FUTURE PRACTITIONERS OF PROJECT MANAGEMENT – ARE WE DISCIPLES OF STANLEY KUBRICK OR RIDLEY SCOTT?

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To peer into the future, we need to explore the tracks we have left behind as well as the prism through which we envisage what is yet to come. In this paper, the author examines the historical role of project management in society, and the challenges that lie beyond our immediate horizons. Cinematic visionaries provide us with images of aspirational projects, as well as a bleaker view of failed projects. The author examines the desirable attributes of competent project managers and the key players moulding future generations of project managers who may inherit the task of managing the very existence of the human race?

Key Words

Project management, future, education, training, attributes

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Abstract

To peer into the future, we need to explore the tracks we have left behind as well as the prism through which we envisage what is yet to come. In this paper, the author examines the historical role of project management in society, and the challenges that lie beyond our immediate horizons. Cinematic visionaries provide us with images of aspirational projects, as well as a bleaker view of failed projects. The author examines the desirable attributes of competent project managers and the key players moulding future generations of project managers who may inherit the task of managing the very existence of the human race?

1. Introduction

In this conceptual paper, the author explores one of the key themes of the 2011 International Project Management Association (IPMA) Congress – the Future. The project management profession has a longstanding legacy that allows us to reflect on past achievements (Fondahl, 1987; Y. Kwak, 2003; Alan Stretton, 1994a, 1994b, 1994c) and the evolutionary patterns that have developed, and to consider the implications for the future in the context of education and training for future practitioners.

2. Early project management in terms of human history

Homo Sapiens evolved over approximately two million years in Africa and then undertook an amazing journey over the last one hundred thousand years or so across Asia, Europe, the Americas and Australia (Lahr & Foley, 1998). Motivated by the search for food, and perhaps curiosity, Homo Sapiens ventured out of the security of Africa into an unknown landscape. To achieve that amazing feat, early leaders of those expeditionary tribes needed to solve numerous challenges, each of which

represented a project to be managed and overcome. Evolutionary forces allowed those who managed risk well to survive and procreate and to continue the journey, while those who managed risk badly, perished, or were overcome by those who were better adapted or equipped such as the Neanderthals who succumbed to the strategies adopted by the predecessors of modern man (Gat, 1999; Hockett & Haws, 2005). Survival strategies were passed on from generation to generation in the form of communal learning as tales, stories and folklore, until more permanent communication strategies such as drawings, hieroglyphics, writing and printing allowed learning and wisdom to be distributed across all social layers as organisational or communal learning (Boreham & Morgan, 2004).

The availability of resources flowing from the evolution of Homo Sapiens and the ability to exploit the environment as well as the adaptation of technology allowed those with vision and leadership abilities to conceive and orchestrate larger and more complex undertakings to constantly extend the boundaries of the world as it existed at any given time. The Chinese and the Egyptians built complex civilisations thousands of years ago, and the Romans spread an empire across Europe and northern Africa. Columbus recognised the patterns of the winds on either side of the equator and risked everything on a project to cross the Atlantic and to forge a new route to the East Indies (Carroll, 1999). His assumptions were correct, although he discovered the West Indies to his surprise – it pays to be flexible in defining key project objectives. The outcome of that one project changed the pattern of trade routes across the world forever (Law, 1986).

Such undertakings represent part of the process of the evolution of what we now regard as contemporary project management. Key stakeholders have articulated organisational (or national) goals and objectives, allocated responsibility for achieving those objectives to those with leadership

and vision, allocated resources to facilitate the required change, developed new technologies to support the mission, identified and managed risk as best they could, and put in place an integrated strategy to see the project through to its conclusion. We are riding on the shoulders of thousands of leaders and managers across the eons who have tested their instincts with little or no framework of knowledge, and either lived to tell the tale for the benefit of others, or disappeared with little or no trace. The development of skills such as celestial navigation became critical tools for project managers of that era where the scope of such projects necessitated travel beyond known boundaries. It was only the existence and sharing of theoretical frameworks (e.g. navigation) that allowed the contemplation of such momentous projects which have forever changed the boundaries of the known world, and the human habitation of previously inaccessible landscapes.

3. The more recent history of project management

Numerous authors (Fondahl, 1987; Snyder & Kline, 1987; A. Stretton, 1994; Urli & Urli, 2000) have traced the more recent history of project management from its formalisation around the time leading up to World War 2, the development of sophisticated tools for better management of time, risk and costs, and the utilisation of computer technologies for improved performance and communications amongst stakeholders. Concepts such as project, program, portfolio and enterprise project management have raised the profile of project managers in the corporate world significantly to the point where senior job advertisements now commonly require some level of project management skills for executive positions across all sectors. There is an increased tendency towards organisational structures that embed dedicated project managers across organisations or within defined project management offices to secure organisational objectives (Faulkner, 2002; Y. H. Kwak & Dai, 2000).

Key skill sets have matured over the years from those that reflected a predominantly tools-focused role to one of coordinator and facilitator (Crawford, Pollack, & England, 2006) with an emphasis on relationship management and strategic alignment. The focus has changed from the technical and quantitative processes to those more qualitative skills (Smith, 1999) that are seen as essential to achieve project outcomes. Project managers, who once mainly came from the quantitative sectors of engineering and construction, now come from a much wider range of sectors including business, health, education, science, information systems and research (Wirth, 1996).

4. What will future projects look like?

What horizons do we adopt when we talk of the future? Using a cinematic perspective, do we look at the near future represented by Stanley Kubrick's '2001: A Space Odyssey' – a calendar date that has been and gone, but a scenario that has yet to pass? HAL (the **H**euristically programmed **AL**gorithmic computer) has not quite taken over our future as Arthur Clarke might have thought but technology and 'ubiquitous computing' (Lyytinen & Yoo, 2002) continue to dominate the essence of future projects. In '2012' and the 'The Day after Tomorrow' (http://en.wikipedia.org/wiki/The_Day_After_Tomorrow), solutions to problems created by rapid climate change are the objectives to be achieved by future project managers. In 'Blade Runner', Phillip Dick provides a bleak view of the world where massive projects have allowed those who can afford it to leave planet Earth to live in style and safety, with those who can't inheriting the legacy of a failed social project of multiculturalism where non-human replicants are hunted down by blade runners? Or do we travel forward to a world envisaged by Stephen Spielberg in 'A.I.' where failed projects in artificial intelligence have changed the landscape of society and blurred the meaning of life and death.

What message is there for future project managers in such art forms? Authors of such storylines incorporate sound research into their premise, although artistic licence tends to exaggerate time lines and story outcomes tend to spin out of control for the sake of drama (http://www.msnbc.msn.com/id/5058474/ns/us_news-environment/), but key messages remain. The conflict between the rapid and inequitable consumption of finite resources and societal expectations of increasing standards of living will be a key challenge for projects in the near and distant future. Ethical and moral views on sustainability will place demands on the economic dimensions of future projects, requiring difficult choices and decisions to be made in terms of project evaluation. What is desirable? And what is acceptable, as standards of living will inevitably fall where technology does not find ways to compensate for the diminishing availability of physical resources? What moral and ethical decisions will project managers of the future have to make (Hildur, 2008; Margaret R, 2009)?

5. Where will future project managers come from?

Project managers will inevitably be caught in this ethical and social crossfire. Who will be the project managers of the future? Will project managers increasingly emerge from industry on a 'learn as you go' basis, or will the responsibility for the development of future project managers be placed with the tertiary education institutions? Will society demand a new breed of project managers with competence at levels expected of historically recognised professions such as medicine and law? Will society continue to tolerate the extent of project failure that is seen to be commonplace (Pinto & Mantel, 1990)? As educators, do we have a strategy for development of our would-be profession? I contend that at present, we don't. We have disparate views on ways in which skill sets can be developed to the level that should be expected of an aspiring profession (Bredillet, Conboy, Davidson, & Walker, 2013). Recognition of professional mastery has historically moved from local guilds to state and national authorities, and more recently to international authorities, and the role of professional bodies should be as advocates of those members of their professions who have

earned their place at the table, not competing at commercial levels for training and certification dollars.

6. Project management as a future profession

The rights of project managers to regard themselves as part of a profession have been explored by numerous authors (Barber, 2001, p. 953; Curling, 1998; Mitra, 2001; Turner, 1999; Zwerman, 2000). Project management has often been called the 'accidental' profession (A. Stretton, 1994) and Turner (1999) has examined the nexus between PM as a profession and the role of professional associations. 'First-generation' professions of medicine, law and philosophy have matured through openness and sharing of ideas. Through such teaching and learning practices, consensus has been achieved in language, terminology, practices, values, and cultures which have become embodied in discrete disciplines and programs of study. 'Second-generation' professions of architecture, engineering, nursing and accounting have tried to model themselves on first-generation professions. Industry-based practices have evolved into theoretical frameworks through research and have now become the domain of universities and recognised undergraduate disciplines of study. There are valid reasons for university involvement in the development of professions, including objectivity, development of evidence-based practices through research, availability of infrastructure and a focus on 'higher learning' skills.

'Third-generation' professions such as project management have attempted to jump over that stage and bolt on professional 'wings' that allow them to fly with the minimum of training and formal education. Whitty has used a 'peacock' metaphor for project managers on previous occasions (Whitty, 2011) and this may be an apt example of its application – project managers who provide a colourful and noisy show but with little real ability to fly.

An analysis of higher education for medicine reveals a comprehensive pattern of learning, moving from early stages of basic awareness and knowledge of the essentials through to developing skills. The right to practice in more specialised areas of medicine requires greater levels of training and education (Booth, 1995). In project management, we have a fragmentation of training and education. Non-registered training organisations have carved out a sizeable niche providing continuing professional education (CPE) courses. Registered training organisations (RTOs) and the Technical and Further Education (TAFE) sectors offer programs structured around the Australian Qualifications Framework (AQF) (http://www.aqf.edu.au/Portals/0/Documents/Handbook/AQF_Handbook_07.pdf accessed 24 April 2010) and the Australian National Competency Standards for Project Management (NCSPM) (Australian Institute of Project Management, 1996). Universities are now moving into specialised undergraduate training of project managers following their successful implementation of postgraduate studies in coursework and research-based doctoral programs (Bredillet et al., 2013).

7. The future of project management education

There is limited control of providers of education and training in spite of national quality control authorities in both sectors. The Australian Skills Quality Authority (ASQA) is the national regulator for Australia's vocational education and training sector (http://www.asqa.gov.au/) and the Tertiary Education Quality and Standards Agency (TEQSA) is Australia's independent national regulator of the higher education sector (http://www.teqsa.gov.au/). There is little consistency across the training models employed by registered training organisations (RTOs), and there is inconsistency and duplication across the university sector in development of project management programs (Bredillet et al., 2013). The new Australian Qualifications Framework (Australian Qualifications Framework Advisory Board, 2011) will not eliminate the confusion due to interpretation of the requirements of graduate (and postgraduate) qualifications and the lack of clear guidelines on eligibility criteria and exemptions for work experience to provide advanced standing in tertiary study programs.

Competencies and learning outcomes that will be the key to future successful projects relate more to generic attributes and 'softer' skills (Australian Qualifications Framework Council, 2013), as these are essential in the articulation of project outcomes to meet the needs of disparate stakeholders. Such project managers will not depend on high levels of skill in the use of traditional tools – they will depend on the management of people (Caldwell & Posner, 1998; Smith, 1999). Traditionally, the development of such leaders has been the domain of universities where an emphasis lies on facilitation of skills in leadership of diverse teams, decision-making in 'fuzzy' environments (Tüysüz & Kahraman, 2006), and problem solving in situations of ethical dilemmas.

Established and recent entrants to project management are often unsure whether to seek professional certification or higher education, and the advice they receive is contradictory. Professional bodies promote certification processes as de facto professional qualifications in lieu of formal education. The Australian Institute of Project Management (AIPM) uses the RegPM certification process (http://www.aipm.com.au/html/regpm.cfm) to gain considerable revenue but has always struggled with the conflict between the AQF levels of the certification (levels 4 to 6) which equate to Diploma, Advanced Diploma and Associate Degree, and industry's expectations that highly competent practitioners would have qualifications well above Advanced Diploma level. The irony is that many of the recipients of professional certification already have competencies appropriate to postgraduate qualifications at university level. The Project Management Institute (PMI) promotes their suite of professional certifications (http://www.pmi.org/Certification.aspx) and earns considerable revenue from the program, but the PMI certification has no alignment with any qualifications framework (such as the AQF). In the case of both AIPM and PMI, certification is not always related to a requirement for membership of that body, which appears to be a significant anomaly in the sphere of professional recognition.

Part of the problem is created by the lack of a consensus between educators in the tertiary sector and this issue has been recognised and addressed by others in recent publications (Bredillet et al., 2013). Historically taught at postgraduate level, we now see the creation of undergraduate project management programs in universities (http://www.rmit.edu.au/programs/bp208), producing practitioners who may not have spent any significant amount of time in the workplace. This is offset to some extent by the increasing adoption of 'work integrated learning' (WIL) (Orrell, 2004) in university programs, and this should be expanded significantly to capture workplace experience.

Similar industries are concluding that an undergraduate degree is a clear indicator of an aspiring profession. For example, the Financial Planning Association has recently committed to a minimum entry requirement for professional recognition as a Personal Financial Planner of an appropriate Bachelor's degree (http://www.fpa.asn.au/default.asp?action=article&ID=21638). Educators in the area of project management must put aside their competitive tendencies, and share practices and resources to ensure that future graduates meet the expectations of all stakeholders. Where is the 'International Project Management Education Council' or its equivalent? It does not exist yet but it should. At this stage, the profession of project management has multiple competency frameworks developed by multiple organisations. The AIPM developed the Australian National Competency Standards for Project Management (NCSPM) (http://www.aipm.com.au/html/pcspm.cfm) in the 1990s and these have been revised over the years. The PMI has published the Project Manager Competency Development (PMCD) Framework, and the Global Alliance for Project Performance Standards (GAPPS) (http://www.globalpmstandards.org/) provides a forum for the creation of performance-based frameworks and standards for project management.

Project managers of the future will find it increasingly more difficult to access education and training due to workplace constraints. Physical attendance at universities and other places of higher learning will become more difficult, creating more demand on the utilisation of technology for access to learning activities. The need will be for more flexible learning opportunities but what is 'flexible' in pedagogical terms (Laurillard & Margetson, 1997; Moran & Myringer, 1999)? The profession of the future will demand quality project management education that is flexible in terms of place and time, and wrapped around a pedagogical framework that is consistent from one institution to another (Todhunter, 2009).

Unfortunately, there is considerable waste and duplication in the development of learning resources, most of which already utilise a common industry framework such as the Guide to the Project Management Body of Knowledge (PMBOK) (Project Management Institute, 2008). Synergies are largely untapped in terms of the multiple cohorts of project management students across the world, who could undertake learning activities in virtual and face-to-face team-based environments that would reflect an authentic project management workplace of the future. There are challenges in such models though, and assessment practices and integrity of the evaluation of the learning outcomes can be difficult to coordinate (Centre for the Study of Higher Education, 2002; James, McInnis, & Devlin, 2002).

8. Conclusion

This paper commenced with a reflective view of the evolution of project management – the drivers, the practitioners, the stakeholders and the outcomes, with projects progressively contributing to a cumulative body of knowledge. This platform provided the basis for development of project management practices and processes that have become formalised in contemporary methodologies. A view over the horizon has highlighted the changing nature of projects resulting from social and

economic pressures and rapid technological advancement. These changes will impact on the profile

of future project managers who will come from different backgrounds, have different attributes,

demand more extensive education and training, and require different professional skill sets to

manage the complexity and scope of future projects. Social and professional expectations will place

greater demands on higher education to provide appropriate teaching and learning environments to

cater for the needs of our future project managers.

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