

NEW ORGANIZATION FORMS TO IMPROVE THE WORKING LIFE OF CONSTRUCTION SITE MANAGERS

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The project focuses on the employability of construction site managers since they belong to a much imperiled occupational group. Next to the impairment of health of the individual, the missing work time leads to a huge impact on the economy. Reducing the average missing work time about half a day would increase the annual production about 1.87 billion Euro. On this background the protection of employability and the avoidance of missing work time has to be the goal. The analysis of the current state was performed by different methods, i.e., online surveys, interviewing experts and recording processes on construction sites. The results of the analysis showed that construction managers are happy about their profession and that they like their job. But the results also showed that construction managers wish for a better balance between leisure and working time. A Construction Site Manager's current working environment is molded by many challenges including: computerization, speedy development of new technology, acceleration, juridification and economization. Based on the survey the Pentagon of construction management was developed with the focus on improvement. Improvement can be in the form of practical aids, tools - such as the qualification matrix or the application for interface analysis and process optimization. Also a new concepts like the assistance of construction management. For which a modular qualification system was settled, which can be used for dual studies, as well as in a form of postgraduate education.

Keywords: Assistance of construction management, Construction process, Pentagon of construction management, Practical aids, Tools, Modular qualification system.

1 INTRODUCTION

The project “Maintaining employability of construction-site managers (Erhalt der Beschäftigungsfähigkeit von Baustellen-Führungskräften- shortcut: EBBFü)” – was executed from 2012 – 2014 at the chair for construction management and economics at the university of Wuppertal with the cooperation partners “conpara GmbH” and “Berufsförderungswerk the construction industry NRW” and the associated partners “associations building industry Nordrhein”. The project was supported by the EFS and the state of North Rhine, Wetsphalia.

There were 18 partners from the industry working with us, all achieving for the same goals:

- To improve the situation of construction-site managers

- To work against a prospective lag of junior staff.

The project was divided in two stages. Stage one was split into inventory and developing of models. During the inventory, we decoded the knowledge we were confronted with. Even though the structures and problems dealing with the profession of a construction site manager seemed to be clear, and even though the spectated effects seemed to be known, there were no researches about the precise processes, which lead from one thing to another, existing. Everything we seemed to know was pure speculation. Since the project EBBFü needed precise knowledge about this topic to achieve its goals, an inventory was performed. With the results of this inventory we developed tools and guidance, which were tested in the second stage.

2 THE RESULTS OF THE SURVEY

2.1 The Methods

The inventory was performed with different methods. Online surveys and qualitative surveys were hold, targeting construction-site managers. The company managers of the companies of the interviewed construction-site managers were interviewed too to validate the results.

In numbers:

- Online Survey (duration: 02.04. - 18.05.2012)
225 persons, which opened the questionnaire
107 persons with useful answers
- Online Survey to the stressors (duration: 02.04. - 18.05.2012)
229 persons, which opened the questionnaire
105 persons with useful answers
- Expert Interviews (duration: 04/2012 - 08/2012)
13 construction manager
11 executive director

2.2 The Results of the Survey

The challenges in the profession of a construction-site manager are:

- “Informatization”, which means: Communication and exchange of information, does not depend on time and place anymore; modern communication- and information-technologies realize a flexible, time and place unrestricted satiation of information with a high number of ways to contact. This leads to an overflow of information and an underflow of action, which has the advantage and disadvantage of flexibility.
- “Technologization”, which means: The fast development of new machines and methods is so fast, it is hard to keep up with it.
- “Acceleratization”, which means: The constant acceleration of work processes, exchange of information and production processes. This leads to an increasing complexity of work tasks under the already existing time- and financial pressure.

- “Increase of the law”, which means: More juridical disputes, or the threatening of these. “A man – a word” does not exist anymore, what does exist is “stop whining- start signing”. This leads to a huge increase of the need to document construction processes, a fundamental juridical knowledge and the juridical preparation for court processes.
- “Economization”, which means: Presupposed to a high financial pressure the financial results of any construction project can endanger the financial situation of the constructing company. This leads to a very detailed financial controlling and a need of creative ways to abide the financial targets.

The changes of the working worlds lead to a change from the medieval master-builder, who was only responsible for the technical and constructive challenges of a construction, to a modern construction-site manager, an interdisciplinary profession which contains not only typical engineering requirements, but also knowledge about laws, economics, company management and leadership. During the historical development of the master-builder all new challenges and tasks were put on the master-builder, which created the modern version, the construction-site manager.

3 THE RESULTS OF THE PROJECT

Based on the results from the inventory, five focuses were developed, which build the “pentagon of construction-management” (Figure 1).

The pentagon puts the construction-site manager in the center of the activities for maintaining their employability. The goals should be:

- Providing methods of analyzing needs of further qualification for employees and employers
- To relieve and orientate construction-site managers as a focus in the stage of development
- To involve the construction management through human resource management and development in decisions and developments within the company.
- To reduce pressure on construction-site managers and to help them focusing on the essentials by providing a “assistant of construction-site managers”.
- Improving the communication and exchange of experiences between unexperienced and experienced construction-site managers threw a mentoring program.

3.1 Guidance

Different guidance were developed on following topics.

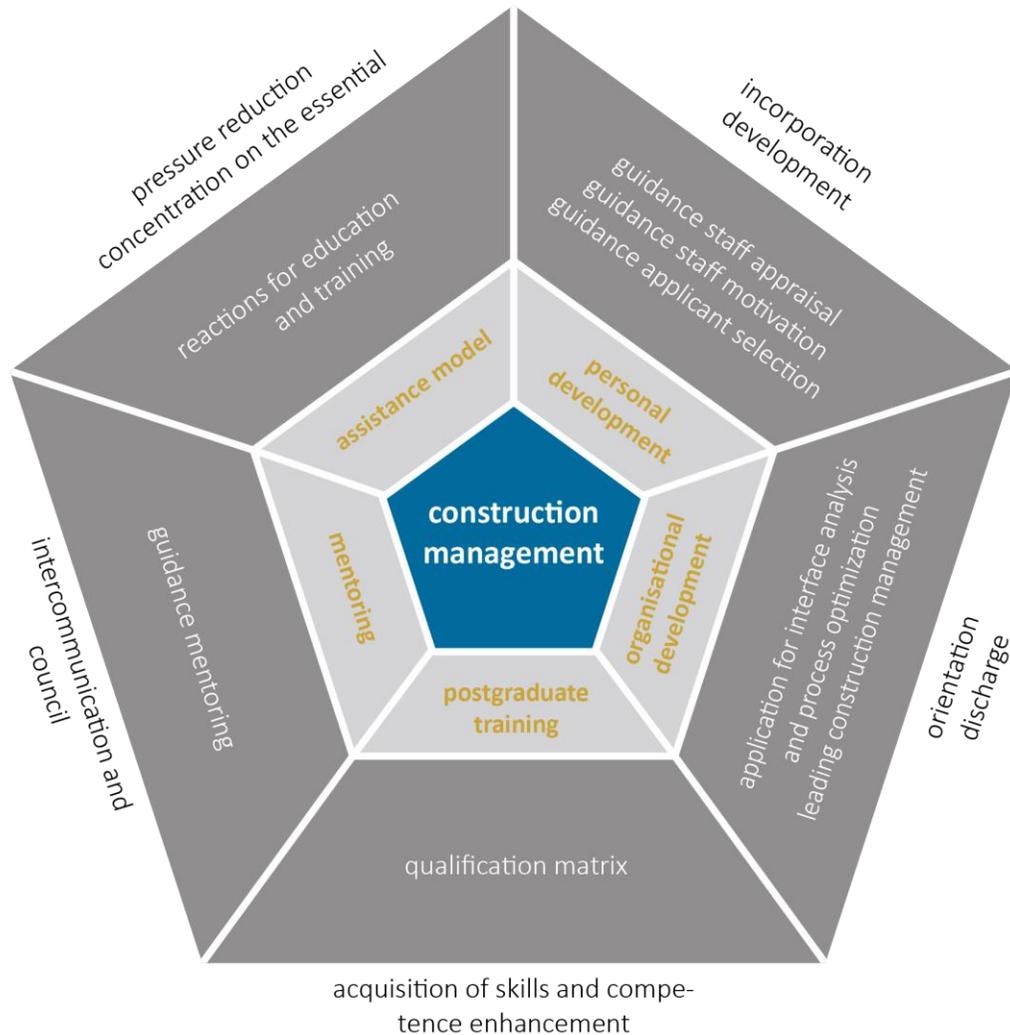


Figure 1. Pentagon of construction management.

3.1.1 *Guidance applicant selection*

This guidance gives the applicant the ability to check his own qualities, qualifications and competences focusing on the specific challenges as a construction-site manager. The field of activities is supposed to be transparent for applicants to protect them against a wrong decision about their personal carrier.

Also the Company gets help to choose the right characters for the profession of a construction-site manager.

3.1.2 *Guidance staff appraisal*

This guidance encourages employees to demand staff appraisals from their superiors, and helps preparing for it. Companies are engaged to hold staff appraisals on a regular basis, and also find help preparing for it.

3.1.3 *Leading construction*

The construction management mission statement should be a guide for employees and companies, as the company philosophy can be applied to the activities of the site management. Here in particular, would the areas of responsibility, delegation, cooperation and communication be received.

3.1.4 *Guidance staff motivation*

Leading construction is a guidance for employees and companies to transfer company-philosophies on the construction-site manager. The areas of responsibility, delegation, cooperation and communication are highlighted.

3.1.5 *Guidance mentoring*

This guidance informs companies and employees about different ways of mentoring. It also helps the Mentor mentoring and helps the mentee preparing.

3.2 **Application**

To the top ten stressors of construction-site managers belong:

- Huge workload
- Working under time pressure
- Unexpected occasions,
- Long days of work
- No leisure time

Many managers had the feeling they could not finish anything occurring to the variety and fast change of tasks. This tool was supposed to realize a self-contained recording of all activities during the day of a construction-site manager. This led to the necessity of a computing application which can be operated threw a touchpad (tablet-pc). It requires the possibility of recording further aspects to realize an individual process analysis.

3.3 **Matrix**

Occurring to “Informatization”, “Techologization” and “increase of the law” a permanent education of the employees to secure a constant updating, expanding and deepening of their qualifications is necessary. The success of a company is caused by a high qualification of its managers, especially in industries with a high pressure from competing companies, such as the construction industry. The tool for analyzing the need of further education, the (qualification) matrix, enables companies of any size a simple way to detect the need of further qualification to strengthen their positions in the industry. To provide the matrix for anyone it was created as an excel-spreadsheet, it will lead and support the qualification-process.

3.4 Assistance Model

The assistance of construction-site managers is a conclusion due to the fact that construction-site managers

- Work 14.5 hours overtime on a regular basis
- Still can't finish important tasks
- Have to do a lot of tasks which are under their level of qualification, which means from the point of the company's view: The tasks are too expensive

The goal is to relieve construction-site managers from tasks which are under their level of qualification, so they can focus on the core-competences and tasks to achieve better results for the project.

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