

E-Portfolio Role to Enhance Project Managers' Competencies

Ghasem Omidvar¹, Farhang Jaryani², Dr. Zulkiflee Bin Abdul

Samad¹, Somayeh Fattahi Zafarghandi³, Samaneh Salehy Nasab², Jamshid Jamshidi⁴

¹: University Of Malaya, ²: Universiti Teknologi Malaysia, ³: University of Soore- Tehran- Iran, ⁴: Graph Gostar Institute KL-Malaysia

Abstract. The aim of this research is to introduce a new online educational method to support project managers to improve their competencies. Based on authors' experiences and survey, e-portfolio has been chosen as a newest online learning method to support project managers' competencies. E-portfolio as a tool can be used in both online and offline mode. The questionnaire distributed among professionals in senior Executive level, manager level, and senior manager level, and also five industry sectors: Accounting/Finance, Building/Construction, Engineering, Admin/Human Resource and Information Technology. The result of this paper is a proposed framework that can be used for designing new portfolios for project managers learning purposes. In the proposed framework for enhancing project managers' person-related competencies, job-related competencies, and also contextual competencies, e-portfolio supports such as knowledge sharing, stimulated virtual software, educational multimedia software, online standard accessibility, educational software, online updated organization policies and online bilateral relations among project managers and suppliers are proposed.

Keywords: E-Portfolio, Project Managers' Competencies, Framework

1. Introduction

1.1 E-Portfolio:

An electronic portfolio (also known as an ePortfolio, e-portfolio, efolio, digital portfolio, webfolio and etc) is essentially an electronic version of a paper-based portfolio created in a computer environment, and incorporating not just text, but graphic, audio and video material as well. There are three main types of e-portfolios, although they may be referred to using different terms: Developmental (e.g., working), reflective (e.g., learning), and representational (e.g., showcase). A developmental e-portfolio is a record of things that the owner has done over a period of time, and may be directly tied to learner outcomes or rubrics. A reflective e-portfolio includes personal reflection on the content and what it means for the owner's development. A representational e-portfolio shows the owner's achievements in relation to particular work or developmental goals and is, therefore, selective. When it is used for job application it is sometimes called Carrier portfolio. The three main types may be mixed to achieve different learning, personal, or work-related outcomes with the e-portfolio owner usually being the person who determines access levels. There are three main uses for electronic portfolios: for students while studying, for graduates while moving into or through the workforce, and for institutions for program assessment or accreditation purposes (Lorenzo & Ittleson, 2005a). The first use allows students to demonstrate their competence (Milman & Kilbane, 2005); develop, demonstrate and reflect on pedagogical practice; show their attitudes, knowledge and skills (Sherry & Bartlett, 2005); Document how inquiry works in practice; and provide evidence of reflection (Smits et al., 2005). Electronic portfolios are most commonly used in this way in colleges of education (Lorenzo & Ittleson, 2005a). The second is a way for graduates or those already in the workforce to gain licensure or registration (Milman & Kilbane, 2005; echeone, Pigg, Chung, & Souviney, 2005); to showcase their qualifications and competencies in job interviews, for appraisal, or for promotion (Milman & Kilbane, 2005); as well as for critical reflection and learning purposes (Lorenzo & Ittleson, 2005a). The third use is as a vehicle for institution-wide reflection, learning and improvement to demonstrate institutional accountability,

to make accreditation processes more visible, and to show collective student progress (Lorenzo & Ittleson, 2005a).

1.2 Learning in Project Management

Organizations in order to develop their personnel and of course their project managers skills need to engage them in problem solving, decision making and allow them to come up with new ideas in working groups. Project managers through this learning method can improve their collaboration, communication and critical thinking skills. Keser and Karahoca (2010) in their research mentioned the aforementioned approach as an interactive education tool which can be used in project management courses. Another way for advancing project managers knowledge is applying post-project review. "Post Project Review" enhances the body of knowledge in organization. In a research conducted by Anbari, Carayannis, and Voetsch in 2008 the importance of post-project review in future project success and also organizational competitiveness is highlighted. Furthermore, the planned changes in organizations need a lot of people to be involved (Kotter, 2007; Schifalacqua et al. 2009). By involving the project manager's in the process of planned changes in organization they would be motivated to the changes. In order to facilitate the process of planned changes in organization the method of "Action Learning" can be applied. In this method, project managers in order to improve their performance try to study their own actions and experience. On the other words they review the actions they have taken and discuss about the results of their actions and based on the results of the discussion, they can identify the best actions for adaption to the planned changes in organization. Therefore, learning process in organizations not only helps them to develop more competent personnel and project managers who have the abilities of decision making, critical thinking, and a sense of collaboration and communication with other project team members, but also increases the body of knowledge in the organization as a strong tool for future project success and organizational competitiveness and also helps for adaption to the changes in organization to be matched with the market demands.

2. IMPORTANCE OF THE RESEARCH

As it is acknowledged by leading project management institutes such as Project Management Institute (PMI), International Project Management Association (IPMA), Australian Institute of Project Management (AIPM), and Association for Project Management (APM), achieving competency is a continuous activity for project managers. Thus, achieving competency needs a continuous improvement process. Through a continuous improvement process, project managers not only would be ready for more challenging project like complex project, but also they can widen and deepen their competencies to grow to higher management levels such as Project Director Level or even Executive Project Director Level. By applying e-portfolio as a tool for continuous improvement process in organizations, both project managers and organizations can benefit from its advantages. From individual's perspective, it helps project managers to expand their technical and project management knowledge. Moreover, project managers also can develop their knowledge and experience in other required competency aspects such as job-related competencies, contextual competencies, and personal characteristics. From organizations perspective, e-portfolio help them for updating their personnel and of course project managers' knowledge to have more knowledgeable personnel. In addition, through applying e-portfolio, organizations can achieve solutions for problems they are facing with, and also the tacit knowledge can be shared among organizations from one organization to another one. Furthermore, in one hand, through applying e-portfolio, organizations senior management such as CEOs can highlight the mission and vision of organization to all personnel and they can make sure there is a common understanding among all personnel about organization short-term and long-term objectives; and on the other hand, personnel can transfer their ideas and comments about organization issues in a active way to higher management.

3. RESEARCH METHODOLOGY

In this study in order to evaluate the role of portfolio in project manager's competencies, two phases are defined. In the first research phase, experts' recognition about e-portfolio and also the usage of e-portfolio in their workplace is evaluated. The questionnaire distributed between 730 professionals in senior Executive level, manager level, and senior manager level, and also five industry sectors: Accounting/Finance,

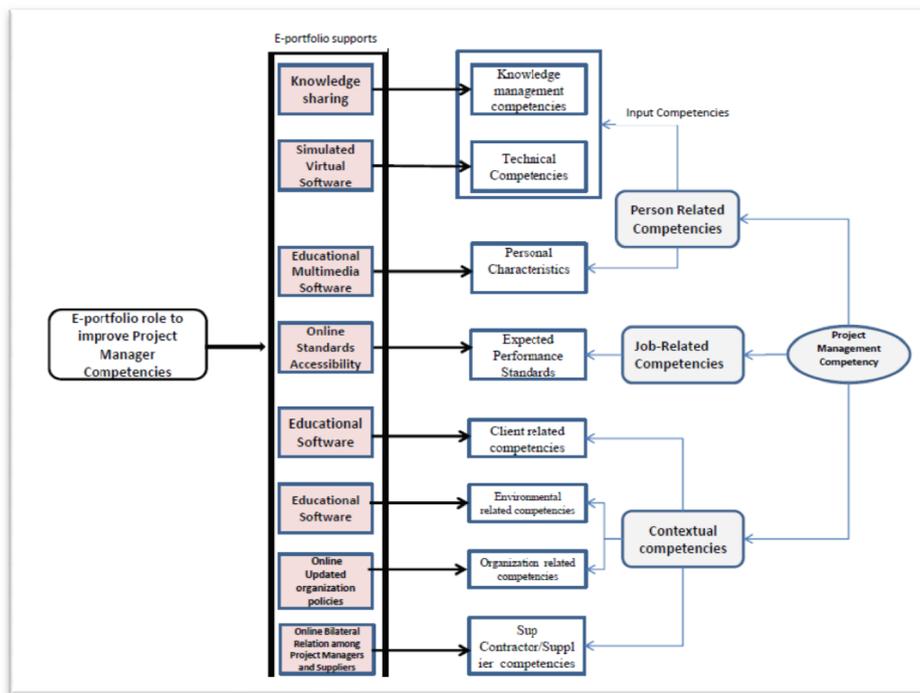
Building/Construction, Engineering, Admin/Human Resource and Information Technology. Totally 374 usable responses were obtained. The results show that around 84 percent either have never heard about e-portfolio or never have used it in their industry. Only 58 professionals or around 16 percent have used it before in their workplace. Then the advantages of using e-portfolio in workplace from those 58 professionals who has used e-portfolio before were asked. The result shows that respondents strongly believe that using e-portfolio is helpful in self-directed learning and also helpful in continuing professional development. However, respondents believed that in the existing e-portfolio methods, interaction between project manager's and also learning based on learner's own pace and requirements are not sufficient. In the second research phase, based on literature review, previous experiences in project management, senior software experts' suggestions, and also the analysis of the study, a framework which suggests e-portfolio supports on project manager's competency components is proposed.

Position	Frequency	Percentage
Senior Executive	125	33.4
Manager	165	44.1
Senior Manager	84	22.5
Industry		
Accounting/ Finance	53	14.2
Building/ Construction	86	23
Engineering	92	24.6
Admin/Human Resource	67	17.9
Information Technology	76	20.3
How Familiar with e-portfolio		
Never heard about it	115	30.7
Heard, but never used	201	53.7
used, few times	42	11.2
used, regularly	16	4.3
e-portfolio Advantages		
Helpful in Continuing Professional Development	46	95.8
Accessible in any time	37	77.1
helpful in workplace learning	24	50
helpful in self-directed learning	48	100
learning progress based on learner's own pace and learner's requirements	16	33.3
interaction between project managers	18	37.5

Table1:Demographic Profile of Respondents

4. Proposed Framework

In order to enhance the project managers' competencies in three main categories of person-related competencies, job-related competencies and also contextual competencies e-portfolio as a new tool is used. For instance for promoting project manager's competencies in project management and also technical competencies can use knowledge sharing and simulated virtual skills, for improving project manager's personal characteristics can use educational multimedia software, for job-related competencies can use online standards, for contextual competencies can use educational software, online updated organization's policies, and online bilateral relations between project managers and suppliers.



Person-Related Competencies-Woodruffe (1991) defined this competency as a dimension of behavior. Robert (1997) defined it as input-based criteria, which means personal behavior, traits, and characteristics that a person brings to projects. Garavan and McGuine (2001) believe that this competency is more popular in US rather than in Europe. Gadeken (1994) in his research distinguished six behavioral competencies for effective project managers. According to the American Management Association, competency is defined as the characteristics of a person whose performance is superior (Boyatzis, 1982).

Job-Related Competencies- Roberts (1997) defined this competency as performance standard, which is expected to achieve. This competency is also known as functional competency (Martin and Staines, 1994) or task-specific competency (Bergenhengouwen, 1996) or job-focused (Holmes and Joyee, 1993). Elkin (1990) addressed this competency as “micro competency”.

In order to define required job-related competencies, first of all an analysis for the job should be carried out in order to identify job requirements. Through this job analysis most important tasks distinguished (Cardy and Selvarajan, 2006). The assumption for identifying these competencies is that the job is fixed and therefore, these competencies have a static nature. In order to define the required job-related competencies, job expectations should be rigorously explained. The importance of this type of competency in projects with a consistent set of tasks that all functions are established clearly, like construction industry is higher than other types of projects like research projects for developing a new product that contextual competencies and person-related competencies are more important.

Contextual Competencies-In a research carried out by Crawford (2005), results showed that competencies valued by project management practitioners were different from competencies valued by senior management. Therefore, in order to have a comprehensive competency standard which all parties' expectations are fulfilled accordingly, contextual competencies should be addressed. Contextual competencies include client-related competencies, organization-related competencies, environmental competencies, and sub-contractors/suppliers-related competencies.

5. Further Works:

Based on this research still yet e-portfolio could be more developed, using Intelligence techniques we support our portfolio to be more smart and be more effective and efficient for Project Managers. More over having online community such as Social networks would support project managers to share their ideas and their knowledge and expand their experience through virtual communities.

6. Acknowledgement:

This research is sponsored by the ministry of higher education in collaboration with Universiti Teknologi Malaysia.

7. References

- [1] Anbari, F. T., E. G. Carayannis, et al. (2008). "Post-project reviews as a key project management competence." *Technovation* 28(10): 633-643.
- [2] Bergenhenegouwen, G. J. (1996). Competence development- a Challenge for HRM professionals: core competences of organizations as guidelines for development of employees. *Journal of European Industrial Training*, 20(9), 29-35.
- [3] Boyatzis, R. (1982). *The Competent Manager- A Model for Effective Performance*. New York, NY: John Wiley & Sons.
- [4] Cardy, R. L. and T. T. Selvarajan (2006). "Competencies: Alternative frameworks for competitive advantage." *Business Horizons* 49(3): 235-245
- [5] Crawford, L. (2005). Senior management perceptions of project management competence. *International Journal of Project Management*, 23(1), 7-16.
- [6] Elkin, G. (1990). Competency-based human resource development. *Industrial and Commercial Training*, 22(4), 20-25.
- [7] Gadeken, & Owen, C. (1994). Developing project leadership skills using behavioral simulations. Project Management Institute (PMI) National Conference. Vancouver, Canada.
- [8] Garavan, T., & McGuire, D. (2001). Competencies and workplace learning: some reflections on the rhetoric and the reality. *Journal of Workplace Learning*, 13(4), 144-164.
- [9] Holmes, L., & Joyce, P. (1993). Rescuing the useful concept of managerial competence: from outcomes back to process. *Personal Review*, 22(6), 37-52.
- [10] Keser, H. and D. Karahoca (2010). "Designing a project management e-course by using project based learning." *Procedia - Social and Behavioral Sciences* 2(2): 5744-5754.
- [11] Kotter, J.P., 2007. Leading change. *Harvard Business Review* 85, 96–103.
- [12] Lorenzo, G., & Ittleson, J. (2005a). An overview of eportfolios. Retrieved July 14, 2006, <http://www.educause.edu/LibraryDetailPage/666?ID=ELI3001>
- [13] Martin, G., & Staines, H. (1994). Managerial competences in small firms. *Journal of Management Development*, 13, 22-34.
- [14] Milman, N. B., & Kilbane, C. R. (2005). Digital teachingportfolios: Catalysts for fostering authentic professionaldevelopment. *Canadian Journal of Learning andTechnology*, 31(3), online version.
- [15] Pecheone, R. L., Pigg, M. J., Chung, R. R., & Souviney, R.J. (2005). Performance assessment and electronic portfolios: Their effect on teacher learning and education. *The ClearingHouse*, 78(4), 164-176.
- [16] Roberts, I. (n.d.). Remuneration and reward, in Beardwell, I. and Holden, L. (eds). *Human Resource Management: A Contemporary Perspective* (pp. 549-610). London: Pearson.
- [17] Sherry, A. C., & Bartlett, A. (2005). Worth of electronic portfolios to education majors: A 'two by four' perspective. *Journal of Educational Technology Systems*, 33(4), 399-419.
- [18] Smits, H., Wang, H., Towers, J., Crichton, S., Field, J., & Tarr, P. (2005). Deepening understanding of inquiryteaching and learning with e-portfolios in a teacherpreparationprogram. *Canadian Journal of Learning and Technology*, 31(3), online version.
- [19] Schifalacqua, M., C. Costello, et al. (2009). "Roadmap for Planned Change, Part 1: Change Leadership and Project Management." *Nurse Leader* 7(2): 26-29, 52.
- [20] Woodruffe, C. (1991, September). Competent by any other name. *Personnel Management*, 38-43.