MBA in Construction

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Abstract

The paper presents the results of research carried out in 1989 and 2003. Based on answers obtained from respondents, the plan and programme of international postgraduate course entitled "Business Management in Construction Industry" was formulated, as initiated by the Faculty of Civil Engineering, University of Zagreb. The plan and programme of studies are presented, and the interdisciplinary nature of the studies is explained. Preconditions for enrolment of the first generation of students were created thanks to EU financial assistance through the TEMPUS programme.

Keywords: Construction industry, business management, manager, management, survey, graduate studies

1. Introduction

Croatian civil engineers have headed large-scale projects that require special managerial abilities for many years. Although without any formal managerial training, they manage companies and projects with the goal of achieving excellent business results through the direct control of labour and of the flow of considerable financial assets.

At the Symposium of Construction Organisation in Cavtat in 1989 we presented the results of a survey [1] designed to show the most important knowledge and abilities that the good construction manager must possess, in the opinion of the respondents (civil engineers who graduated from the Faculty of Civil Engineering at Zagreb University in the period 1955-1985).

An analysis of the answers gave a rank list from which we single out the 10 most important knowledge and abilities/skills needed by the successful construction manager at that time:

1. command of the technical knowledge and professional skills,

2. responsibility towards the company and towards work,

3. ability to organise and coordinate work,

4. ability to establish good interpersonal relations,
5. ability to contract work,
6. ability to ensure quality work,
7. ability to forecast,
8. knowledge of economic business analysis,
9. ability of personnel management,
10. ability of cost control.

The respondents considered it by far the most important for the construction manager at that time to be in complete command of technical knowledge and professional skills. They firmly expressed the view that to be a good construction manager a person must in the first place be a good engineer. It is interesting, however, that they placed the ability to control expenses last of the 10 most necessary abilities.

On the other hand H. Fayol [3], the father of modern management theory, speaking generally about the knowledge necessary for managerial work, as early as 1949, established that there is a fundamental difference in the necessary scope of professional/technical and general (economic, sociological, managerial and other) knowledge for various job positions in the management hierarchy. (Table1)

Table 1. Correlation between technical and other knowledge at the work place

Work place	Technical knowledge needed	Other knowledge needed
1. Worker	85 %	15%
2. Skilled worker	60 %	40 %
3. Technical manager	30 %	70 %
4. General manager	10 %	90 %

This shows that the participation of "general knowledge" grows as we climb up the managerial ladder. Every manager well knows that the higher his position in the managerial structure, the less he has "to do" with solving professional problems and the more time and energy he spends in solving "all the other" problems in the work of the company.

Many years have passed since our first survey. The social and economic system has changed, most companies are now privately owned, and it was to be expected that views about the necessary knowledge and abilities for managers had changed as well. The very different conditions and work processes did in fact change the attitude to the knowledge and abilities/skills needed by managers. Many more people now realise that additional training is

necessary for managers and it has become usual for experts, people with university degrees, to go to “schools for managers”.

In Europe and other developed countries, engineers have been systematically trained in management for years, being aware that educating and training engineers in business management and project management in construction is of great importance for the success of both - projects and companies.

At the Faculty of Civil Engineering at Zagreb University we have for many years been thinking about the need to organise a managerial course specially “designed” and adapted to the specific needs of construction. However, before making the final decision and definitely launching the new project, we wanted to find out how much the views of engineers have really changed about the need to gain new, additional managerial knowledge, so we carried out a new survey in 2003. (Appendix 1)

2. Research Results

We can perhaps most simply define the concept of manager by saying what the person who runs the company or the project must do. For example, the manager:

- is responsible for the successful realisation of many tasks, which demands the coordination of a large number of factors and people,
- focuses on the entire company but also on people individually,
- often makes decisions without complete information and under conditions of uncertainty,
- guides the work of others so as to achieve the planned goals of the company,
- depends on the work results of others,
- his/hers own work results are assessed according to the company’s business results.

Therefore most important task facing the management of every company is obviously to tailor work conditions so that the company can achieve its planned goals. For the company this usually means to ensure conditions for a safe and “normal” life on the increasingly demanding and merciless market. A good manager can save a bad company, whereas an incompetent manager can ruin a good company. This has happened many times.

Bearing in mind all the above, we wanted to define the most important knowledge and abilities needed by the “perfect manager” today, on the basis of the experiences of actual managers.

We sent our questionnaire to about one hundred e-mail addresses to find out what knowledge and abilities/skills the “perfect manager” needs today. Within one month, which was the time at our disposal, we received 55 answers (the questionnaire was sent to managers of various professions who had graduated from the faculties of economics, civil engineering, electrical engineering, mechanical engineering and naval architecture, mining, geology and petroleum engineering, philosophy, natural sciences and mathematics, veterinary medicine, architecture etc.).

We must say that our results are not completely scientific because the sample of respondents was not representative. The questionnaire included only those who are Internet users. However, we received interesting results which we will show in the continuation of this paper.

An analysis of the answers [3] gave a rank list of the most important knowledge and abilities/skills needed by the successful manager.

The results showed that today’s respondents consider knowledge in management science (by this we mean: making business decisions, organisational behaviour, designing organisation, managing human potentials, business strategy, negotiating etc.) first and foremost for the success of managers. Of the 55 respondents, 96% consider this kind of knowledge very important (41) or important (11), which places it in first place of our rank list of necessary knowledge:

1. knowledge in management science,
2. knowledge in project management,
3. knowledge in economics,
4. knowledge of foreign languages,
5. Knowledge in specific professional fields.

Knowledge about project management methods (planning methods, resource management, risk analysis etc.) was ranked second by 91% of the respondents. They placed knowledge in economics third, which includes accounting, marketing, funding, international economic relations etc.

It is interesting that has been a change in the order of the most important kinds of knowledge, although the results from 1989 and from 2003 cannot be compared completely, there.

In 1989 command of professional knowledge was ranked first among the most important knowledge and abilities, while today only 11 respondents consider professional knowledge very important, and 30 consider it important, so this kind of knowledge has fallen to fifth place on the rank list.

The reason for this may be changed social and economic conditions, and also the fact that this questionnaire included managers who had graduated from other faculties, not only civil engineers.

It is also interesting that today 85% of the respondents consider it very important for the "perfect manager" to know foreign languages. In the earlier survey, knowledge of foreign languages was 13th on the list of the most important knowledge and abilities.

We also asked respondents about the necessary "abilities/skills" that the good manager must successfully master.

All the respondents (55 or 100%) consider that the "perfect manager"

- must be capable of making decisions,
- must know how to coordinate tasks and people,
- must have organisational skills ,
- must be responsible.

If we observe the category of *very important* only, then decision-making skills come first again because 81% of the respondents consider them very important. Furthermore, 41 respondents or 74% consider coordinating tasks and people very important.

In comparison with the 1989 survey, the ranking of important skills has not changed as much as the ranking of knowledge because then too responsibility and organisation and coordination skills were very highly placed on the list.

These results did not come as a great surprise because we surveyed managers, people who are very well aware of the kind of problems and challenges they meet in their everyday work.

On the basis of the results which, we must honestly admit, only fortified our conviction that we were on the right path, we continued with our efforts to launch our international postgraduate programme *MBA in Construction.*

3. MBA in Construction Course Programme

Specialisation in business management, also known as MBA (Master of Business Administration), is today the most highly respected qualification in the business world. It is a form of additional highest education in management, because the programme provides knowledge and skills that enable course participants to master business processes more easily, and to adapt to globalisation processes more quickly and painlessly. The traditional MBA

programme approaches business management as an independent discipline that can be applied to all industries.

In the last ten years or so many business schools and graduate MBA study courses have been opened in Croatia. Nevertheless, we find that studies which train "general managers" cannot be easily "used" for construction managers because they do not take account of the specific characteristics of the construction process.

Construction differs fundamentally from all other industries, because in the usual industrial process the product changes its place and the factors of production (people and machinery) are static. In construction it is the opposite – the product (the facility under construction) is static and does not change its place, when the "production process" is finished it stays where it was made, while the factors of production (people and machinery) move on to the next location – to the "next product".

This is why we launched the project of multidisciplinary and interdisciplinary MBA studies for construction managers (civil engineers, architects and kindred technical professions).

MBA in Construction is a programme that focuses on construction with the purpose of providing present and future construction managers with knowledge in various scientific and professional fields, necessary for understanding and mastering complex management processes.

Civil engineers are trained as managers in only three universities in Europe, at MBA in Construction and Real Estate by Distance Learning, The University of Reading, and Executive MBA Construction Project Management, University of Leeds, in Great Britain, and IT Based Construction Management at the Istanbul Technical University in Turkey.

Comparing their curriculum with ours we found no significant differences and our programme is completely comparable with European trends, which was confirmed when the EU assigned us financial support through the TEMPUS programme for the first generation of students enrolled in February 2003. Teaching was organised in cycles of five workdays a month for four months during a term at the Faculty of Civil Engineering in Zagreb and at the Centre of Advanced Academic Studies, in Dubrovnik.

The MBA in Construction programme is a project of Zagreb University (Faculty of Civil Engineering and Faculty of Economics), in cooperation with partner institutions from Great Britain and Germany.

In June 2003 the Zagreb University Senate approved this programme making it one of the few graduate business management programmes that has University evaluation and is recognised as an international university postgraduate course.

Thanks to TEMPUS support, teachers from British universities (Dundee University, Reading University and Salford University) and from the Technische Universität München take part in

almost every subject. The programme carries a total of 120 ECTS credits in three semesters of teaching and a master's thesis, as shown below.

Table 2. The MBA in Construction course programme according the ECTS credit system

1. Semester	**Lectures (hours)**	**Seminars (hours)**	**ECTS credits**
101 Business Statistics	40		7
102 Organisational Design	40		7
103 Organizational Behaviour	40		7
104 Marketing Strategy in Construction	30		6
105 Business Ethics	20		
192 Optional course - seminar		20	3
Total ECTS credits			**30**
2. Semester			
201 Managerial Accounting	40		7
202 Construction Project Planning and Control	25		4
203 Financial Management	35		6
204 Human Resource Management	35		6
205 Negotiation and Business protocol	25		4
292 Optional course - seminar		20	3
Total ECTS credits			**30**
3. Semester			
301 Decision Theory	40		7
302 Business strategy	40		7
303 Construction Contract Law	25		4
304 Construction Project Management	30		5
391 Optional course	25		4
392 Optional course - seminar		20	3
Total ECTS credits			**30**
Optional Courses			
521 Information Systems	25		4
522 International Marketing	25		4
4. Semester			
401 Master of Science Thesis	240		3
Total ECTS credits			**120**

The subjects can be classed in three groups:

- general business management (making business decisions, organisational behaviour and organisation design, business strategy, negotiating and business protocol, business ethics)

- economic subjects (business statistics, marketing strategy, international marketing, accountancy for business management, financial management)

- construction subjects (project planning and control, project management, legal aspects of project management)

We must add that the group of general and economic subjects are also taught by teachers whose basic training is in civil engineering, which ensures a multidisciplinary and interdisciplinary approach.

Cooperation among professionals of different profiles from Croatia and European countries provides course members with the most recent professional and scientific knowledge in the field of business management. The study lasts for two years (three terms of lectures and one term for writing the final paper), a total of about 475 hours of teaching, practical work and seminars.

The success of this graduate programme will serve as a basis for forming and opening the Centre of Excellence in Construction Management, with the purpose of developing and advancing the construction potentials necessary for economic and political development and the stability of the country.

4. Conclusion

Croatian builders have proved their construction knowledge, skill and abilities not only in former Yugoslavia but in many countries worldwide, working in different economic and political environments. Now, when our country is becoming part of the European market, the need for the additional schooling of engineers has become obvious, especially in business management in construction, which includes project management.

We consider it useful to bring to mind [6] some “universal truths” about managers, which are also true of managers in construction:

- Managers are only people and have all the human weaknesses: they may look at a problem without seeing it, listen to collaborators without hearing them; they may think about a problem and not do anything, or do things without thinking about the possible consequences first.

- Managers are created not born.

- The “art of management” must be learned, and what is the most important, it can be learned.

For someone to be a good manager or project manager it is not enough to be “talented” for the job or to want to do it. These are no more than good motivation for a person to embark on the tedious course of acquiring the variety of knowledge and skills without which he or she cannot expect to do demanding and responsible managerial work successfully.

References

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[6] M.Katavić, S.Hamarić; Business Policy, University textbook, University of Zagreb, Zagreb 1989.

Appendix 1: Results of the year 2003. survey

N=55

Necessary knowledge	Very important	Important	Helpful	Irrelevant
1. knowledge in specific professional fields	11	30	13	1
2. knowledge in economics	13	37	5	0
3.knowledge in management science	41	11	3	0
4. knowledge in project management	31	19	5	0
5. knowledge in information technology	6	31	18	0
6. knowledge of foreign languages	24	23	8	0
7. legal knowledge	3	20	30	2
8. knowledge in social science	5	18	29	3

N=55

Necessary skills	Very important	Important	Helpful	Irrelevant
1. responsibility	37	18	0	0
2. organisational skills	39	16	0	0
3. skills in coordinating tasks and people	41	14	0	0
4. cooperativeness and readiness for team work	20	34	1	0
5. skills in establishing good interpersonal relations	26	26	3	0
6. ability to act in crisis situation	33	21	1	0
7. self-control	24	24	7	0
8. communication skills in writing and speaking	26	26	3	0
9. ability to foresee future events	18	33	4	0
10. decision making skills	45	10	0	0
11. creativity	23	28	4	0