IMPORTANCE DEGREE OF TECHNICAL COMPETENCIES BASED ON IT PROJECT MANAGERS' PERSPECTIVE

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Abstract.The aim of this research is to identify the importance degree of IT project managers' technical competencies from perspective of IT project managers in Malaysia in order to address core technical competencies. The results of the research show that IT project managers in Malaysia valued 10 elements as highly important or "core technical competency elements". These core technical competencies are Implementation, Scheduling, Stakeholder management, Hand over and close out, Information and reporting, Scope management, Change control, Requirement management, Earned value management, Method and procedures. Based on literature review, previous experiences in project management, IT project managers' suggestions, and also the analysis of the study, a framework which suggests e-portfolio supports on IT project managers' core technical competency elements is proposed.

Keywords: Core Technical Competencies; IT Project managers, E-Portfolio;

1. Introduction

1.1. Competency

In order to survive in a competitive market, many organizations today are looking for the "competitive advantages". One of these "competitive advantages" is having competent personnel and competent project managers. Therefore, pioneer organizations have a remarkable strive on increasing their personnel capabilities and competencies. As a matter of fact, in contemporary human resource management (HRM) practice, establishing competency of an individual is considered as a resourceful and robust tool (Collin, 1997).

In order to be successful in a business market, project-based organizations should be successful in their projects. One of the factors that influence project success is the employment of competent project managers. Crawford (2000) points out that a competent project manager is a factor that affects project success. Thus, this leads to the development of some standards for assessing project manager's competencies (Crawford, 2000). Project manager's competency standards illustrate some evaluative criteria, which not only can be used for measuring manager's performance, finding training and development needs, setting of goals among project managers and acting as the basis for succession planning (dainty et al., 2004), but also can be used for predicting performance (Motowidlo et al. 1997) and providing a performance management system.

The competency-based standards which have been developed by project management institutes are as per following sequence: "Project Manager Competency Development Framework" which is carried out by "Project Management Institute" in 2002, "IPMA Competence Baseline Version 3.0" which is published by "International Project Management Association" in 2006 "AIPM professional competency standards for project management" which is developed by "Australian institute of Project management" in 2008, , and "APM Competence Framework" which is developed by Association for Project Management in 2008".These standards are prepared based on collective opinions of experienced practitioners in project management and their understanding on competencies required for effective project managers (Crawford, 2005). However, there are some researches that investigate effectiveness of project managers based on other

point of views. For instance, Fraser and Zakaria (2003) examined project manager's effectiveness based on stakeholder's perception. Crawford (2005) conducted a research for project management competency based on senior management perception.

1.2. 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).The purpose of this paper is to identify the core technical competencies required by IT project managers in Malaysia and also the role of e-portfolio to improve these core technical competencies.

2. Importance of Research

According to IPMA and APM competence standards, a competent project manager is a person who is competent in three main domains: Technical Competencies, Behavioral Competencies, and Contextual Competencies. In this research the core Technical Competencies required for IT Project Managers are identified. From individual's perspective, identification of core technical competencies helps project managers to distinguish the most important and less important technical competencies and they can enhance the chances of project success through improving these core technical competencies. From organization's perspective, identifying the importance degree of technical competencies, help organization to have a strong tool for assessment their personnel and of course the project managers technical competencies for finding the competency gaps in this area and by arranging related trainee courses improve personnel and project managers competencies. By applying e-portfolio for enhancing these core technical competencies, organizations can benefit the tacit knowledge which is shared among their project managers and also from one organization to another organization.

3. Research Methodology

In this study in order to address IT project managers' technical competencies, two phases was defined. The objective of first research phase was to identify the importance degree of technical competency elements to rank them in three main categories of highly important technical competency elements which is known as core technical competencies, important technical competency elements, and moderately important technical competency elements. The questionnaire distributed among 75 IT Project managers in Malaysia, and totally 43 usable responses were obtained. To achieve the objective of research first phase, 30-item technical

competency elements of APM competency framework(Refer to table1) was hired, then from IT project managers' perspective the importance degree of these 30-item, based on 5 point Linkert scale questioned. The results show that IT project managers in Malaysia, valued 10 elements as highly important or "core technical competency elements". These core technical competencies are Implementation, Scheduling, Stakeholder management, Hand over and close out, Information and reporting, Scope management, Change control, Requirement management, Earned value management, Method and procedures (refer to chart1). IT project managers also valued Issue management, Project success and benefits, Project quality management, Procurement, estimating, Project risk management, Procurement, Estimating, Project risk management, Resource management, and Development as "important technical competency elements". Finally, they ranked Concept, Budgeting and cost management, Definition, Business case, Project review, Value engineering, Modeling and testing, Project management plan, Marketing and sale, as "moderately important technical competencies". In the second research phase, based on literature review, previous experiences in project management, IT project managers' suggestions, and also the analysis of the study, a framework which suggests e-portfolio supports on IT project managers' core technical competency elements is proposed.

Technical Competence(TC), based on APM Competence Framework		IT Project Managers' Perspectives				
		Unimportant%	Of Little Importance%	Moderately Important%	Important%	Very Important%
1	Concept	11	21	63	5	0
2	Project success and benefits management	0	0	10	69	21
3	Stakeholder management	0	0	3	7	90
4	Requirement management	0	2	5	30	63
5	Project risk management	1	4	19	58	18
6	Estimating	0	6	15	66	13
7	Business case	7	37	52	3	1
8	Marketing and sale	16	17	44	21	2
9	Project reviews	0	23	48	20	9
10	Definition	13	30	54	3	0
11	Scope management	0	0	3	17	80
12	Modelling and testing	17	34	46	3	0
13	Methods and procedures	0	3	8	37	52
14	Project quality management	1	0	17	69	13
15	Scheduling	0	0	0	8	92
16	Resource management	1	7	12	53	27
17	Information management and reporting	0	0	4	14	82
18	Project management plan	0	1	45	31	23
19	Configuration management	17	33	38	12	0
20	Change control	0	0	1	23	76
21	Implementation	0	0	0	4	96
22	Technology management	5	19	38	29	9
23	Budgeting and cost management	0	10	57	30	3
24	Procurement	0	4	12	67	17
25	Issue management	0	3	13	73	11
26	Development	0	4	28	52	16
27	Value management	0	13	51	29	7
28	Earned value management	0	3	7	34	56
29	Value engineering	0	17	48	29	6
30	Handover and closeout	0	0	4	13	83

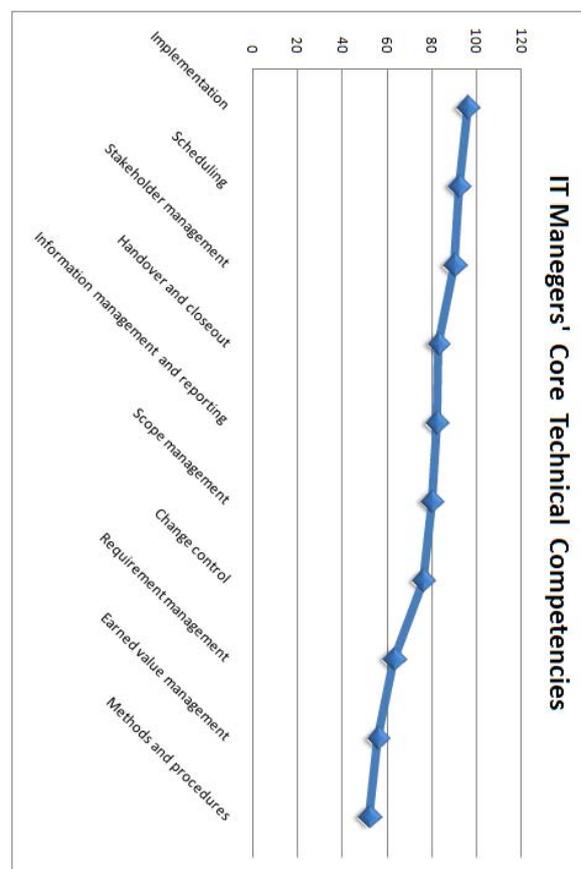Table1: Project Managers Technical Competency Elements

Chart1: IT Project Managers' Core Technical Competencies

4. Proposed Framework

To some up with paper Framework has been designed as below; this framework illustrate the relation between IT Project Managers' Core Technical Competency and the role of e-portfolio to support selected items.

5. Acknowledgement:

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