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Congruence and scope for incorporating ACTIVE principles into project management competency frameworks

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Abstract Title

Project Management competency has been recognised as a critical source of competitive advantage and key to successful project delivery. For this reason it is important that the competency frameworks used to achieve competence in project organizations are effective and fit for purpose. The European Construction Institute (ECI) developed eight principles through the ACTIVE (Achieving Competitiveness Through Innovation and Value Enhancement) initiative in an attempt to add value to the delivery of projects. This research explored the congruence and scope for incorporating the ACTIVE principles into current competency frameworks in use by project organizations. An interpretive and qualitative research approach was adopted, using semi-structured interviews with eight Project Managers and Learning and Development Managers in project organizations. The use of competency frameworks is not as widespread as first thought. Current competency frameworks in use in project organizations are based on a fairly comprehensive body of knowledge and largely congruent with the ACTIVE principles centered around concept definition, team management, supply chain relationship management, communication, risk management, innovation, project execution and performance measurement. However, ACTIVE principles' underpinning ethos of creating a collaborative working environment in projects is a missing piece worthy of incorporation into competency frameworks currently in use in project organizations.

Keywords: Competency, Frameworks, Competence, ACTIVE, PMBoK, European Construction Institute (ECI)

1. Introduction

The successful delivery of any project relies on the competency of its project management team. Within the dynamic industry of construction, with ever changing project needs and

roles, it is important that the competency of the Project Managers accurately reflect the qualities required for successful delivery of projects. This should be considered by any organisation in an effort to ensure their competitiveness within the industry. For this reason, project management competency has been recognised as a critical skill set for ensuring project success, and hence something that should be a priority for companies. Munns and Bjeirmi (1996) suggest that the factors of success in project management include commitment to complete the project, appointment of a skilled project manager, adequate definition of the project, correct planning of the activities in the project, adequate information flow, accommodation of frequent changes, rewarding the employees, and being open to innovations. Based on these factors, project organisations have often attempted to develop the competences of their key project management staff using templates referred to as competency frameworks. There are however several competency frameworks in use that it is not clear how organisations arrive at their choices, how they are used and how they are implemented. The European Construction Institute (ECI) developed eight principles through the ACTIVE (Achieving Competitiveness Through Innovation and Value Enhancement) initiative in an attempt to add value to the delivery of projects. This research set out to explore the congruence and scope for incorporating the ACTIVE principles into current competency frameworks in use by project organizations. In the sections that follow, comptency frameworks and the ACTIVE principles are explained. The results and discussion of the findings from interviews with Project Managers and Learning & Develoment Managers in project organisations are then presented. Current competency frameworks in use in project organizations are based on a fairly comprehensive body of knowledge and largely congruent with the ACTIVE principles centered around concept definition, team management, supply chain relationship management, communication, risk management, innovation, project execution and performance measurement. The ethos that underpin the creation of a collaborative working environment in projects however appears to be a missing piece in the ACTIVE principles. Project organisations may therefore consider incorporating these into competency frameworks currently in use.

2. PMBoK and Competency Frameworks

2.1 Competency versus competence

The PMI Project Management Competency Framework Standard (PMI, 2002) makes the distinction between competence and competency, stating that ‘a competency is a cluster of related knowledge, attributes, skills, and other personal characteristics’ and it is these which ‘can be broken down into dimensions of competence’. Applying the concept of competence, in a context specific to managers, Boyatzis (1982), defined competency as “an underlying characteristic of a person. . . including motives, traits, skills, aspects of one's self-image or social role, or a body of knowledge which he or she uses”. Mirabile (1997) also describes competency as “a knowledge, skill, ability, or characteristic associated with high performance on a job, such as problem solving, analytical thinking, or leadership”. This view is consistent with the definition provided by Engineers Australia (2003) to whom competency implies the capability to work to a standard expected which may be ‘high performance’.

In this study, competency will be used in a person-related sense; however this will still directly affect the company 'since organisational-level competencies are embedded in employee-level competencies' (Cardy and Selvarajan, 2006 p.236). Competency will be defined as a cluster of knowledge, attributes, skills, and other personal characteristics (c.f. Boyatzis 1982, Mirabile 1997, Engineers Australia, 2003). Competence will be used in the job-related sense (area of competence), defined as the individual dimensional elements that make up an individual's job related 'competency'. For the construction industry, the essence in focusing on improving competency of project managers derives also from the impact of projects on the company's business (Edum-Fotwe and McCaffer, 2000 p.112). A project may involve such a large amount of capital that failure may bring the organisation down.

2.2 Competency frameworks

The Project Management profession emerged as a new discipline in the 1960's. Project Management societies created forums in the early 1970's for interested parties to share information, however not enough attention was focused on the standard of the output of this new discipline. In the mid 1980s, the US headquartered Project Management Institute (PMI), and later APM, the UK Association for Project Management (APM), embarked on certification programs to test whether people met their standards of project management professionalism (Morris et al., 2006, p.462). The PMI established its first 'Body of Knowledge' (BoK) in 1976, which became the basis of its certification program in the mid 1980's; with further updates occurring during the 1980's and 1990's and 2000's.

Concern for project management competence has led to the development of standards for project management knowledge and practice that are used for assessment, development and certification (Crawford, 2005). Professional competency in project management is attained by the combination of knowledge acquired during training, and skills developed through experience and the application of the acquired knowledge (Edum-Fotwe and McCaffer, 2000 p.112). This combination of knowledge and relevant skills needs to be assessed against a benchmark. This is done through the use of a competency framework, which is built upon the necessary competence elements specific to the role of a project manager contained in Bodies of Knowledge.

There are a number of existing competency frameworks based on individual BoKs, each containing a slightly different set of competences, deemed by that institution, as the set required for the project management discipline. The three main frameworks are the Association for Project Management competence framework (Association of Project Management, 2008), the Project Management Institute - Project Manager Competency Development Framework (Project Management Institute, 2002) and the International Project Management Association (IPMA) competence baseline Version 3.0. (Caupin, 2006). Another big framework, however less common in the UK, is the Australian Engineering Competency Standards (Engineers Australia, 2003). In 1998 IPMA, produced an amalgam of these national BoKs: The IPMA Competence Baseline – together with proposals for harmonising the various national project management qualifications (Morris et al., 2006, p.462). The latest edition of this document is the IPMA Competency Baseline Version 3.0 (Caupin,

2006), which is based on some of the updates and contributions made by IPMA member associations.

The role of a construction project manager involves a diverse number of competencies comprising many individual elements. To account for this, Lampel (2001) refers to four types of core competencies (entrepreneurial, technical, evaluative and relational), however Caupin (2006), within the Version 3.0, refers to three types of core competencies (contextual, technical and behavioural). This change in breakdown may have come about as a result of changes that have been identified through analysis of the industry; with the new set from Caupin (2006), more accurately reflecting the important factors required by the role of project manager. For this reason, this study will focus on the three areas of competencies as explained within the most recent Version 3.0 (Caupin, 2006) which contains a grand total of 46 fundamental competencies.

3. ACTIVE Principles

ACTIVE is the acronym for an initiative launched by the ECI (European Construction Institute) in 1996, in an effort to improve competitiveness of capital projects within the onshore process, energy and utility industries within the UK. ACTIVE stands for 'Achieving Competitiveness Through Innovation and Value Enhancement'. Its aim is to change adversarial behaviours and apply better practices in the delivery of capital projects. The initiative is underpinned by a set of eight principles which provide the foundation for building an industry culture characterised by co-operation, trust and commercial efficiency (ECI, 1998). These eight principles are as follows (ECI, 1998):

Effective Project Concept and Definition

Effective Project Team Management

Effective Supply Chain Relationships

Effective Information Management and Communication

Effective Project Risk Management

Effective Innovation and Continuous Improvement

Effective Project Execution

Effective Performance Measurement

The principles above underpin processes within the discipline of project management; however it is the competences that underpin these principles which are where the focus of this study lies. An overview of the eight ACTIVE principles suggests there are many elements which already appear within the APM Body of Knowledge and some which appear very loosely, if at all. The ACTIVE principles are a combination of the fundamental

competences such as communication, risk management and procurement, however it should be noted, that the majority of these are grouped as 'technical' competences within the IPMA framework. They are associated with the elements of competency required to get the job done, rather than the personal competencies that enable the project manager to do the job as described by Boyatzis (1982).

The main criticism of the ACTIVE principles lies in their focus on increasing organisational competitiveness. However, the principles are underpinned partly by the elements which form personal competences. As Cardy and Selvarajan (2006) opine, organisational competences are embedded within personal competences. The behavioural competence elements of ACTIVE principles therefore fulfil the personal competences need.

4. ACTIVE Principles and Competency Framework

ACTIVE, in essence, comprises a number of principles which if followed by an organisation, ensures competitiveness (ECI, 1998). In their current form however, they are not directly transferable into a competency frameworks. To do so, each of the principles will need to be broken down into their individual technical, behavioural and contextual competence elements. At that level of detail, the elements will represent the skills, attitudes and knowledge required to undertake the processes that reflect the ACTIVE principles. The literature however identifies potential barriers for implementation of some of the ACTIVE principles. According to Arditi et al. (1997) for example, innovations are rather incremental than radical in the construction industry. Therefore, it seems unlikely that there will be a widespread uptake of this competence.

5. Research Method

The main research strategy adopted is a qualitative approach using semi-structured interviews. Semi-structured interviews enable researchers 'to get large amounts of data quickly' (Marshall and Rossman, 1999, p.108). It is also the appropriate method as the research is aimed at developing a detailed understanding of individual's views, attitudes and behaviour (Moore, 1999, p.121). The target population for the study was Project Managers and 'Learning and Development managers' as these are the people who are directly responsible to recruitment, training/development and assessment of competence.

The qualitative data obtained from the interviews were supplemented with quantitative data in the form of ratings, an attempt to complement the two data sources (Neuman, 2006). Eight respondents were interviewed and comprised mainly senior project managers and learning and development managers. The respondents worked mainly in oil & gas, energy, pharmaceutical and construction sectors. During the interviews, the respondents also rated the individual technical, behavioural and contextual competences based on their importance to the role of the PM. Prior to the interviews therefore, the authors converted the ACTIVE principles into the competences they are aimed at instilling in project managers. This resulted in 25 competences comprising 8 technical, 7 behavioural and 8 contextual competences, which were then rated by the respondents during the interviews (see Table 1).

A thematic method of analysis was adopted to reveal themes from the interview transcripts. The themes were related back to the literature and the ACTIVE principles to explore areas of commonality and opportunities for incorporating the ACTIVE principles into competency frameworks.

6. Results and Discussion

Through a comparison of the three main existing frameworks (i.e. APM, PMI and IPMA) it was clear that together, they have a comprehensive coverage of competences. The frameworks however differed in their emphasis. To facilitate the comparison with the competency frameworks, all the eight ACTIVE principles were broken down into their corresponding competence elements, identifying whether they are technical (T), behavioural (B) or contextual (C). The majority of principles contained each type of competence however the majority were technical competences. This, unsurprisingly was consistent with the three main frameworks reviewed earlier. The key emergent themes from the interviews are explained and discussed below. Through a comparison of the three main existing frameworks (i.e. APM, PMI and IPMA) it was clear that together, they have a comprehensive coverage of competences. The frameworks however differed in their emphasis. To facilitate the comparison with the competency frameworks, all the eight ACTIVE principles were broken down into their corresponding competence elements, identifying whether they are technical (T), behavioural (B) or contextual (C). The majority of principles contained each type of competence however the majority were technical competences. This, unsurprisingly was consistent with the three main frameworks reviewed earlier. The key emergent themes from the interviews are explained and discussed below.

6.1 Reliance on generic CF

There is heavy reliance by organisations on the baseline frameworks produced by the APM (Association of Project Managers) and PMI (Project Management Institute) for example. As one Senior Project Manager notes "*all competencies are covered in IPMA or PMI*" (Senior PM, ORG5). This is supported by the views of a Learning and Development Manager who pointed out that their framework is "*based on the PMI and APM competencies as these are most suited to [their organisation] and are known and accepted globally*". (L+D manager, ORG1). This suggests that they trust the scope of competences covered by these globally recognised frameworks and would therefore not require anything extra to fulfil the project management needs of their organisation. This indication of widespread use of generic competency frameworks is backed up by Morris et al. (2006) who state that as at 2006, 'there are now over 55,000 PMP's in PMI and about 10,000 certificated members of the APM'.

6.2 Organisation specificity

It became apparent that if a competency framework is to be effective it must fit the requirements of the organisation. The main advantage of a company specific framework would appear to be the benefits gained through compatibility with company processes and policies, culminating in continuous improvement. As one respondent points out "*if it was a*

generic framework it would be a waste of time" (L + D Manager, ORG8). Compatibility with existing systems allows the organisation to work more collaboratively as a whole, with a common language facilitating increased efficiency. This view is echoed by a senior project manager, "*There is an advantage of having a common language spoken to ensure everyone coming from different organisations or backgrounds to the organisation use the same terminology. It can give a commonality of how things are carried out and gives a basis of what project management should be*" (Senior PM, ORG5). Here a common language has been shown to benefit the human resource department, with organisations keen to saturate their new employees with their own company specific terminology as it is seen to allow better integration into the day-to-day work of the company.

6.3 Barriers to CF

The time related aspect of implementing competency frameworks was a concern for some organisations. Partly to blame is the vast number of competence elements that make up the frameworks. There need to be such a significant amount of competence elements to allow flexibility for each stage in the project life cycle. As one L + D Manager put it, "*the paper based framework is unwieldy for a business as it takes so much time to reach level 5 of 40 or 50 competencies*" (L+D manager, ORG1). The concept behind having such a large amount of competences may work in theory and be justified in business terms but it just does not seem practical. One respondent sums up this view, "*finding the time to take the training is often difficult*" (Project Academy Co-ordinator, ORG2).

6.4 Working Environment

The need for a collaborative working environment was emphasised. Incidentally, the ACTIVE principles aims to successful incorporate a culture of collaboration. As the ECI (1998) point out "through correct use of the principles the aim is to encourage a culture of collaboration and making people value orientated both towards themselves and the customer". This is already been considered by some organisations. As one respondent notes "*people, who can work collaboratively, have good interpersonal skills and can communicate well, are an advantage*" (Project Academy Co-ordinator, ORG2). However, this is a vision for collaboration to come directly as a result of the understanding already within the individuals not through the systematic method of implementing it through a framework. Another Senior PM (ORG6) pointed out that they were highly dependent on contractor relationships and would therefore directly benefit from increased supply chain relationships that can be fostered through use of the ACTIVE principles.

6.5 Awareness of ACTIVE

From analysis, the awareness of ACTIVE among the organisations is mixed. Some organisations have heard of ACTIVE but choose not to use them while some are aware of them and are using them under a different name. There are however others who have never heard of ACTIVE at all. Overall, this would indicate a low level of awareness.

One L+D Manager who had never heard of ACTIVE, was able to take a quick glance and was of the opinion that "*there is nothing in the ACTIVE principles that is surprising*" (L + D Manager, ORG8). This is interesting because at a quick glance you simply wouldn't be able to fully appreciate all that the ACTIVE principles can offer to organisations. Only when the competence breakdown is seen, can it be understood what is really beneath the surface of the initiative.

Of the three organisations that were aware of ACTIVE, two of these said they actively used them. The third however dismissed any intended inclusion of the principles saying "*if you manage a project effectively then you are carrying out the ACTIVE principles*" (Senior PM, ORG5). This could be true but could be said of PRINCE2 also, for example. If you are managing a project effectively, you could say you were using the processes contained within PRINCE2. However, perhaps the point being made is that ACTIVE makes up the core set of competences behind any project. This same company views ACTIVE as part of their lean initiatives, linking it to the value enhancement side of project management. As they argue, "*lean principles seem to overlap the ACTIVE principles with regards to effectively running a project. While our organisation is in favour of making sure the project is carried out effectively, ACTIVE is probably not a well known term in the organisation*." (Senior PM, ORG5).

Table 1: Importance of Competences to PM role

Competence	Average Rating	Category
Decision Making	9.7	Contextual
Leadership Skills	9.4	Behavioural
Communication Skills	9.2	Behavioural
Problem Solving	9.0	Behavioural
Organisational Skills	8.9	Contextual
Risk Management	8.9	Technical
Teamwork	8.8	Behavioural
Stakeholder Management	8.8	Contextual
Ethics and Values	8.7	Behavioural
Change Control	8.6	Contextual
Developing Teams	8.5	Behavioural
Negotiation Skills	8.5	Behavioural
Resource Management	8.4	Technical
Commercial Management	8.3	Technical
Project Implementation Control	8.2	Technical
Planning	8.1	Contextual
Programme Management	8.0	Contextual
Contract Management	7.8	Contextual
Awareness of the Business Needs	7.8	Contextual
Implementation of Standards, Systems and Procedures	7.7	Contextual

Information Management	7.5	Contextual
Financial Management	7.5	Technical
Quality Control	7.3	Technical
Procurement Control	7.1	Technical
Technical Ability	6.5	Technical

Of the remaining two companies aware of ACTIVE, one uses them as part of their PM development, however they are quick to point out "*they are not called ACTIVE principles in the framework but are built in*" (L + D Manager, ORG1). The other organisation on the other hand however, uses ACTIVE to develop their PM procedures but do not use them for training and development purposes.

6.6 Importance of Competences

Table 1 shows the ratings of the importance of the competences to the role of the Project Manager. The results show that the behavioural competences are highly rated, being rated all above the average. Interestingly, over half of the technical and contextual competences have been rated below average. Although the technical competences feature quite heavily in the 3 main competency frameworks, the results here appear to suggest that the technical competences are relatively less important. As one respondent notes when it comes to recruitment, technical competences are not as important, "*we tend to make a judgement more on the behavioural and contextual competencies*" (Senior PM, ORG5). The fact that the technical competences can be well taught means that all of the focus lies with those which are harder to teach and are normally embedded within the PM from day one, these being the behavioural and contextual elements. Another Senior PM is even more direct, *"The more technical related competencies are possibly less important"* (Senior PM, ORG6). However, a Senior PM puts this a bit in perspective, explaining that the importance of the technical competences may depend on the project phase, "*Once you're in the build phase i'm not sure whether it matters if they have technical competencies it really depends on the phase*." (Senior PM, ORG4).

7. Conclusion

A number of key findings are worth highlighting. First, the results suggest that generic frameworks are no good, for the reason that every organisation is different. Therefore there is a need to have organisation specific competency frameworks. Part of the process of contextualising the competency frameworks is to recognise the importance of certain project phases or discipline or project size. Competency frameworks also appear to be missing necessary competences for fostering collaborative working environment. A behavioural focus is therefore paramount.

Second, of the three types of competences, the behavioural ones are more important to the role of the project manager while the technical competences appear to be the least important. This is somewhat surprising, given that competent engineers who show

proficiency in their mainly technical specialism tend to be those promoted to project manager status.

Third, the findings appear to suggest that the ACTIVE principles do not add anything new which generic competency frameworks do not already provide except for innovation and continuous improvement. Yet, there is no evidence that organisations employ any systematic approach to determining what is missing within the frameworks they currently use. As far as the ACTIVE principles are concerned, the argument for their inclusion in existing competency frameworks is not that strong as evident from this study. The majority of the ACTIVE competences comprise those of a technical nature. These have been shown in the analysis to be less important than those of a behavioural or contextual nature it would seem.

Taken together, the current competency frameworks in use in project organizations are based on a fairly comprehensive body of knowledge and largely congruent with the ACTIVE principles. However, ACTIVE principles' underpinning ethos of creating a collaborative working environment in projects is a missing piece worthy of incorporation into competency frameworks currently in use in project organizations. This therefore has implications for the competency development of project managers in terms of what should be emphasised and in terms of the scope of training programmes.

This study however has several limitations. The main limitation is with regards access to the interviewees. Due to their important roles within their organisations it was hard for them to be interviewed for longer periods of time which may have affected the breadth of the issues explored. Also, as with any qualitative study, the findings of this study cannot be generalised across all project organisations.

The study highlights potential avenues that future research can pursue. Project organisations can benefit from a systematic way of determining which competences are actually missing from a competency framework in use. It appears at present that the only way they are discovered is by chance whereby they realise they are missed when they are needed. Further research into the actual benefits of using the ACTIVE principles is required. A case study of an organisation which is planning to or is implementing the ACTIVE principles would provide valuable evidence in this regard.

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