince2, IT projects are for the people that are predefined in each project on basis of the mature methodology, so they could be anyone, customers, politicians, government employees or the public. However they have to be defined in advance, as a part of a process, not afterwards.

Who IT projects are really for, is therefore by Prince2 methodology, answered in advance, right at the beginning, not the end, even allowing it to change over the lifespan of the project.

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