

## PM WORLD TODAY – CASE STUDY – AUGUST 2008

### Introduction of Project Management Courses at University:

#### A Case Study

*By Mitra Arami*

*Head of Project Management Competence Center  
University of Applied Science bfi Vienna*

*Editor's note: This paper was presented at the **PM-04: 4th SCPM & 1st IPMA/MedNet Project Management Conference in the Mediterranean, 29-31 May 2008, Chios Island, Greece** (<http://2008.pmgreece.gr>). As a Media Partner for that event, PMForum offered to republish selected papers in PM World Today. This paper is included here with the consent of the author and the permission of the Centre for Construction Innovation of the National Technical University of Athens ([www.innovation.view.gr](http://www.innovation.view.gr)) who is the copyright holder of the conference proceedings. All conditions and disclaimers of the copyright holder pertain.*

#### **Abstract**

Project Management (PM) is well accepted as a domain for the exercise of professional expertise in Austria. Universities of Applied Science in Austria spend enormous resources on PM-Courses without really being sure that these trainings match the needs of companies students will work for after their graduation.

This paper introduces one approach to provide PM knowledge set to graduate level students according to a case of University of Applied Science bfi Vienna in Austria. Additionally, this paper summarizes the background research that prompted the introduction of the PM courses, and future steps in this area of education.

#### **Keywords**

Project Management Courses, Project Management Education

#### **1. Introduction**

It is instructive for academia to collaborate with some of its commercial counterparts, who are also trying to accomplish progress toward the application of more effective project management practices.

Recruiting of PM-personnel, training of PM-personnel, providing career planning and organizing certification programs for PM-personnel, monitoring quality in PM-personnel development, providing PM-coaching and various other services to project managers is nowadays no more the sole task of Human resource (HR) departments. PM-Offices (PMO) and Managers of PM-Pools in project oriented

companies gain more and more influence in the PM-personnel management process, so coordination of the different activities as well as clear responsibilities and roles are a mandatory factor for cost efficient PM-personnel management. PM-training, measuring the success and quantifying as well as qualifying the outcome is one of the critical issues modern project oriented companies face. In addition companies are demanding more qualified courses in Universities and in addition new government regulations and new technologies are driving the reengineering of undergraduate teaching (Tsichritzis, 1999)

Inline with market demands and the new for introduction of efficient trainings, especially in PM, University of Applied Science bfi started 2006 with a research project in 3 phases. In the first phase of the research project, PM courses offered by Universities of Applied Science in Austria were evaluated. The result was that most Universities of Applied Sciences in Austria offer traditional PM courses focusing on the detailed use of Gantt charts and network diagrams as the main PM tools and PM standards are not offered. Most lecturers have learned PM in a traditional way, based on individual experience and there is a gap in teaching PM standards and generic designs for PM courses. In addition the evaluation of the students is based on individual experience and knowledge of PM lecturers teaching project management. There is an emerge need for introduction of generic PM standards into Universities of Applied sciences in Austria, providing more transparency in the quality of the PM courses at Austrian universities of applied sciences.

In the next parts, we provide a brief introduction to PM, training models, research methodology, the case study and conclusions.

## **2. Project Management**

Project management process has mixed definitions in the project management literature. Baccarini (1999, 29), McCoy (1986) and others define the project management process as controlling project costs, time, and measures of profitability to gain market share through efficiency. Hartman and Ashrafi (2002) reported misunderstood requirements, overly optimistic schedules and budgets, inadequate risk assessment and management. Jiang and Klein (2001) concluded that "each organization will approach the problem according to its culture, but the importance of selling the system still rings loud and clear. Additionally, involvement, training, and support serve as common practice to lower the risks associated with software development projects". Hartman and Ashrafi (2002) recommend linking the project to corporate business strategy, aligning major stakeholders on key issues, simplifying project controls and metrics, and making sure effective communication and expectation management is maintained throughout the project life. Other studies recommend improving the nature of communication between the parties (Riggle, 2001). All these recommendations mainly aim to get participation and commitment from all the stakeholders in the project.

More dynamic and integrative views of project management process can be found in project management literature (cf. Jaafari, 2003; Gareis, 1989; Ward, 1999; and Royer, 2000). These authors consider culture, organisation, and other 'soft' factors as additional dimensions which influence project success. They view project members and teams more from an action oriented, interactive perspective in which process is part of and linked to product outcomes. Our view relates to and extends the work of these authors.

### **3. Training models**

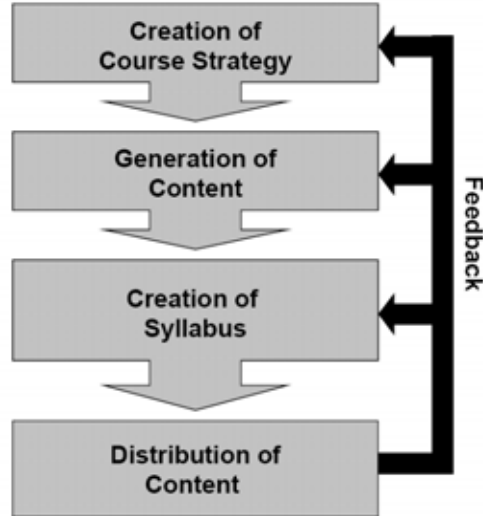
In this part we provide an overview on training models to provide a better understanding for the design of pilot PM courses at the University of Applied Sciences bfi.

In the Systems and Learning perspective, importance is placed on the existence of a learning loop feeding back into the strategic intent to enable improvement and sustainability (Connel, 1996; Taylor, 1994). In this particular framework, quality of decisions is assessed in regards of their influence on organizational effectiveness. Organizational results are broad and strategic level programs must combine a range of interventions taking into account, not only predetermined rationalized responses, but a range of responsive interactions (Nevis, 1997; Neal, 1995; Thomas et. Al, 2000).

The process "undergraduate teaching" consists of following stages: developing the course strategy and learning objectives, which should be inline with other course strategies of a University and analyzing the relationship to other provided courses. The next step is to develop the syllabus, which is a guideline for distribution process of the content, evaluation of the course and student. During the distribution process the course instructor receives feedback; this might lead to a re-design of course strategy, content and syllabus.

According to (Tsichritzis, 1999) the workflow of teaching an undergraduate course consists of the following four stages (Figure 1):

- Creation of course strategy,
- Generation of content,
- Creation of syllabus, and finally
- Distribution of content.



**Fig 2:** Teaching process

Part 6 reflects problems occurring in the development process and provides insight to a better understanding of challenges and barriers.

#### **4. Research Methodology**

This section introduces the underlying research methodology. Literature review and Analysis of provided courses were conducted in the first phase of research. In the second phase qualitative expert interviews and focus groups served as a guideline for the identification of key success factors for PM courses at Universities of Applied Sciences in Austria.

Qualitative research is appropriate when the examined phenomenon requires an explorative investigation (Degenhardt 1986), which provides the flexibility for identifying new variables and new relationships among them. Qualitative research is complex, involving fieldwork for prolonged periods of time, collecting word and pictures, analyzing the information inductively while focusing on participants' views and writing about the process (Creswell 1998). In addition qualitative research methods are designed to help researchers understand people and the social and cultural contexts within which they live (Kaplan and Maxwell, 1994). A set of open ended questions served as interview guideline to secure that all relevant topics are dealt with in the interviews (Rubin 1995). The open ended questions encouraged the interviewees to talk freely about the topic. In the case of unclear responses the interviewer asked into more detail and increased the quality of the information by active listening. The important finding was that many lecturers were complaining about missing PM skills of students and different quality on PM Skills

In the third phase pilot courses for PM were developed and introduced in the University of Applied science. First a train the PM Trainer programme was provided

to the PM lecturers of the course. The Course design was developed within the train the trainer programme; the course evaluation for 4 parallel classes were developed and for the first time same evaluation process was conducted for 100 students meeting the PM Courses in 4 parallel classes. The PM Courses were provided as workshops, where course inputs had to be implemented in selected projects. In addition, the course was developed on International Project Management Association Standards, Level D. The students had the chance to sit for a certification provided by Project Management Austria, the certification body of IPMA in Austria. More than 50 students have used the chance till now and are certified project manager associates (IPMA Level D). The best project handbook award was established parallel to new PM courses and once a year during the project exhibition (more than 100 students present their projects and project plans), the best projects are awarded. The research project is now in the last phase planning the roll-out of the new P courses for all students, providing a common body of knowledge in PM. The following graph illustrates the research design:



**Fig 2:** Research Design

## 5. The Case: the University of Applied Science bfi

At the University of Applied Science bfi, Vienna, 6 major degrees are offered: Banking and Finance, European Economy and Business Management, Logistics and

Transport Management, Project Management and Information Technology, Technical Sales and Distribution Management, Work Design and HR Management. Because of the lack of unification of PM common body of knowledge in courses, there was an emerging need to introduce new PM courses, Introducing generic standards in PM. In this part a specific aspect of teaching in Austria should be stressed, which is an important barrier in teaching at many Austrian universities. Due to the freedom of teaching ("Freiheit der Lehre"), the quality of the skills of Austrian universities' graduates are not transparent. According to Gellert professors, protected by this Humboltian principle, mostly teach whatever they like, and hardly engage in personal tutoring of students (Gellert, 1999). This might be a barrier in many Universities to meet market demands and ensure the harmonization of special courses in undergraduate courses. Another aspect is that most Universities have shortcomings in internal teaching personnel, especially Universities of Applied Sciences in Austria; so they have to provide additional education to their new employees to compensate for the shortcomings of higher education (Höllinger and Musner, 1988).

In the following the barriers and challenges in the first three phases of the research project are analysed and presented.

## **6. Analysis and Conclusions**

In this part we summarize and analyse the process and then the work content, stressing the main barriers and challenges of the research project:

One of the challenges of introduction of PM Education is the maturity of organizations in PM. Universities of Applied Science, such as bfi, with integrated project management culture might face less barriers in introduction of PM courses. Another influencing factor is the organization; lack of cross-functional integration, lack of managing motivation, career paths and responsibility without authority. The introduction of new courses might be defined as a project, as the case of bfi. Regarding to the fact that such introductions are coupled with uncertainty and continuous change, we advise to hire experienced senior project managers. Finally, lack of communication across expertise areas and input from End Users (students) are crucial in designing such projects.

The core and reflective learning subject combined provides a unique learning experience. Application and link to case studies (bring your own projects) is inter-related to other aspects of project management theory. Our progressive approach to development has, in our opinion, so far proven successful. We believe that adopting an iterative approach was crucial to this success. However, we suggest that other influences would have jeopardised development. In particular, we possessed a relative lack of subject expertise, conform to the frameworks prescribed by our University.

Finally, we would like to highlight the fact, that the team adopted a student-centred approach to delivering the curriculum. In line with our previous experiences this has proven successful in capturing the interest of our students and also in encouraging them to develop their high-order cognitive skills.

## 7. References

- Baccarini, D. (1999), "The Logical Framework Method for Defining Project Success", *Project Management Journal*, Vol. 30, No 4, 25-32
- Tsichritzis, D. (1999) "Reengineering the University", *Communications of the ACM*, vol. 42, pp. 93- 100
- Gareis, R. (1989): "Management by projects: the management approach for the future", *Project Management*, 7, (4), 243-49.
- Hartman, F. and Ashrafi, R.A. (2002) "Project Management in the Information Systems and Information Technologies Industries", *Project Management Journal*, Vol. 33, No.3, p5-15.
- Gellert, C. (1999), "Innovation and Adaptation in Higher Education, The Changing Conditions of Advanced Teaching and Learning in Europe", London, Philadelphia: Jessica Kingsley Publishers
- Jaafari A. (2003) *Project Management in the Age of Complexity and Change*. *Project Management Journal*. Vol.34, No 4, pp 47-57.
- Jiang, J. J. and G. Klein (2001), "Software Project Risks and Development Focus", *Project Management Journal* 32(1), 4-9.
- Höllinger, S. and Musner, L, (1988) "Humboldts Erbe als Mythos und Herausforderung in der heutigen Hochschulpolitik", in Wilhelm v. Humboldts Universitätsidee - ihre Bedeutung für die Hochschulausbildung heute, Berlin: Zentralstelle für Lehr- und Organisationsmittel des Ministeriums für Hoch- und Fachschulwesen, pp. 7-18.
- Kaplan, B. and Maxwell, J.A. (1996): "Qualitative Research Methods for Evaluating Computer Information Systems," in *Evaluating Health Care Information Systems*: Maxwell JA. *Qualitative research design: an interpretive approach*. Thousand Oaks, CA: Sage Publications.
- McCoy, F. (1986) "Measuring success: Establishing and maintaining a baseline". *PMI Annual Seminar & Symposium*, Montreal
- Riggle, M. (2001) "Breaking the Cycle of Failure", *Intelligent Enterprise*; No. 12; Vol. 4; Pg. 40-44
- Nevis,E., Di Bella, A., Gould, J. (1997) "Understanding Organizations as Learning Systems", *The Society for Organizational Learning Website*; 1997.
- Neal ,R. (1995) "Project definition: the soft systems approach". *International Journal of Project Management*, 13(1):5-9.
- Thomas, J., Delisle, C., Jugdev, K., Buckle, P. (2000) "Selling project management to senior executives: what's the hook?" *Project Management Institute 1st Research Conference Proceedings*, PMI Communications, Drexel Hill, PA.

Ward, Stephen (1999) "Requirements for an Elective Project Risk Management Process", Project Management Journal, Vol. 30, No. 3, 37-43. Project Management (Reading, MA: Perseus Books).

*This paper was originally presented at the PM-04: 4th SCPM & 1st IPMA/MedNet Project Management Conference in the Mediterranean, 29-31 May 2008, Chios Island, Greece. It has been republished here with permission of the author and conference organizers. For information about the conference or to see the full proceedings, visit <http://2008.pmgreece.gr>.*

### About the Author:



### **Mitra Arami, PhD**

*Author*



**Mitra Arami** received her PhD degree from the Technical University of Vienna and worked as project manager and project coach in past 18 years. She is the head of project management competence center at University of Applied Science Vienna and managing director of PARDIS Management Consultancy. She has published several papers, articles and book contributions about project management; her main research interests are diversity in project management and project management education. Mitra is a certified project management trainer and certified senior project manager and senior lecturer at several international universities. She can be contacted at [mitra.arami@fh-vie.ac.at](mailto:mitra.arami@fh-vie.ac.at).