

Education process of a project manager: trends in Croatia and Slovenia

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Abstract—Although global professional association give strong effort in creating and developing standards of quality for a project management profession to maintain the level of the profession, project management as a professional field is still a destination reached by accident. But, in contrary, Project Management is become established as a profession, and an essential part of that is practitioners should have a theoretical knowledge of the subject, from which they can make predictions about which approaches will lead to better outcomes. Slovenian and Croatian entry in the European Union raised the awareness of the project management profession. This encouraged HEI to implement study programs and individual courses with the focus on management of EU projects. In this paper we describe Croatian and Slovenian developments of formal education in project management.

Keywords—project management profession, stages of career development, project management education.

I. INTRODUCTION

Research has shown that demand for project professionals is expected to increase by 12% by 2020, resulting in almost 6.2 million jobs by 2020. This growth in demand will be matched by a 37 per cent increase in the Gross Domestic Product (GDP) of project-intensive industries between 2010 and 2020, bringing the profession to \$5.81 trillion [1]. Twenty-two million new project-oriented jobs will be created between 2017 and 2027, according to PMI's Project Management Job Growth and Talent Gap report [2]. Despite the very popular professional associations and their professional development and certifications, that project management is still a destination by accident [3], Young population, entering the university are inexperienced students. They do not know about project management, nor are they aware of the opportunities. Later many of them become involved in projects at their workplace, and consecutively they become accidental project managers, where they learn at work through their work assignments. For the advancement of their careers, project managers usually undertake further training and education, which can be either at higher education institutions (hereinafter: HEI) or within professional certification bodies (IPMA, PMI etc.).

II. PROJECT MANAGEMENT EDUCATION AT HEI

Higher education in Slovenia and Croatia is based on the principles of Bologna declaration, signed in

1999 by Slovenia in 2001 by Croatia. Bologna's main objective is the establishment of the common three-cycle higher education structure and shared standards, such as quality assurance (European Standards and Guidelines for Quality Assurance in the Higher Education Area) and education recognition (European Credit Transfer and Accumulation System – ECTS). Both, Slovenian Qualification Framework (SQF) and Croatian Qualification Framework (SQF) correspond to the standards of transparency, recognition and visibility of acquired qualifications in the European HE environment and labour market [4]. Both countries have three-level (three-cycle) university study programs (undergraduate, graduate and doctoral). Slovenia offers undergraduate (bachelor) programs as academic study programs and professional study programme (180 – 240 ECTS), and postgraduate/master programs (60 – 120 ECTS). Croatia, on the other hand, has two pillars: (1) university (academic) study programs at undergraduate and graduate level (the scope of ECTS equivalent to Slovenian first and second-level study programs), and professional study programs, which are further split into (1) short professional studies (120 – 150 ECTS), (2) undergraduate professional studies (180 – 240 ECTS) and (3) specialist graduate professional studies (60 – 120 ECTS). Both countries also have so-called integrated master study programs (e. g. medicine, pharmacy etc.) [5,6]. Based on Ministry of Education, Science and Sport of the Republic of Slovenia, the only program with the title Project Management as such is being delivered only at one higher education institution. That study programme is at the doctoral level. It is designed for experienced students with existing knowledge (and other formal pre-requests) and focused on research. Several HEI (at least eleven) deliver individual courses within their study programs at the bachelor or master level. There is only one study programme at the master level, focusing on European project management as a direction. Institute of Project Management, which is part of one of the faculties focused on research, and non-credit education (projects, strategy, etc.) and does not offer formal education in the field. Comparing individual course syllabuses, it can be concluded that they all focus on fundamentals and offer students the insight into essentials of project management. It is encouraging to see that higher education institutions have started to integrate project management education into their curriculums, however only four out of eleven

institutions list project management courses as the compulsory, others offer the module as an elective option. The following two reasons could explain this situation: (1) academic leaders might not be aware of the importance of project management education and preparing graduates for the labour market; (2) lengthy and costly course accreditation procedure, although this has become less strict. For example, since 2017 Slovenian HEI do not need to apply for lengthy procedure for accreditation of individual courses. HEI can now do that without the approval of the Slovenian Quality Assurance Agency in Higher Education; however it still needs to be reported to the national agency [7]. Croatian Agency for Science and Higher Education introduced a new regulation in 2012, where HEI has to apply for programme changes approval only when their change/modification exceed the 20% of the content [2]. Formal education in project management in Croatia is more represented by HE comparing to Slovenia. According to Agency for Science and Higher Education of the Republic of Croatia, there are two study programs of project management at the specialist graduate professional study level and one as a direction within Management study programme. However, there is only one programme at the graduate university study level titled as “Project Management”, two programs focused on EU projects and one as possible direction of study.

III. EDUCATION OPPORTUNITIES FOR PROJECT MANAGERS

A. The gap in education for a Project Manager

Information provided in previous paragraphs shows that there is a gap in project management education. While this gap can be filled with professional certification, the labour market can be strengthened by providing the education to young, unexperienced people and prepare them for the project-orientated work already at the entry-level of their careers. When it comes to existing, especially accidental project managers, there are two opportunities for their formal education and advancement. One of them is enrolment to one of study programs at HEI, while the other is certification. According to above mention information on existing study programs in project management field, there is also a room for improvement, in which exists a great potential.

Developing new competitive programs or directions (pathways) within existing studies would be one of the options. Since the accreditation process is lengthy and most important costly, every action and measure leading to accreditation of new programs or directions should fit HEI's strategy. Another, shorter and cheaper option, is the accreditation of individual courses (at least elective/optional) and integrate them into the existing study programs. As already mentioned at the beginning of this paper, several HEI already delivers those courses within different fields; however not all sectors are covered (e.g. health). Some experts believe that project management is practically

oriented and so cannot be taught to students without any practical experience. However, the trend can be observed that basic project management is being taught at an earlier and earlier age. In Austria, it is being taught in some schools to pupils of the age from 16 to 19 years, and we believe even down to primary school in some countries [29]

TABLE I. A SELECTION OF EUROPEAN EDUCATIONAL PROGRAMS IN PROJECT MANAGEMENT

Country	A selection of university programs in Project Management		
	Institution	Program title	Level
Croatia	University of Applied Sciences Baltazar Zaprešić	Project Management	Graduate program
Denmark	Roskilde University	Master in Project Management	Master degree
Finland	Aalto University	Degree in PM	Degree
Lithuania	Vilnius University International Business School	MBA in Project management	MBA
Netherlands	HU University of Applied Sciences	Master of Project Management	Master degree
Spain	Universidad Politécnica de Valencia	Project Management Master	Master degree
UK	Heriot-Watt University	MSc Executive Strategic Project Management	MSc
Slovenia	Alma Mater Europea	Dr. sc. in Project Management	Dr. Sc.
France	SKEMA	Doctorate in Business Administration – Project and Programme management	PhD in PM
Austria	WU Executive Academy	MBA in Project Management	MBA

B. Expectations from Project Managers: competence development

As Project Management becomes established as a “profession, practitioners need to have a sound theoretical knowledge of the subject from which they can make predictions about how to achieve better outcomes for their projects” [8]. Hence the provision of formal education programs is essential to the development of the new profession. Elsewhere, we have written about experiential learning [8]. There are several ways of viewing the project management competence of individuals [9]. The German Project Management Associations (GPM) defines it as consisting of knowledge of the science, experience of project management gained in projects, and social capabilities and behaviours [10]. The Australian Institute of Project Management (AIPM) applies a performance-based approach [11]. A third approach [12] uses the concepts of explicit and tacit knowledge developed by Polanyi (1967) and Nonaka and Takeuchi [13]. Thus, experience of project management, whether viewed directly as experience (GPM), performance enhancement (AIPM) or the gaining of implicit knowledge [8], is an essential part of project management competence development.

For companies undertaking large projects, the work environment is less dynamic, less frenetic, and so there is greater scope for balancing the workload. For companies undertaking internal projects, there is less of an immediate focus on making a profit. Yes, they need to undertake work cost-effectively. But many companies do recognise that keeping their employees healthy contributes to cost-effectiveness. The equation changes when clients employ contractors

or consultants. Because of the principal-agency relationship, clients feel the need to employ the cheapest contractor, and so they contribute to the frenetic work environment. Perhaps clients need to take some responsibility for the well-being of the employees of their contractors and consultants [8].

TABLE II. LEVELS OF PROJECT MANAGEMENT COMPETENCE DEVELOPMENT

Stage (Level)	Levels of Project Management Competence Development		
	Role	Scope of Management	Competence Development
1 (D)	Team member Project Specialist	Single discipline	Knowledge
2 (C)	Manager in a project role	Multi-discipline Single company	Knowledge and Four years of experience
3 (B)	Manager of complex projects	Multi-company	Knowledge and Eight years of experience
4 (A)	Programme Director	Multi-project	Knowledge and 12 years experience

“The first is project management education must be a process of life long learning that follows the stages of development of an individual’s career”, Table 2 [14]. “It is not possible to gain the experience to progress from a project team member to the manager of complex projects in one step and the second, as we shall see later, is on the teaching methods to be used in project management education, which must be able to enhance the participant’s project management competence” [29].

IV. ACTION FOR THE PROFESSIONAL EDUCATION OF A PROJECT MANAGER

It seems that project managers enjoy their career, and the career is self-selecting. But for it to be attractive, projects assignments must be linked to career development needs. It is important to ensure project managers achieve the development opportunities they require, and that are satisfied in their development [8]. It is now widely accepted that competence comes from the knowledge gained through formal education and experience [15]. Against this background, there are several issues facing educators. The issues fall into five areas [8]:

A: commonality and difference

B: structure of the education process

C: practical relevance of the education and training process

D: support of top management and other stakeholders

E: new trends in project management education

TABLE III. MODULES IN THE EUROPEAN PROGRAMME FOR PROJECT EXECUTIVES (EPPE)

Module	European Programs for Project Executives		
	Title	Institution	Country
1	Best Practice in International Project Management	University of Economics and Business Administration Vienna	Austria

2	Management Project Complexity and Uncertainty	Stavanger College	Norway
3	Project Organisational Dynamics and Processes	Norwegian School of Management Oslo	Norway
4	Project Economics and Finance	Erasmus University Rotterdam	Netherlands

In Europe, there is growing cross-border cooperation in project management education, as shown in Table 3. More offer in term of training is needed to ensure information and new trends be available to the professionals in the field, who often work under high pressure [16]. Managing these pressures requires positive action both by the individual and by the organisation. Looking after the well-being of employees and their ethical treatment requires specific HRM practices to be adopted by the organisation [17–19]. Pastoriza et al. [20] have shown that the ethical treatment of employees, and looking after their well-being, can increase the social capital of an organisation. The temporary nature of the work creates dynamic work boundaries and contexts and can influence the motivation and stress of project workers [21] and creates the need for project managers to develop strategies how to cope with stress [22]. Further, the number and size of projects performed can constantly change, making predictions of future resource requirements difficult [23]. Recent research has shown that companies have problems in grasping the work and emotional situation of the individual [24], and multi-role assignments that may lead to burn out for younger employees or to manage the damaging consequences of role overload and role conflict [25,26]. Finally there is a need to link project assignments to career development, both from an organisational and individual perspective. The organisation needs to develop staff for its future projects, but if staff members do not feel that their project assignments offer them the development opportunities they aspire to, they may look elsewhere [27]. As we have seen, the dynamic work environment in the project-oriented organisation imposes considerable pressures on employees [28]. Project managers enjoy their career, and the career is self-selecting. But for it to be attractive, projects assignments must be linked to career development needs. It is important to ensure project managers achieve the development opportunities they require and are satisfied in their development [27].

V. CONCLUSION

The essence of competence development for professional individuals lies in formal education, which is also the pillar for developing the scientific knowledge linked to profession. However, there are techniques being developed for using formal education as a tool to develop implicit or tacit knowledge. Experiential learning fits more for tacit knowledge development, notwithstanding the fact that it can also be beneficial to explicit knowledge development.

Developing project management competences is a process, which not only takes time and requires formal education and experiential learning, but also requires tracking the increasing levels of competence related to greater complexity and demand for more senior level positions in project management. So far, the formal education in project management was mostly followed by the experience. Many universities offer master masters degree in project management, however there is an increasing in offering project management training as part bachelor degrees or even at secondary schools.

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