

REVIEW PAPER

## Project management systems in agriculture in the northern great plain region of Hungary

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### Abstract

The modern production, processing and trading of agricultural products require the adaptation of newer technologies. Not only the larger enterprises, but even the members of the SME sector are looking for employees with knowledge and practice in project management in a growing number. This is also due to the emerging number of projects. During our research we were trying to get a full-scale view on the topic of Project Management in the Agriculture. Our goal was to find out with the help of primary and secondary processing of survey-databases which skills and abilities an agricultural project manager needs, and what range of methods he/she usually uses.

Key words: project management, agriculture, PM tools, education

### Introduction

All actors of the economy inclusive the agriculture has to face even more difficult and complex challenges in their daily routine nowadays. Remarkable, that although the success of a project has great effect on the financial results of the enterprises, many try to save on the managing of these projects.

The Faculty of Agricultural Economics and Rural Development of the University of Debrecen has a strong connection to the agricultural and food industrial enterprises of the region, and works with them on the execution of some of the projects. The cooperation is present at the fields of consulting and specialist training. Regional enterprises employ several students who studied project management as well. Furthermore, the faculty organizes specific trainings in project management to give the opportunity to the practicing managers to improve their knowledge.

We set it out as our goal of this research to identify the needs of development, and to expand the teaching material of our trainings. To reach this goal we tried to get a full-scale view on the topic of project management in the agriculture. We were attempting to find out which skills and abilities an agricultural project manager needs, what range of methods he/she usually uses, and the effectiveness of the already realised projects.

### Material and methods

In our research we used the data of several public databases (secondary processing), and data that originated from the analysis of our own survey answers (primary processing).

The survey took place in the summer of 2008 with the help of survey interviewers. The list of questions used in this survey was based on the earlier survey sheets of the Department of Management and Marketing, and we also took in account the works and advices of

Babbie (2003), Scipione (1994); Lehota (2001) and Malhotra (2001). The target of our examination were agricultural and food industrial SMEs. The sample we took was chosen randomly from the official list of regional SMEs; however, we interfered at the end and included some more enterprises to ensure a larger scale of variability of production profile and company size. The majority of the interviewees were an executive, a head of a department involved in project management or a project leader in his/her enterprise.

Our financial and time limits allowed us to analyse the data of 80 agricultural and food industrial SMEs. This survey is far from being representative; nevertheless, comparing the results with the national data gives opportunity for another level of examination in the region.

## Results and discussion

The number of projects has increased or at least not changed in the last 12 months. Parallel to this, the number of employees working in the field of project management also increased.

The most frequently project types are: investments, product development, R+D+I, IT-related improvements and process improvements. Most of the enterprises finance their project from their own assets; however, the rate of tender-funding is also important.

As the experience shows in average only one half of the project make it to the final stage on time and stay inside the original budget. The top 5 causes for a project to fail:

- insufficient planning and preparation,
- lack of know-how,
- environmental changes (volatility),
- changes in the leader's concept,
- exceeding the available resources.

According to the given answers the additional costs and/or the opportunity costs connected to failed projects were less than 5% of the yearly revenue. Eventually the unknown additional costs could be extreme high.

The most of the enterprises work with full-time project leaders, who have yearly 3-4 parallel projects in average. The majority of the interviewees were satisfied with the work of their project leaders. They find PL's knowledge and experience sufficient, but the range of methods they use could be wider and should be improved.

The following project management functions are done with their leading:

- project planning,
- project organising,
- project coordination,
- project leading,
- project monitoring and controlling.

In the most of cases the project managers have a degree matching the profile of the enterprise, or a degree in economics/business. Their knowledge of project management is based on their autodidact learning and they have some years of practice as well. The majority of the interviewees emphasized the importance of continuous training. From their point of view the trainings with the adequate level and quality are worth their costs, the gains of these trainings are also in the financial balance noticeable. So they find these trainings indispensable.

The project leaders have in average 6 co-workers available per project. These colleagues work in frame of a traditional or a matrix type of project-organization. Although the

project leaders would be interested in establishing project management offices (PMO), only 25% of the enterprises in the survey had the benefit of such.

The PMOs can effectively help out project managers on the fields of administration, coordination and controlling.

Despite the interviewees' mixed opinion about the project management offices' present performance in their own enterprise, most of them had a very positive statement about the usefulness of a future competent project management office. The results pointed out, that those enterprises where there is a PMO, have a better efficiency with their projects – independent from the real functionality of the office, and from the type of PMO working inside the enterprise.

A smaller fraction of the interviewees take the project management as an external service. These enterprises are typically smaller in size, and have fewer employees and smaller revenue than the average. Among the most commonly taken services are the tender counselling, tender-writing and the care-taking of the whole project management process.

Among in the widest range applied project management methods we find the business planning, case study, the stakeholder analysis, and the resource planning. They give more and more emphasis on the enterprise's risk-analysis and risk-management. On the other hand the PM accessories like status report, problem-tree, goal-tree, and the use of change-management planning is really rare. Most of the enterprises in our sample have developed an own standardized project management methodology.

The project management basically involves the following 9 fields:

- Integration management: The task of this field is to combine the different elements of the project. The standards of the project management help the execution of this.
- Scope management: This field assures that the set-out goals (and only those) will be achieved. But this is not the only task of this field but also to identify and involve the new or changed goals into the project, and to find and do necessary reengineering.
- Time management: This field is responsible for keeping the original schedule, by which it uses the project schedule (project plan) as equipment of communication.
- Cost management: This field has the task of keeping the project inside the cost ranges together with the assurance of the execution, and also the identification of cost exceed and the possible corrections that are needed.
- Quality management: This field ensures that the projects results meet the awaited and specified parameters (quality)
- Human resource management: This field involves the optimal allocation of the available human resources, also with a view on their abilities, and also the development and training of these resources.
- Communications management: This field is responsible for giving regularly all the information in appropriate quality and quantity to the staff and organisations involved in the project.
- Risk management: The quality and quantity risk management belongs to this field, and also the plans like mitigation or transfer plans.
- Procurement management: This field has task to regulate the cooperation and integration with the suppliers and business partners.

The all-around knowledge of all of these fields cannot be expected from a single project manager, but a good PM finds the appropriate professional for each and every task, together with whom the project can be brought to success.

## Conclusions

The interviewees already have some experience in the field of project management; still, most of them primarily identify project management as the task of administration of tender projects. Lots of interviewees stated that the quality of their project management appropriate, they would rather improve the field of tender-writing. Only one third of the interviewees think that project leading practice needs to be improved to meet the future expectations.

The majority of the interviewees pointed out the importance of the continuous training. Trainings with the adequate level and quality are worth their costs, the gains of these trainings are also noticeable in the financial balance. So they find these trainings indispensable.

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