

Why IS Projects Fail? Some Finnish Aspects to the Global Phenomenon

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ABSTRACT: According to the literature and case studies of CxO Mentor Oy, roughly 70 % of information system projects are either failed or challenged. The analysis of 72 case projects made in this research shows that organisations make failures at all phases and in all tasks of the information system projects. Usually, the proximate problems are outcomes of failures in previous tasks (the ultimate problems) which make the finding of root causes hard. According to deep analysis, the major sources of the fatal failures in information system projects can be found in the beginning in the project: on the project preparation phase and in the first tasks of the following phases, or outside of the project: in the shortcomings in the leadership and the organisational issues. The paper presents correction proposals to these project-based and organisational shortcomings.

Keywords: IS Project, Project Approach, Business Case, Strategy Link, Project Organisation, Project Management, Business Development

1 INTRODUCTION

According to the media, information system projects seem to fail very often. Via these failures, the enterprises and organisations are losing a lot of money, resources and customers. Sometimes organisations seemed to lose something more valuable than money: the self-assurance. An organisation without self-assurance will postpone all development efforts and it will start them too late and probably without high-level targets. Unsuccessful projects aggravate organisations' competitiveness and therefore the successful of IT projects is an economic issue.

Mr Reino Myllymäki and Mr Toni Hinkka noticed late 2008 that customers' information systems have been proceeded too far before customers asked for external help for their projects. According to their experiences, the external help on a late phase may help organisations to terminate the project and get some results but it cannot change an unsuccessful project to success. Therefore, they decided to study causes of unsuccessful projects.

The first phase of the research work was the development of the framework. The first version of CxO Development Project Phase Model was sketched late 2008 in order to help locate project problems. After that, the collecting of stories about unsuccessful information systems started. Some stories were found in media and internet but the most of

stories were collected or deepened by interviews. All stories (N=34) were analysed by using the first version of CxO Development Phase Model. At this stage, the basic hypothesis (IT vendors are guilty due to eager operation on the implementation phase) proved groundless. The first results were published in a seminar of FIPA during May 2009. A lecture series as well as an article (Hinkka 2009) of Information Management Handbook were followed.

Since the results of the research were interested widely in Finland, the research has been decided to continue. The collecting of stories continued and the CxO Development Phase Model was developed according to experiences between late 2009 and summer 2010. Mr Reino Myllymäki analysed all existing and new stories (N=61 in all) against the framework and the results were published in a book (Myllymäki et al 2010) October 2010. CxO Mentor Oy has utilised the results of the research in the mentoring business to help customers but it has published the results openly in Finland and the collecting of stories has been continued. Mr Reino Myllymäki and others wrote a new book about how to ensure IS Project success (Myllymäki et al 2011) September 2011.

The number of case stories has been increased again. The analysis made for this paper is based on 11 new stories (N=72 in all).

This paper tries to answer three questions: 1. How often does an information system project fail? 2. Why does an information system project fail? 3. How to ensure the success of an information system project?

2 HOW OFTEN DOES IS PROJECT FAIL?

2.1 *When project is successful?*

According to the media, almost every information system project is unsuccessful. The handling of this kind of information requires that the terms “successful project” and “unsuccessful or failed project” shall be defined.

Basically the project is successful if it has been delivered on time, on budget and with required functions (The Standish Group 2009). This definition is very demanding: one day delay may change the status of otherwise successful project. Mr Kai Ruuska has stated (Ruuska 2010) that there should be a tolerance zone for time, budget and deliverables. The size of the tolerance zone should be the smaller the more familiar the implementation area is. For example, even 5 % budget overdraft has been acceptable (Panorama Consulting Group 2008).

On the other hands, the project is unsuccessful if it is not successful. However, “unsuccessful” and “failed” is not the same issue. According to The Standish Group (2009), the project is failed if it has been cancelled prior to completion or delivered and never used. Furthermore, The Standish Group classifies projects, which are neither successful nor failed to “challenged”: project results have been delivered but not on time, not on budget or not with initially specified features.

An enhanced definition for project success could be the following:

- The project is successful if it is completed on time (± 5 %), on budget (± 5 %) and with more than 95 % of features and functions as initially specified.
- The project is challenged if it is completed and in use but over budget (> 5 %), over the schedule ($+ 5$ %) and offers fewer (< 95 %) features and functions than originally specified.
- The project is failed if it is cancelled prior to completion or completed but never used.

2.2 *Failure rates in literature*

The Standish Group has presented (2011) IT project failure rates in Chaos Reports since 1995. According to Chaos Report 2009, the average cost overrun was 45 %, the time overrun was 63 % and the average delivered functionality was 67 %. The general numbers from the three Chaos Reports (2004, 2006 & 2009) are the following:

- about 35% of IT projects were successful
- about 45 % were challenged
- about 20% were failed.

Panorama Consulting Group (2008) has studied only ERP projects and according to their observations, 64.2 % of large organisations’ and 59,5 % of SMBs’ ERP projects’ costs were overran. Since they have handled only cost overrun and not time overrun or delivery shortcomings, the frequency of failed or challenged projects is probably higher than 60 %.

FIPA (The Finnish Information Processing Association) has studied IT projects in two annual studies since 2010. According to their studies, even 78 % of the respondents state that the outcomes of IT projects are corresponding to the plans (2010) but 55 % of the respondents state that the budget of an IT project overruns (2010) and 58 % of the respondents state that the schedule of an IT project overruns (2010).

Some other results:

- According to ISACA, 43 % of interviewed IT specialists stated that IT projects have been cancelled in their companies (Savolainen 2008)
- According to Peppers & Rogers Group, even 80 % of CRM projects were failed (Mäntylä 2007)
- 51 % of IT projects failed according to study of Robbins-Gioia 2001 (IT Cortex 2011)

According to these and other (IT Cortex 2011) studies, only about 30 % of IT projects are successful. The rate of challenged or failed IT projects is about 70 %. The larger the project the questionable the success is. According to the Standish Group, the success rate in big projects (> 10 M\$) is as low as 2 % but in small projects ($< 750,000$ \$) higher, 46 % (Kause 2008).

2.3 *Failure rates in construction business*

It seems that there is no research data in the literature about failure rates of IS projects in construction business.

2.4 *Some business viewpoints to project success*

Definitions made in the previous chapter are principally quite academic and the practice is different. In the practice, the scope creeps very often as well as the business requirements change during the projects (Lientz & Larssen 2006). That means that the initially specified requirements are not the final ones as well as the original budget isn’t the final budget. When business representants decide to increase needed features, they decide to change the budget. However, they do not remember that, and therefore the actual costs are compared with the original budget and a big overdraft will be reported and business people are dissatisfied.

Secondly, cancellation decision can be the best decision during the project history. With cancellation of

the project, the company save money that otherwise would be spent on the failed or challenged project.

Thirdly, the success of the project depends on how the information system fulfils business' and end-users' needs. If the system is better than end-users have expected or feared, no worry about small delays or too high costs.

Fourthly, business can be satisfied with project outcomes although the IT specialists are not. For example, IT specialists could know that the architecture of the system is complex and the system will be hard to adjust to future changes and same time business people are satisfied with the system.

Fifthly, IT vendors are not interested in customers' viewpoints. An IT vendor could report that project was successful even if the customer went to bankruptcy due to the project. The focus of IT vendor is on its own delivery, not on customer's business impact.

3 WHY DOES IS PROJECT FAIL?

The following observations are based on analysis of 65 case stories of failed or challenged IS projects. There were 72 projects in all but seven of them were not suitable for analysis.

The analysis based on CxO Development Project Model which is prepared in CxO Mentor Oy to auditing of IS and related projects. Via thoroughly analysis we tried to find not only proximate causes but also ultimate causes of failure.

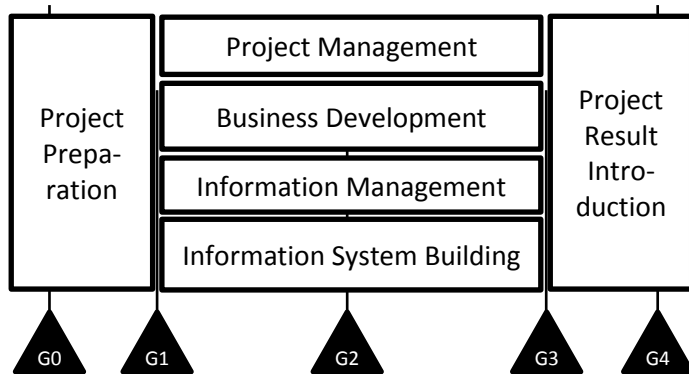


Figure 1. CxO Development Project Model on a general level

3.1 Do there be any problematic project phases?

The results of analysis show that the failure frequencies of project phases are following (N=65):

- Project Preparation Phase 98 %
- Project Management Phase 82 %
- Business Development Phase 75 %
- Information Management Phase 43 %
- Information System Building Phase 74 %
- Project Result Introduction Phase 29 %

The result was surprise. All analysed projects except one had remarkable failures on the Project Preparation Phase. Another surprise was that every project has several problematic phases.

3.2 Which are most important failure points?

The mapping of failure points on all project phases shows that the most important failure points are the following:

1. Architectural questions (internal and external) 57 %
2. The link between project and business strategy including the scope and the objectives of the project 52 %
3. IS implementation and testing 49 %
4. Vendor management 45 %
5. Existing and target processes 43 %
6. Project organising 43 %
7. Operational and technical definitions 43 %
8. Roles in project 42 %
9. Operation mode change planning 38 %
10. Operation mode & IS joint testing 38 %
11. Business Case 37 %
12. System integrations 37 %

In all, four of these 12 most important failure points (1, 2, 5 and 11) are on the Project Preparation Phase, three on the Project Management Phase (4, 6 and 8), two on the Business Development Phase (9 and 10), two on the Information System Building Phase (3 and 7) and one (12) on the Information Management Phase.

3.3 Other observations

When the study started early 2009, the hypothesis was that vendors are guilty of IS project problems. The study shows that customers seem to be guiltier than vendors are. However, 30 projects (46 % of case projects) with vendors' failures (vendor made fatal failures or have left significant tasks undone) are addressed.

In addition, some problems concerning relationships between business and IT organisation are identified. At least 21 projects (32 %) with problems between business and IT organisation are addressed.

3.4 Do construction IS projects differ?

Our analysed case stories consist of 65 projects from all industrial sectors as well as from retail business and public sector. There are in all ten (10) stories of unsuccessful IS projects from construction business.

The most dangerous failure points in Construction IS projects are the following:

1. Roles in project 80 %
2. Existing and target processes 70 %
3. Project organising 70 %
4. Vendor management 70 %
5. IS implementation and testing 70 %
6. Business Case 60 %
7. Architectural questions 60 %
8. System and vendor selection 60 %

9. Agreement negotiations 60 %
10. Procedures in project 60 %
11. Change request management 60 %
12. Operational and technical definitions 60 %

The construction IS projects do not differ from other projects very much. The following differences can be pointed:

- The Project Preparation Phase seems to be more problematic in construction industry. The failure frequencies of all 6 tasks on the Project Preparation Phase were at least 50 % and 5 (2, 6, 7, 8 and 9) of them were among these 12 most important failure points.
- The Project Management Phase seems to be more problematic, too. There were 5 tasks among top 12 failures (1, 3, 4, 10 and 11). The problematicity of project management was surprise since the construction industry is widely project driven.

4 HOW TO ENSURE IS PROJECT SUCCESS?

The success of an IS project should be ensured by internal and external support methods. The internal support methods focus on the operations of an individual IS project. External support methods focus on the development environment of the organisation as well as collaboration atmosphere within the organisation.

4.1 Focus on preparation of IS project

Since all of the unsuccessful case projects (98 % of all and 100 % of the construction projects) suffered from failures and shortcomings on the Project Preparation Phase, the short term focus should be on this phase. On the other hand, the root cause analysis leads to failures made at the beginning of the project. Some simple actions on the Preparation Phase to ensure the project success could be:

- *IS projects are business development projects.* Do not delegate them to the IT organisation. Keep the project ownership in the business and arrange the senior management sponsorship for the project.
- Since the big projects are more problematic than small ones, *limit the project scope* as small as it is possible. Plan the new operation modes and processes and define the objectives for the project.
- *Prepare a well-designed Business Case* for the project in collaboration between business and IT organisation. Include all clear cost items and estimate the unclear ones! A good practice has been the overestimating of unclear cost items by a factor about 1.3.
- Check that the IS is compatible with the existing *Enterprise Architecture*. If not, start the efforts

needed to change the IS architecture or the Enterprise Architecture or both.

- Find the information systems available on the market. The IS supply is changing continuously and possibility to find a turnkey system for common processes and industrial routines is growing. If even possible, *try to find a route to minimize the tailorings*. If tailorings are needed, limit them to issues needed for the competitive edge of your company.
- If the expertise of your organisation is non-existing in some areas, fix the situation by using external help. It is a good idea to make a health check for the project preparation before signing any project agreements.

4.2 Focus on beginning of project management

If the project takes a wrong direction in the beginning, it is hard to fix. Therefore it is important to pay attention to the first tasks of the project implementation: to the project planning, the organising and the definition of real business needs and requirements. Some further methods can ensure the success of the project:

- Establish *the Steering Group* for the project on the Preparation Phase. If this is not possible, ensure that there are in the steering group key persons who participated in the project preparation. Ensure that the project is important for all members of the Steering Group. Keep the chairmanship in the business.
- Pay attention to *the Project Manager*. Appoint an own Project Manager if even possible. It is more important that your Project Manager has the skills of project management than is an expert in your business. A good idea is to acquire a mentor to project manager. Remember that although the Project Manager is important, she or he is not any miracle maker!
- Arrange *the change request management*. Usually, change requests can easily produce a creeping growth of project scope. A growing scope causes budget overdrafts and schedule delays. On the other hand, negative change request management may cause resistance against the project results among end-users.
- Start *the Vendor Management* at the beginning of collaboration with the vendors on three levels: operative, tactical and strategic.

4.3 Establish company level functions to support development projects

The following seven organisational functions or issues can ensure or impair the success of development projects. It is a good idea to develop them in the long term.

1. *Strategies*. A good strategy is well-designed, clear and implemented. According to studies (Myllymäki & Dahlberg 2010) in Finland, only 25 % of CIOs participates in business strategy work.
2. *Project Portfolio Management (PPM)*. Since there is often lack of money and other resources, invest only in strategic and necessary efforts in addition to the forced projects (e.g. changes needed by changes in legislation). Include your CIO in the decision-making of your development projects. According to studies made in Finland (Myllymäki & Dahlberg 2010), only 42 % of CIOs participates in business development decision making in construction and related business.
3. *Project Management Office (PMO)*. PMO should at least follow and support projects in PPM but also deploy good project standards and project culture (Ross 2004).
4. *Business Case*. A well-designed Business Case justifies the project (Ross 2004) by assessments covering costs, benefits, risks and opportunities.
5. *Enterprise Architecture (EA)*. Enterprise Architecture is rather a collection of compatible selections than a model of company. From the viewpoint of IS project, the business architecture (processes) and the information architecture (Master Data, integrations) play an important role.
6. *Procurement*. Procurement details and curiosities in immaterial issues differ radically from construction materials and e.g. licencing terms would harm the company in the future e.g. in case of M&A.
7. *Leadership and management*. Establish company-level practical guidelines and follow the compliance with them. Support the collaboration between business and IT organisation.

4.4 Develop collaboration between IT and business

The project success requires a good collaboration between business and IT organisation. Do not delegate your development projects to the IT organisation but do not either progress without IT organisation! According to studies in Finland (Myllymäki 2011a) IT organisations feel that they are too much responsible for business. On the other hand, the *shortcomings in the leadership and the ownership of processes* were the most important barriers against collaboration between IT and business (Myllymäki 2011c). The next were *shortcomings in the project culture, the IT terminology and the ownership of Master Data*.

5 CONCLUSION

The failure rate of IS projects is very high (about 70 %). Via the failed and challenged IS projects, the organisations lose a lot of money, other resources and self-assurance needed to develop organisation.

The reasons for projects' unsuccess can be found in the preparation and beginning of the project. However, the root causes can be found outside the project: from leadership, governance and support functions of the organisation. The fixing of the shortcomings help the organisation success with IS projects.

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