



“Not sufficiently understanding what is not being understood”- Analysis of projects’ final reports in University of Helsinki

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Abstract

Professional project management practices require a final report to be produced by the project staff and approved by the steering group upon the conclusion of the project. The value of the final report depends on how this information is used and refined. If there is no clear process to utilize the information in final reports to benefit the organization, valuable opportunities to improve organizational practices are being lost. The University of Helsinki conducted an analysis of projects’ final reports to improve project management practices. The analysis revealed development areas in the University’s project culture, service unit cooperation, and the determination of the size of projects.

1 Defining the purpose behind project final reports

Final report of the project is a document usually prepared by project manager. The report aims to summarize the project in a form of brief explanation of goals, actions and achievements of the project. From the organizational long-term point of view, lessons learned during the project progress should also be included in the final report. However, processing and refining this information to improve organizational practices is often overlooked, which may lead to losing valuable opportunities.

Therefore, the purpose of the final report should be seen two-fold:

- 1) Self-understanding and self-improvement of the individuals and the project team participating in the project.
- 2) Understanding and improvement of the organization and organizational practices.

In University of Helsinki, it was concluded that our approach in the second point of view was lacking. There were no clear processes in place for refining the final report data towards the understanding and improvement of organizational practices.

2 Content of the materials and the implementation of the analysis

Project office of University of Helsinki prepared a data set of all projects' final reports registered in project portfolio between 1 March 2022 and 13 December 2023. The chronological delimitation is based on the goal of having enough data and that it would be recent enough to be useful.

The review of the final reports was centered around answers to the question "What should be improved and developed". This delimitation was based on the fact that a limited amount of work could be used to highlight observations that could yield a large benefit in relation to the work input, with respect to the future.

The data was collected from the final reports of 53 different projects, and there were a total of 140 answers. Several development areas could be mentioned in one response.

The analysis was carried out by manually categorising the observations by using the Atlas.ti software. A total of 16 categories were highlighted from the materials. After this, highlights from the contents of the categories were created for category summaries, and an analysis section was added for each one, containing reflections about the observations, with regard to commonly observed experiences and background information in project work. It was noteworthy that some of the category observations could be categorised under several categories. There were a total of 421 categorised observations.

3 Results

3.1 Schedule

The project schedule was mentioned as a development area mainly in the sense that the schedule would in one or another be too tight or insufficiently organised. In the case of one project, the schedule was seen as too loose.

Scheduling of a project in a complex, changing environment is challenging even for experienced project work professionals. One way to take uncertainties into account is to add a little extra time in the schedule in case some tasks fail.

However, part of the problem may be that the waterfall model-style project thinking still permeates projects that would be more efficient to build on the foundation of agile methods and agile thinking.

By using agile thinking, we can recognise that, when the uncertainty factors are significant, the corners of the project triangle (schedule, output, resources) cannot be locked in. If the schedule is critical, there should be flexibility as to the output. If the output is critical, there should be flexibility as to the schedule. If the resources are fixed, the schedule and output should be adaptable to the resources available.

As for the resources, it should be noted that adding them does not necessarily have an instant positive impact on the project schedule. For example, when it comes to human resources, onboarding new personnel in the project leads to either long- or short-term hindrances for the project. The expertise required by the project is also not always available, in which case procuring additional resources either from within or from outside of the University of Helsinki does not go as planned.

3.2 Customer engagement

In an information systems project, it is essential to make sure that the result matches the actual needs. The needs can be mapped from the customer base with the use of various information collection methods or preliminary surveys. In some cases, project experts have, in their practical work, formed a good understanding of what kind of result would best serve the need.

The project personnel's available time and competence are factors that are essential to successful customer engagement. One way to attempt to make sure that the project time and competence in this area are sufficient could be to more extensively purchase external consulting for the collection and analysis of customer needs. The amount and extent of required consulting is naturally dependent on the scope and complexity of the tasks and on how clear and accurate of an image the project experts have about the needs of the customer base in advance.

3.3 Procurement

Procurements carried out in projects are their own competence area that requires not only procurement process-related competence and professional skills, but also knowledge of the subject of the procurement. Remarks related to procurements were focused especially around framework agreements concluded at the University of Helsinki as well as taking the needs of other units into account in the procurement phase.

The followed development needs related to procurement were observed:

- In procurements made by independent organization units, the effects of the procurements made on the operations of other units should be recognised and the needs of the organization as a whole should be reviewed
- Adequate time should be reserved for procurements so that, for example, agreement terms could sufficiently meet the needs of the organization
- In procurement, possible future expansion of needs should be taken into account

3.4 Co-operation between organization's sectors

In cross-sector projects, there are issues centred around responsibility and the decision-making structure.

In the final reports, the followed problems related to cooperation between the organization's sectors were highlighted:

- Parties outside the project owner's sector are difficult to reach or commit from the perspective of projects that cross-cut unit boundaries

- In projects that cross unit boundaries in their implementation or output, there are at times uncertainties regarding who is responsible for which entity and through which process to promote decision-making that requires the commitment of multiple service units to a decision.
- Ownership was a point of uncertainty, or ownership could be difficult to assign accurately in matters that cross-cut unit boundaries

At the level of the whole organization, it should be mapped what are the mechanisms by which decisions across unit boundaries could be promoted and to communicate these channels to everyone. It would be important to create a mechanism by which responsibility would be shared between service units in new entities that cross unit boundaries, for example, when new legislation or decrees enter into force that regulate operations.

3.5 Follow-up

With regard to project follow-up, concrete measures were highlighted, the responsibility for which should be assigned to operators after the project. Situations were also highlighted where it was difficult to find responsible parties to promote the results of the project after the project.

The ending of a project creates a situation where it would be good if the results of the projects and the related responsibilities could be forwarded to the permanent organisation. Ideally, the permanent organization has a representation in the project to ensure and delegate the ownership of post-project tasks. However, this is not always the case, leading to the project's ending showing as a point of discontinuity in which an owner cannot be assigned for some of the tasks and responsibilities. A result of the project may also be the production of an operating model, in which case the implementation of the operating model should also be projected, or the responsibilities should be clearly divided up for the line organisation.

3.6 Quality assurance

Quality assurance was highlighted in the final report materials especially from the perspective of testing. In some of the projects, there was insufficient quality assurance either due to challenges related to the schedule of the project or because insufficient resources had been reserved for quality assurance.

With regard to quality assurance and especially testing, requiring the correct actions from the supplier or arranging it independently without testing expertise can be challenging. Ideally, organization could have a service that would help information systems projects in the planning of quality assurance and testing in the planning phase of the project and during the project.

3.7 Competence

A significant share of the development areas highlighted in the final reports were related to the competence of the project staff or organization.

Information systems projects require method competence, technical competence and substance competence from the project staff.

Determining the size and risks of a project appears a central problem, which partially explains the scheduling difficulties previously highlighted in this analysis. Determining the size of a project requires not only method competence needed for dividing up project tasks, but also understanding of the project substance, the organisation environment and technical aspects.

Technical competence in the project may become a challenge in that it may not have been possible to appoint or outsource sufficient technical experts. Without sufficient technical expertise, it is difficult to determine the size, duration or risk level of the project. In information systems projects, it is typical that the amount of work or its complexity turn out to be greater than expected. Project schedules should not be set too tight, and if there are many uncertainties, the project completion schedule should ideally not be fixed to external schedule factors.

In projects, it should be ensured that there is sufficient substance competence to highlight the business needs and perspective for the permanent organisation. If the budget allows it, technical competence could be outsourced, but this does not help to avoid the fact that the work input of the organization's systems specialists is also often more or less needed in order to meet the project goals.

Assessing the project's technical competence needs in the project planning phase would be important. Ideally, the organization could provide internal consulting in this area.

3.8 Steering the project

While development needs related to the steering group were highlighted with regard to the role of the steering group, the good operation of the steering group members was also praised.

In a project, the role of a steering group is to act as a decision-making party and remove obstacles to the project. Acting as a member of a steering group is a role that requires strong project competence. At times, there are situations where a person appointed to the steering group does not have a clear concept of the organization's project management model or the role of the steering group. In these cases, we can end up in situations where the members of the steering group may end up opposing the goals of the project or proposing actions that fall outside the goals of the project.

Situations in which the members of the steering group do not understand their role as a supporting function in the project are highly challenging. Ideally, persons with no competence in the organization's project management model or the role of the steering group should not be appointed to project steering groups.

3.9 Project delimitations

With regard to the project delimitations, in some of the final reports, the need for a clearer focus as well as delimitation that would support manageability were highlighted.

At the University of Helsinki, it has traditionally been practice to compile rather wide-ranging projects with regard to their goals and tasks. These projects have been aimed at, for example, saving administrative work required for starting and ending a project.

In practice, it would be good to divide a vast project that is difficult to manage into smaller chunks that are easier to manage. For example, the procurement and deployment of a vast information system could be made into separate projects. Specifying the steps of the project is also a good way to improve manageability and, at the same time, it could be considered whether the steps are of a suitable size for

one project or if they should be made into different projects. The general recommendation for the organization would be to try to start smaller projects that are easier to manage, instead of large projects that are difficult to manage.

3.10 Project resourcing

In some of the projects, the resourcing was lacking, which showed in the mentions of the final report materials. In these cases, lacking resourcing referred to human resources, with no mention of lacking budgeting.

The projects are often strained by the division of work between everyday responsibilities of the permanent organization and project work. A certain proportion a person's work input is usually allocated to the project, but it often ends up being the case that the responsibilities in the permanent organization also take away from some of the work allocated to project work. The final reports also have mentions of situations where there has been too little work input allocated to the implementation of the project. In turn, this often is due to assessing the work input required for the project as smaller than what is actually needed or the fact that the permanent organisation cannot truly let go of the work input required for the project, leading to cases where the work input is dedicated to the project in name only.

From the perspective of project management, the allocation of the correct amount of work is important, but equally important is to be able to narrow down the project goals during the project if a sufficient work input cannot be realised. The steering group plays a key role as a decision-making party in this respect. When the resources are insufficient, it would be necessary to be able to prioritise the project goals and let go of some of the goals, unless it is possible to get more resources.

3.11 Processes

Development areas related to process development were mentioned in the final reports, some of which also arise from the internal operating methods of the project. Ideally, at the start of the project, the planning of information system procurement would start with planning the processes that the information system should support. In practice, due to limited time, labour resources and competence limitations, process planning is sometimes left undone when procuring the information system. The share of process planning in the information system procurement phase should be increased.

3.12 Planning

Planning in project preparation has two purposes. The project goals should be as clear as possible whilst also being realistic. If the goals and delimitations are left too vague, the projects tend to too easily become wider in their scope, rendering the time or resources available insufficient for covering the new areas of focus. In determining the scope of a project, manageability should be sufficiently accounted for. On one hand, when a project is more wide-reaching, it becomes more difficult to manage goals, resources and the result. On the other hand, when a project is very narrow in scope, the risk is that it significance falls short of the target.

The scope and risk level of a project should be considered in relation to the time and resources available and the uncertainties related to the project subjects. Projects that balloon in size should be divided into smaller entities or tackled in stages.

3.13 Supplier management

Problems related to supplier management were emphasised very extensively in the final reports. One thing that was emphasised in particular was the difficulty of what to demand from the supplier in the tendering/procurement phase and what kinds of delivery exceptions should be prepared for in advance. Problems related to language barriers also lead to problems in projects: negotiations and the definition of things are difficult in situations where the negotiation language is neither party's native tongue. In the final reports, a situation was mentioned where the things stated by a consultant were not questioned in time.

Individual units of the organization should not be left too much on their own in carrying out challenging sets of procurements. It would be important to further try to strengthen procurement competence on the IT side. It would also be good to be able to compile the key agreement terms in one package.

3.14 Working methods in projects

In the final reports, various remarks were made in relation to working methods, such as the use of a ticketing system in organising project work. The remarks also entailed reflections on the use of agile methods in contrast to waterfall model-style operations.

At the start of a project, it would be good to identify a suitable method for organising the work. In smaller projects, the method can be a more free-form checklist, but in more extensive or complex projects, the use of a ticket system or similar method in organising the project work would appear meaningful. There are various task management tools on the market, which could be useful if the University of Helsinki had a recommendation on a task management system, for example, for kanban-style working.

The considerations between waterfall model-style working and the use of agile methods are also reflected here. When selecting a suitable method, it is important to tailor the method to the needs of the project. The relevant thing is to note that sprint-like working suited to complex tasks may be a challenging choice for projects with lots of dependencies overall.

3.15 Tools

The tools and working methods related to the project somewhat overlapped in this analysis. However, in this category, there was an attempt to highlight different services and applications that were mentioned in the final reports.

In the implementation of new technologies in projects, it should be made sure through things such as a testing phase or POC that the technology is adequately suited to the context of the organization and that the staff has been given opportunities to sufficiently adapt to the use of the technology before making a decision as to its use.

3.16 Communication

Mentions related to communications were numerous in relation to the amount of data. The were mentions about the project group's internal communications and communications with stakeholders, suppliers and project target groups.

In communications between sectors and organization units, the challenges would appear to be knowing how to communicate adequately and about the right things as well as finding the right sector contact persons and communications parties. Often in projects, communications turns out to be less than what could have been optimal. Project participants tend to have misconceptions that, when a set of people operating in the project are familiar with something, many others are familiar with the same thing at least to some extent. However, this is a misconception that should be taken into account when planning communications.

4 Conclusions

In University of Helsinki, the basis of IT-projects lies within agile thinking and methodology. However, the final report data shows that while applying the agile methodology, waterfall model -style project thinking still permeates agile projects. The nature of agile methods in relation to the waterfall model is not always efficiently perceived in decision-making. A set output in a set time frame is expected from agile projects, which is not how agile methods work. To be fair, it should also be noted that all agile methods are not suitable to all projects or tasks either, so discretion is advised in applying suitable methods to the task.

It is to be noted, however, that problems with agile mindset in the organizations are not unique to higher education sector. Obrutsky and Erturk (2017) describe concerns about loss of management control and concerns about lack of upfront planning along with a pre-existing rigid framework as agile barriers in commercial software industry organizations.

The organization units in the University of Helsinki have a high level of autonomy in their decision-making and operations. While this could also be perceived as a strength, it also produces problems between the University of Helsinki's organization units. Problems arise in the areas of procurement, communications and ownership. Procurements are at times conducted with a narrow mindset that considers only the needs of a single unit, without regard for the needs of other University units. With regard to communications, the difficulty is in recognizing operators and partners in other units. Some areas have problems in that it is challenging to assign owners for cross-unit operations at the organization and, consequently, parties and resources that promote the operations.

Information systems projects require method competence, technical competence and substance competence from the project staff. It would be important to ensure that all of these areas are sufficiently incorporated in projects. In agile software development projects, it would be important to find a product owner with sufficient subject-related substance knowledge.

Determining the size and risks of a project appears a central problem, which partially explains the scheduling difficulties previously highlighted in this analysis. Determining the size of a project requires not only method competence needed for dividing up project tasks, but also understanding of the project substance, the organisation environment and technical aspects. Bourne and Walker (2004) suggest that necessary project management capabilities to match the needs of the organization could be achieved through matching project management skills to appropriate projects and apprenticeship, coaching and mentoring.

Challenges in the balance between daily responsibilities of the permanent organization and project work were characteristic of the projects in the University of Helsinki. When a relatively small

proportion of a person's work has been resourced for the project, it happens easily that other daily responsibilities override the project work.

In a project, the role of a steering group is to act as a decision-making party and remove obstacles to the project. Acting as a member of a steering group is a role that requires strong project competence. At times, there are situations where a person appointed to the steering group does not have a clear concept of the organization's project model or the role of the steering group. In these cases, we can end up in situations where the members of the steering group may end up opposing the goals of the project or proposing actions that fall outside the goals of the project. Loch, Mähring and Sommer (2011) note that steering [group] members need to understand their role and the benefit they are able to bring to the project and that not every stakeholder needs to be represented in the steering group. The article also highlights the importance of clear decision structure.

Based on the compiled highlights as to development measures, the following are proposed:

- Ensuring that projects get the needed support for planning how the project will be seen through, selecting the right methods and determining the scope of the project
- Finding processes and forums that could facilitate the promotion of subjects that cross sector boundaries and finding ownership for these multi-sectoral subjects. Attempting to create a process through which responsibilities could be divided up for multi-sectoral subjects in the future.
- Avoiding the starting of highly wide-ranging projects that are hard to manage as one entity. Managing the whole by dividing up projects into smaller chunks and delimiting tasks, if necessary.
- Before starting application development projects, requiring that a product owner be designated for the project, with sufficient competence in the developed application's substance
- Ensuring that persons primarily appointed to the steering group are those who know the project model of the organization and understand the goals and delimitations of the project. New steering group members should be onboarded to organization's project model and their role and responsibilities as a member of a steering group.

5 Processing final report data in the future

Processing final report data was found important and the findings were seen as useful for developing the organization practices. Future plans include making this kind of analysis a part of the development work carried out by the project office annually.

There were four main stages in processing final report data:

- 1) Organizing the material
- 2) Highlighting observations
- 3) Forming categories and
- 4) Preparing and writing the analysis document.

Making the analysis in the described manner for the first time took about 5-10 work days. However, it is expected that if existing categories would be used as a starting point for future analysis in the coming years, it would streamline the process and provide opportunities for assessing the development of these areas over time. Also, it could be suggested that other higher education units could use the categories described in this document as a starting point for the analysis of their own data. With some refining, this model could be also used as a point of comparison between the higher education units.

One uncharted area lies also within generative AI. By using AI based solutions, making summaries of the final report data could be faster, although the quality of such method is still unproven.

6 References

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7 Author biography



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