Value of Project Management –a Case Study

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Abstract: - The amount of software has increased in several products. Software projects have become more complex and their management requires significant amount of skills from every project manager. The amount of available resources, strict budgets, cost control and need for accurate reporting and documentation as well as good quality are part of every project managers' life.

As business challenges project managers more and more it would be useful to know what areas of project management create biggest value to the projects. Value Engineering has been a usable method for developing high value products for several years. It has been applied successfully to software processes as well as to software product development.

This research analyses the value of project management using Value Engineering based value assessment. This is done in part by defining the concepts of value, worth, cost and in part by outlining the Value Engineering process with project management practices.

The practical industrial case shows that there is big variety in value between typical project management tasks. It also shows that value of project management tasks can be improved using value Engineering based value assessment.

Key-Words: - project management, software engineering, value engineering, worth, cost, value.

1 Introduction

The objective of the value-based approach [10, 11] is to find ways to eliminate value loss in software development, software products, and software process improvement (SPI) using the value assessment framework of Koskela and Huovila [6].

Value-based approach uses economic-driven tools, which are based on economic studies including, for example, the areas of cost estimation [1, 2], cost calculation (for example ABC and life cycle costing) and investment calculation. The value-based approach prefers calculating costs instead of estimating them, and also considers software development and SPI as investments, on which it is possible to spend too much money [3, 14]. In practice, it takes care that the customer requirements are met in the best possible manner, ensuring quality, timeliness and value in products as well as in processes, over their entire life cycle. In particular, the aim of ensuring quality connects it to the other methods aiming for quality improvement.

The value-based approach indicates a clear dependency between the process and products. It sees that we need to develop and optimize process activities so that processes produce the products needed. Furthermore, it sees that we must analyze products in order to reveal problems in processes and develop processes from the product point of view as well.

This is vitally important, especially for companies respecting customer opinions and aiming to optimize costs in their processes, because the customers are the ones paying for the products and product-related services, and companies have to allocate all costs to products to be able to price them. The happier the customer is, the more worth he sees in buying the products from us. It is also clear that when we know our process and product costs, worth and value, our ability to estimate, budget and control future risks will improve significantly.

The purpose of this study is to collect experiences of using value assessment to find differences in the value of project management tasks. In more detail the purpose is to answer to following questions:

- How the value assessment of project management tasks works in practice?
- Do project workers see it helpful for assigning limited resources?
- What are the strengths and weaknesses value assessment?

The main parts of this paper are constructive. Constructive research constructs new reality by using research results which have in part been presented before.

The state-of-the-art part of this paper advances the concepts, principles and practical methods of value-approach and value assessment. Since the author has also become familiar with the problem area, VE and other software process assessment methods, by implementing several value studies and industrial assessments, a basic discussion about the cost-efficiency characteristics is presented as well. As a result of the literature analysis, a value-based assessment method is presented in the study.

The developed method is evaluated in an industrial case, reporting the strengths and weaknesses found based on assessment reports and ensuring the reliability of the assessment results using several interviews and cross-checking them with written materials (for example process descriptions).

The results show that although there is still much to do in making the value assessment and approach complete, the value-based approach outlines a way towards a more comprehensive understanding of it.

Firstly, this paper discusses about the concept of value and Value Engineering –based assessment process which is used in case study.

Secondly, this paper discusses about the definition of project management to be assessed and thirdly about the existing possibilities to implement value assessment.

Fourthly, this paper presents experiences of practical industrial assessment which has been implemented using Value Engineering –based value assessment for assessing project management activities.

2 Value Engineering

Nowadays, VE methodology is widely known and accepted in the industry. It is an organized process with a history of improving value and quality. The VE process identifies areas in which unnecessary costs can be removed, while assuring that quality, reliability, capability, and other critical factors will meet or exceed the customer's expectations.

All published VE processes usually begin by describing the research topic in functions, and analyzing these functions. Creativity is necessary in order to generate new ideas for the possible replacement of some of the functions used. Evaluation addresses these new ideas, and development forms new function structures by replacing old functions with new ones. If the quality, cost levels and customer requirements defined and needed are still fulfilled, and unnecessary costs have been cut, value has been increased.

In practice, the improvements developed are the result of recommendations made by a multidis-ciplinary team representing all the parties involved in the subject studied, and led by a facilitator. Development ideas are systematic efforts to improve the value and optimize the life cycle cost of a function or facility. It is vitally important that the VE team has technical as well as cost-accounting knowledge. A wide range of companies and establishments have used VE effectively, to achieve their continuous goal of improvement in the decision-making process.

According to the all Value Engineering (VE) processes have similarities. Generally, they state that VE collects and analyzes value-related information, to create new ideas using the analyzed results and to evaluate and further develop them into a meaningful package, with the reduction of costs or the increase of worth and improvement of value as ultimate goals.

This study categorizes VE process into three main phases: pre-study (orientation), value study (information, function analysis, creativity, evaluation, development, presentation), and post-study (monitoring, implementation). These phases are considered appropriate since they constitute independent areas of VE and have been justified in earlier discussion [10, 11].

According to Value Engineering, value is a measure – usually in currency, effort or exchange, or on a comparative scale – which reflects the desire to obtain or retain an item, service or ideal. Cost is the price paid or to be paid. It can be divided into elements and, to some extent, functions. Park [12] defines cost as "an expenditure of money, time, labor, etc., to obtain a requirement." Worth is usually defined as the lowest cost to perform the required function, or the cost of the lowest-cost functional equivalent. The most typical definition for value is perhaps (1):

$$\text{Value} = \frac{\text{Worth}}{\text{Cost}} \quad (1)$$

where:

Value = The value of some object, product, service or process.

Worth = The least cost to perform the required function (product, service or process), or the cost of the least cost functional equivalent. If possible can also be the worth in money, what customer sees in product, service or process.

Cost = The life cycle cost of the object, product, service or process (price paid or to be paid).

If we consider worth in the formula rather often used definition for value has been: (2) [4, 5, 9, 10, 11]

$$\text{Value} = \frac{\text{Function} + \text{Quality}}{\text{Cost}} \quad (2)$$

where:

Function = The specific work that a design/item (product, service or process) must perform.

Quality = The owner's or user's needs, desires, and expectations.

Cost = The life cycle cost of the product, service or process

According to Value Engineering, Value is the most cost-effective way to reliably accomplish a function that will meet the user's needs, desires, and expectations. Function represents the work that should be done, and Quality represents the needs, desires and expectations for how this should be done. In other words, Function + Quality defines the Worth to the customer of the item in question. If the customer has higher expectations, the Worth is higher to him and if he has lower expectations the Worth is lower. As well as an increase in Quality causing an increase in Worth, increases in Functions have similar effects, because if the customer wants to list more work to be done with the product, the amount of Functions rise, which leads to an increase in Worth as well.

This also applies to the manufacturer's software processes. If the specific work that the process must perform increases, there are more functions and, therefore Worth increases. On the other hand, if the manufacturer's desires and needs for processes are at a higher "capability level", that process is of better quality, worth also increases. The increased functionality is same as increased amount of process practices, which are defining functionality for processes. In practice, if process model is used these practices are defined in the process model and if process model is not used, generally in each process description.

In practice, the customer (individual) is not necessarily interested in software processes and therefore it is not often worth examining the value of processes from an individual customer's point of view.

However, if the customer is, for example, inside the same company or business group (internal customer) or is another external company, the interest in the value of processes is higher. This is simply because within the company several different units can offer services or products to each other (internal customers) having at the same time strict business goals and different processes. One unit can design a product, another one can produce it and the last unit in the division can test it. It is even possible that a unit from another division may buy this product for use as a component in its own product. It is also possible that the customer (external company) may be buying for example, testing services and therefore has a strong interest in the capability and value of the vendor's testing process. One example of customers demanding a certain capability level and low costs from a vendor's processes are public sector customers in the USA.

In general, a product is often seen as an output of the use of processes. Therefore, it is possible to claim that it is not enough merely to assess processes; products should be assessed as well. This means that value should be examined from both points of view – especially from the product point of view, because this viewpoint is interesting to both the customer and the manufacturer.

In conclusion, it can be seen that value has a close relationship with cost. This is inevitable, because if more functions are expected to be performed with a single process, and expectations do not become lower, the costs of running the process will be higher. The same logic applies to software products as well. If it is expected that a software process should perform more work, the product costs become higher. If the expectations for functions – how the product should perform – become stricter, again costs will rise.

However, there is one significant difference between assessing processes and assessing products. This is due to the fact that customers tend to have clearer opinions about product worth than about process worth, because they buy products more often than "processes" or process services.

However, there seem to be situations where a customer (internal or external) is acting as a buyer of "processes" as well. When this happens the calculation of worth can happen using real worth as defined by the customer (using "wants and needs"), and when it does not happen, the assessed company should use the least cost as customer worth. This is simply because, finally, the customer is always interested in getting the process service as cheaply as possible, and least cost perhaps represents this customer point of view best.

However, if worth is defined using least cost, the criticism might be made that the calculated value index is therefore closer to cost index than value index. This is perhaps partially true, but always when calculating the value index, the company

should consider customer interest when defining worth, which does not happen if the company defines the "pure least cost" only from its own point of view.

In both products and processes, the value should also be calculated using the same life cycle, the same period of time. For a product it is easier to see the life cycle, which means the entire time that the product is defined, designed, manufactured and used by the customer. Product worth is calculated over the time the customer is using it and the product costs over the time the vendor has costs due to it. However, if it is not possible to calculate worth using customer opinions, the company should use least cost, defined using customer needs for functionality and needed quality level.

For processes, the concept of life cycle is more complex. What is the life cycle of a process? How long the process is used? Naturally, small updates in a process should not mean that the process is completely new and that the life cycle has changed, but if the tools used in the process have changed and the personnel do not know how to use the new defined process, the life cycle has clearly changed. In practice, the assessed company has to define the life cycle for a process based on these assumptions, so that worth and cost can be defined for a process and value can be calculated.

3 Project Management

In the industry companies have often a different kind of definition for project management. Therefore, for the purposes of this study it is useful to have a short literature review regarding the project management concept.

According to the literature there are several definitions for project management. Lubbes [7] has defined project management to be concerned of the entire software lifecycle. He sees that project management plans, controls, coordinates and leads all activities required to provide needed software involving both the buyer and producer of that software.

Merriam Webster [8] defines project as: a method worked out in advance for achieving some objective and management as: the act or activity of looking after and making decisions about something. Wikipedia [15] sees project management to contain scheduling, cost control and budget management, resource allocation, collaboration software, communication, quality management, documentation and administration.

Together these definitions outline rather well the nature of software project management. It considers all tasks during the software lifecycle. Therefore it is perhaps difficult to find one unique definition for it. It greatly depends on what kind of weight one wants to put to each task and how important one sees each of them.

For the purposes of this study the definition of Wikipedia seems to be usable. It highlights rather clearly the different aspects of a software project.

4 Four Possibilities for Assessing Value

In earlier discussion it has been shown that there are four ways to enhance a standard software process assessment using VE [10]. These possibilities vary and base on different kind of situations. Therefore, a assessor interested in of assessing value should be aware of existing possibilities for selecting the most usable one for his purposes.

The first assessment possibility includes an addition of defined VE process into the existing process models of used capability assessment method (for example in CMMI or SPICE). The recommendation is to define VE process as own process cluster so that it is possible to find out how mature the company is in Value Engineering process [10].

This first possibility is usable for assessors who are already familiar with capability assessments. This is because in this enhancement capability assessment is implemented normally and assessor has just added a new process cluster to it including VE process. Compared to all other possibilities this enhancement is perhaps the most different one. It assesses clearly the capability of a particular process and is not able to provide information of value in monetary terms. However, for people who are interested in of company's general capability of creating value this possibility is usable. As well this possibility provides information of value creation capability in relation to capabilities in other processes.

The second possibility covers Value Assessment for processes defined in used process model. The main idea of this enhancement is to run through all defined VE phases and as part of it calculate costs, worth and value for each assessed process existing in used process model. If company has implemented also a normal capability assessment, after Value Assessment it knows both value and capability of each assessed process and has a significantly better start for its process improvement work. [10]

There are mainly four reasons for this. Firstly, if the capability of the process is high, it will probably cause high product quality, and if the value is also high, the situation is under control, because the company is acting economically and is creating value and high product quality with capable processes.

Secondly, problems arise if a process's capability is low, which will also probably cause low product quality and if a process's value is low, the low quality products will not be produced economically either.

Thirdly, problems arise when the company is creating high quality products with high capability processes, which are not cost-efficient and do not create value either. In the long term this is not economical and will endanger the future of the company.

Fourthly, problems arise when the company is producing low quality products with low capability processes even if they would create value and be cost-efficient, because in the long term customers might not be happy about buying low quality products even if it would be economical to the company.

The third possibility includes Value Assessment for processes without process model. The purpose of this enhancement is to find out from company's own defined process descriptions all process practices which are then examined from cost, worth and value point of views using VE process. [10]

This possibility is highly usable for companies which are already tracking and monitoring their own processes. This is because it provides more information on value creation in these processes and process practices which workers are living through daily.

The fourth possibility includes Value Assessment of a product. This enhancement examines Value of product components and requirements and reveals value improvement possibilities in them. Partially, the product improvement ideas are reflected also to process development work, because in this enhancement, product is seen as an output of processes. [10]

The fourth possibility is usable for companies who are interested in of knowing which parts of their product create the biggest value. It forms a usable basis for cutting costs and improving worth in product structure. According to recent research results it can be used in assessing for example the product requirements, architectures and design.

5 Case study method

The research method used in this paper is a case study. Typically, a case study is an empirical inquiry that meets the following criteria: (Yin 1994, 13)

– It investigates a contemporary phenomenon within its real-life context, especially when

– The boundaries between phenomenon and context are not clearly evident.

In this study, all three assessments were implemented with real-life data. During the assessments, the assessor read several documents and guaranteed the findings using several interviews with different people.

Typically, in value assessments, the assessor also organized teamwork sessions to find value improvement ideas, and to evaluate and develop them. Since the boundaries between value assessment phenomena and assessment context were not in every detail evident, the presented case is reported as it happened. This perhaps also helps in keeping to the real-life context and in drawing conclusions for each defined phase separately.

Methodologically, the applied research method can be understood also as case, because the inquiry: (Yin 1994, 13)

– Copes with the technically distinctive situation in which there will be many more variables of interest than data points, and as a result

– Relies on multiple sources of evidence, with data needing to converge in a triangulating fashion, and as another result

– Benefits from the prior development of theoretical propositions to guide data collection and analysis.

Selected case company represents normal software company. It operates in international software markets with several offices in other countries. Selected company produced products using a project organization which was managed by project managers. If they were not able to make necessary decisions, problems were solved at director level.

Case study was organized so that it was possible to draw some individual conclusions from each of interview and gather experiences concerning all proposed assessment enhancements separately.

Especial interest was seen to find out differences between management and worker opinions. As many software companies are perhaps not very mature it was also estimated that some differences can be found between the technical and economical personnel. This was assumed because in more

mature businesses the importance of business calculations is often seen as more important.

6 Value Assessment for Software Project

Value Assessment for software project management tasks was implemented in summer 2008. It was based on several interviews implemented in large international project. Together with the interviews several documents were analyzed during the assessment, including for example, strategy definitions, project-, testing- and quality plans as well as different financial statements, principles and reports.

In relation to the earlier presented possibilities for assessing value this possibility represents the third option. It bases on the idea that company has itself defined a process structure for project management process. This structure includes all practices what company sees usable in project management. In assessed company there exists also a large consensus on the content of each process practice.

6.1 Information

The project assessed was a project developing an electronic product containing software and hardware. Project included both vendor and customer. The implemented assessment was supported and sponsored by the vendor's and customer high-level management.

In the assessment opening meeting, the purpose of the assessment was discussed with the vendor and the customer. The definition Value = Worth/Cost was discussed, and it was seen as important to find out which tasks of project management gave the best value to the vendor without neglecting customer needs.

Both vendor and customer considered natural the project management tasks defined (scheduling, cost control, budget management, resource allocation, collaboration software, communication, quality management, documentation and administration) In the assessment, defined tasks were discussed for ensuring that all interviewees understood them equally.

The vendor emphasized that as the assessed project was mainly implemented to its' personnel it would like to undertake the phases from creativity to presentation without the customer being present, since these phases included brainstorming to gain a new understanding of all the most efficient way of working in their company.

The customer saw that the most interesting phase for them was functional analysis, where both sides would prioritize tasks related to project working and give estimates of worth and cost using relative numbers like percentages (not stating real costs). The customer understood all wishes of vendor and saw that they did not have a strong interest in development of working tasks as it also is more difficult also for designers and managers to speak about the problems when customer was present.

6.2 Function Analysis

In the first assessment meeting four customer representatives (referred to as "customers") and ten vendor representatives (referred to as "vendors") prioritized the project management tasks. Afterwards, the customers allocated worth to each task using a percentage scale from 0% to 100%. The idea was to identify in percentages what kind of worth the customer sees in the project management tasks.

The vendors allocated costs using the same percentage scale from 0% to 100%. As a result of this, the customers had given worth percentages for all tasks, and the vendors had given cost percentages for the same items. The calculated worth and cost were later compared, using percentages, to the real worth and cost, to find out the difference between "belief" and "reality".

During the function analysis phase the discussion of project tasks was alive. Common understanding of project management tasks and their importance seemed to be an interesting topic. All interviewees had an opinion of what is important and what is less important. It was rather easy to see that depending of the background and responsibility in the project, opinions varied. However, all tasks were seen necessary in successful project management by all interviewees.

All the interviewees agreed that the prioritization of tasks clearly helped in the next phase, in which the same tasks were analyzed in terms of worth and cost. When asked to mark how much worth they would assign to each task, the customer representatives preferred to use percentages rather than actual monetary values. The vendors shared this viewpoint, and stated that it was easier for them to give cost information in percentages rather than in actual figures.

The customers found it easy to assign worth to tasks.. The vendors also considered it easy to assign costs to tasks. Both sides emphasized that tasks are easy to understand because they are based on common discussion and defined concept of each task.

The results of task prioritizations were understandable and expected among the customer and vendor representatives. Slight differences existed, and these were discussed thoroughly. The customer found differences between how their technical and business oriented personnel saw tasks.

The vendor also found differences between the project management's and the technical personnel's comments. It seemed that the amount of technical knowledge gave more logical reasoning for understanding the implementation of tasks. By comparing the customer's and vendor's averages it was also possible to identify some significant differences between their respective priorities.

One conclusion of discussions was that worth and cost allocations for all tasks were seen as relevant for both sides, even if only stated as percentages. According to customer they also had their own idea about the actual costs of project management, and since they knew the worth they were satisfied for the situation. Figure 1 presents the average worth and cost for project management tasks.

On the whole, the experiences of using prioritization in ranking project management tasks were positive. Even more interest was seen in the analysis of worth and cost for each task, and especially in the differences identified between customer and vendor, as well as between technical- and business-oriented personnel.

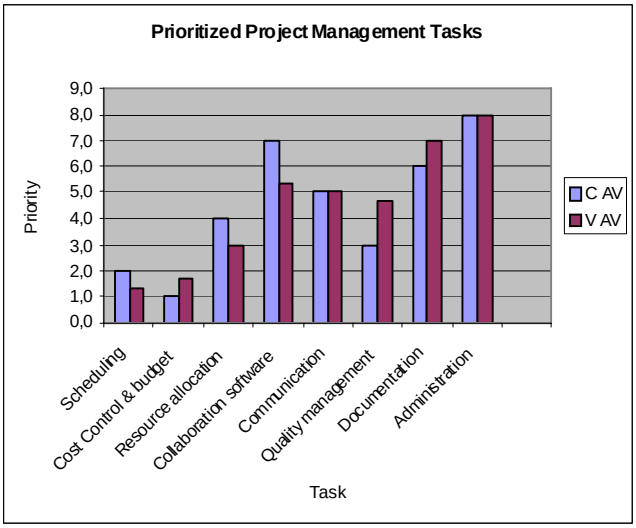

Figure 1: Prioritized project management tasks including all interviewees (AV=average, C=customer, V=vendor)

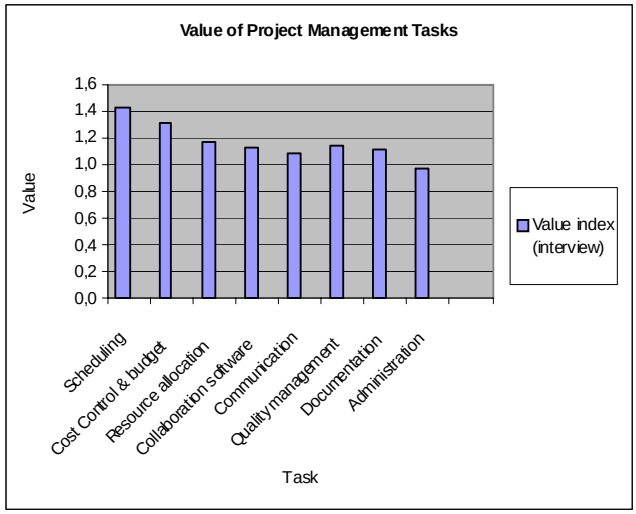

Figure 2: Average worth and cost for tasks including all interviewees (AV=average, C=customer, V=vendor)

6.3 Creativity

In accordance with the agreement between the customer and the vendor, only the vendor participated in the phases from creativity to presentation. The first step in the creativity phase was to allocate costs to all project management tasks. According to the vendor it was easy to allocate costs to the tasks. General costs were perhaps the most difficult costs to allocate. This was because costs such as the director's salary usually cannot be allocated directly to any particular project or project task.

After cost allocations had been completed, the project team started brainstorming. The vendors evaluated priority lists, figures, and worth and cost calculations for all management tasks. All personnel were encouraged to explain how they would improve value at project management. According to their comments, clear figures helped a lot in understanding where the most significant differences in value existed. Based on the figures it was noted that certain tasks did not create good value. After discussion of this, the project members shared the opinion that this was because of the unfinished project. This had an influence on the entire project and thus created significantly higher costs.

Project members could also see from the charts presented how time-consuming it was to start using new technical environments, without good planning. The new technical environment delayed the implementation tasks significantly. New technical challenges, such as developing software for multiprocessor environments, were also named as

one reason for delays. This was because project personnel did not have sufficient training in working in the multiprocessor environment. As a result of all the problems mentioned, working hours were about 15 % higher than expected.

6.4 Evaluation

At the beginning of the evaluation phase the project team discussed criteria for the evaluation of improvement ideas. The criteria decided on were team spirit, profitability, time to market and quality. Firstly, all the project team members were asked to give a relative percentage (max 100 %) for how important each criterion was for their project. Secondly, project personnel calculated averages for all the criteria. The calculated averages were as follows: team spirit 20 %, profitability 30 %, time to market 30 % and quality 20 %.

After thus defining the weightings of the criteria, the project personnel gave points to each improvement proposal on a scale of one to four, where four indicated maximum points and one, minimum. The points allocated were multiplied by the calculated weighting percentages.

The project team discussed these results. The most surprising result was that the importance of the quality was the lowest among all criteria. Problems in project planning were expected. Estimation and multiprocessing got the least points, so their importance to the project was not considered to be as high. The more business critical the project would have been the more weighting the profitability criterion would have got.

The impact of risks was calculated separately so that risk discussion was not influencing to content discussion itself. Based on creativity phase project members evaluated that there is 50% likelihood that costs are overrun by 20 % due to the need of working overtime so that all tasks would be implemented.

Project team also evaluated that based on the earlier experience there is 40% likelihood that 20% extra maintenance work is needed due to the quality problems when product is given to the customer. This risk was also taken and company prepared to keep original timetable and reserved more maintenance resources for the next month related to the product delivery on agreed time to market.

6.5 Development

In the development phase, the biggest improvement ideas were separately developed further, in order to examine their practical implications. Each idea developed included issues such as description, positive consequences, negative consequences and potential cost savings.

The project personnel stated: “It has been difficult to work in an international project without a detailed project plan.” Several project phases have suffered from this situation. There had not been enough time to review results, which can be seen in the presence of several incomplete plans. The project team calculated that if there had been time to make proper more comprehensive plans and reviewing them, the project would have been 900 working hours shorter. The potential cost savings would have been about 91 000 €.

At the moment, the ability to use the existing characteristics of technical tools is weak. The use of pre-existing components is also rather poor. The result is that code has to be written from start to finish each time. The project group evaluated that if basic components for development work had existed, 510 fewer working hours would have been required. If there had been sufficient technical training concerning the new environments (dotNET and ATL 7) for key personnel, 430 fewer working hours would have been required. In total, the potential cost savings would have been approximately 92 000 €.

From a project management point of view, it is problematic that all the employees are always assigned one hundred percent to a given project. As a consequence, there is not enough support available if needed, and “the wheel is invented several times in different projects.” The project team evaluated that with satisfactory support in evaluating the architectural plan, the design plans, and the extra need for time in starting to use new technologies, 600 fewer working hours would have been required. In financial terms, this would have meant a saving of about 63 200 €.

6.6 Presentation

The results of the value assessment were presented phase by phase to the high-level management. The project team supported the presentation by giving brief comments. In the presentation, a clear emphasis was placed on presenting customer needs and wants, and the corresponding costs to the company. The value indexes were used to outline the existing value-increasing opportunities. The potential cost saving proposed was approximately 33 % of the project’s budget.

The impact of risks if realized was considered to increase costs by 19 %. Top management took this impact seriously as it was a significant for value and profitability.

After the presentation had ended, the management wanted to discuss the value improvement opportunities and risks with the project personnel. Some improvement ideas were implemented and some were developed further; others were postponed due to lack of resources. As a whole, the assessment strongly emphasized collaboration between the customer and the vendor, and all the improvement proposals were in line with the customer's interests as well. The calculation of risk impact was considered seriously as all participants understood that in the worst case designed product would not be profitable anymore if all risks would be realized.

All customer and vendor representatives considered value assessment an interesting method for the development of management processes capability and value.

7 Conclusion

The purpose of this study was to answer to the following questions:

- How the value assessment of project management tasks works in practice?
- Do project workers see it helpful for assigning limited resources?
- What are the strengths and weaknesses value assessment?

Question 1: This study proposed a Value Engineering -based assessment method for finding out value in project management activities. Based on the findings of the industrial case proposed assessment method was considered to be in place. It provided a possibility to assess value in a company. The process used for the assessment was in place as well.

Question 2: Project workers saw assessment results useful for assigning limited amount of resources to more value containing activities. They also told that the assessment phase related to the improvement part of the assessment (creativity to development) was useful for their purposes for improving value.

Method revealed differences on how technical and financial personnel prioritized project management activities. As well it showed that in some areas project workers and management can have different kind of opinions of value creation.

Question 3: The used value assessment method seems to be usable for finding out value in project management activities. It also seems to give a good starting point for cutting costs and increasing worth of project management activities.

However, as this study is based on only one industrial case it might be too early to draw complete conclusions on the usability of the method in different kinds of projects.

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