Increased customer value by improved project structure
- a study of change management in the building trade

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This article is based on a master thesis written at the Department of Industrial Management and Logistics, Lunds Tekniska Högskola, in autumn 2007. The purpose of this thesis is to make it possible for Prolog Bygglogistik AB to additionally increase the customer value in their projects by improving the project structure, based on identified key factors.

BACKGROUND
A new way of thinking is slowly emerging in the Swedish building trade. Its participants understand that you can increase the profit and the customer value in the projects, by making the building process more effective. However, the knowledge of how this change management will be carried out is not as big as the actual will to do it, which results in really slow processes.

Prolog Bygglogistik AB is a consultancy firm that mainly works with bridging and eliminating the building companies lack of knowledge considering change management. To increase the customer value in their own projects, Prolog now wants to improve their existing project structure and identify key factors which affect a project’s final result. It is important that the project structure looks the same in every project, at the same time as it must be flexible so that it can be adjusted to a specific customer or project.

IDENTIFICATION OF PROBLEM FACTORS
By carrying out interviews with the employees at Prolog and represents from some of their customers, eight different key factors in projects were identified. These factors, according to theory about project management, turned out to be vital for whether a project is successful or not. The factors have been linked to the different phases in a project, see fig. 1.

Figure 1. Project phases

Preliminary study
The first phase is the preliminary study, during which time frames, communication, analysis of the present situation and risk analysis are the key factors that have been identified as problematic.

Time frames in Prolog’s projects are today considered as unclear, and the reason for this may be that the time for decisions in the building trade often takes a long time. The result of this is that Prolog then enters the project in a late phase, which is not healthy for the work that is to be carried out. This is a problem that both Prolog and their customers have taken notice of. It is hard for Prolog to maximize their value to the customer when the right conditions are missing. Also, Prolog suffers a monetary dilemma when there is a dislike from the customers to pay for the time that Prolog dedicates to a project, before any firm decisions about co-operation are made.

The authors have come up with two solutions to this problem, regarding time frames. For starters, Prolog must initially state that time, spent before the preliminary study, will be charged if there will not be any further cooperation. This should put some pressure on the customer to come to a decision faster than normal. The employees at Prolog should define time frames for each phase in a project, so that all time that is spent on a project generate a good value. The time frames can be based on resources, the risk analysis and the possible value that can be generated.

Communication is a problem that have been noticed mostly by Prolog’s employees. They
are missing a person at the customer company, appointed to be the receiver of information that is sent out. Prolog has also identified that the customer sometimes have insufficient knowledge and engagement, which is factors that work as interference in the communication.

The communication can be improved by visualizing the activities in a communication plan. The plan gives information about how and when there will be communication, which makes both Prolog’s and the customer’s work more easy. Also, it clearly shows when there is a deviation from planned activities and action can then be taken. The gap of knowledge between Prolog and their customer should be given a high priority initially to avoid misunderstandings. Insufficient engagement from the customer can be solved by appointing a project manager with a true and genuine interest in change projects.

**Analysis of present situation** is missing in almost all the projects that has been looked into. This factor has a great influence on the following factors, for example formulation of goal and risk analysis. Unfortunately, this does not seem to be a problem for the customers, since they do not see the importance of making an analysis of the present situation. The customers only see this factor as a large cost and want to reduce it by eliminating the analysis, which Prolog so far have agreed to do.

To improve this key factor, Prolog should demand that an analysis of the present situation is done before the start-up. If the customer already have a current analysis, Prolog should use this if all relevant facts are included. In case of the analysis being incomplete, Prolog can just complement with the missing parts. To sum it up, it is very important for Prolog to point out to the customer why this analysis is som vital, for example so that a valid goal can be formulated.

**Risk analysis** is only made varbally and does not have a clear structure at Prolog today.

In the future, the risk analysis should be a natural part of the daily work at Prolog. The employees at Prolog should all be involved when creating the structure for the risk analysis, so that it becomes naturally for everyone to work with it. The accomplished risk analyses should be stored in files and be available for everyone to look at.

**START-UP**

The next phase is the start-up and a project manager must be appointed and a formulation of goal should be done.

**Project manager** is appointed in all of Prolog’s projects. This person is then supported by two other people, which is an element that is appreciated by both the customers and the employees at Prolog. However, a project manager is often not very clearly appointed at the customer’s company which brings problems to Prolog’s work, because they do not know who to contact. This affects the whole project in a negative way, which then, in the end, gives the project a worse result than expected.

To strengthen this factor, all projects should have two project managers, one at Prolog and one at the customer’s company. These are responsible for the communication with the opponent and for the follow-ups of time and costs.

**Formulation of goal** in projects is often suggested by Prolog themself and then the customer just gives their approval. Unfortunately, the goals are mostly visionary and unclear ones, which makes it hard to prove firm results. Both Prolog and their customers agree on the fact that the goals have to be more concrete, and that this is one of the biggest problems today.

To come to terms with this, the goals that are formulated must be clear and measureable, otherwise a co-operation between Prolog and the company is not to recommend. The goals should be formed by the customer, with some guidance from Prolog. This forces the customer to deeper reflections of the project and hopefully they get a clearer view of what they want Prolog to accomplish.

**IMPLEMENTATION**

The following phase is the implementation. During this phase it is of great importance that the management shows engagement, which is a factor that often is missing. Focus has hence been on analyzing the management engagement in change project like the ones Prolog run.
Management engagement is often there initially in a project, but is missing in the implementation phase, which reflects clearly in the project’s final result. In the projects where the management has shown engagement, the co-operation with Prolog have been successful and the result has been sustainable. Without engagement the projects have been considered as strains and the results have come to nothing.

Figure 2. Management engagement

To get the management more engaged to the project, Prolog should, before the cooperation is started up, show the connection between successful results and management engagement. Throughout the project the management should, for example, participate in meetings every now and then. If it is very clear to Prolog that the management would not be engaged to the project, Prolog should consider whether they think they can make the project successful or if they should let it go.

CLOSING
In this last phase, the authors have noticed flaws in feedback, both in Prolog’s own organization and in their projects.

Feedback between Prolog’s employees is at present defective, although there is a structure for how it should be carried out. In the projects that Prolog are running, only simpler form of questionnaires are handed out, and these are mostly about the projects structure and result. Both Prologs and their customer say that the reason why feedback often is neglected is that it takes too much time.

The authors suggest that Prolog’s employees create a simple structure for feedback, which can be used without being too time consuming. The feedback questionnaire in the projects should be complemented with a final meeting, where representatives from all involved parts are participating and discussing the results. Also, the feedback should not only be about the results that have been created, but also about the cooperation between Prolog and the customer.

SUMMARY
In this final chapter, the authors give a summary of how Prolog’s project structure can be improved. A spider diagram is to be seen in fig. 3, and this clarifies which level Prolog is at present and which level the authors recommend should be a goal for the future.

The authors have chosen, only to rise the level two steps as a maximum, so the changes should not be unreachable and too hard for Prolog to accomplish. In spite of this, Prolog should always strive for continuous improvements and some day all these key factors should reach a really high level.

Prolog’s employees are considered as keenly alive by their customers, who appreciate Prolog’s flexibility. This flexibility must however, according to the authors, not go to extremes and result in that Prolog abandon their project structure and original product. Therefore it is suggested that Prolog’s projects assign a more distinctive structure, where demands on a number of key factors are made. The authors are of the opinion that Prolog should not enter a new phase until the factors within the progressive one have been taken into consideration and given the priority required to ascribe the project ultimate conditions.

![Diagram of Prolog’s potential to change](image)

Figur 3. Diagram of Prolog’s potential to change