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THE BUSINESS OF INVENTION: CONSIDERING PROJECT MANAGEMENT IN THE ARTS AND INDUSTRY

"Being a Project Manager is like being an artist, you have the different colored process streams combining into a work of art" —Greg Cimmarrusti

ABSTRACT Project management has well developed theoretical constructs and is becoming increasingly well established in core strategy beyond the industrial and corporate sectors from which it first emerged. With a concurrent increase in the significance of innovation, project managing for creativity is an area of research and enquiry of considerable significance. Notionally occupying polar opposite cultural positions in terms of perspectives and processes of creativity, project management in the arts is widely considered to vary significantly from corporate strategy and process. If business were to be more generally characterised by 'organisation' and discipline, the arts are more commonly celebrated for disorganisation, indiscipline, and the fundamental challenge to organisation itself. Considering both the confluences and variations between established project management theory in business and practice in the arts, this text introduces theoretical constructs pertaining to creative processes and highlights areas for consideration in the understanding and further development of project management theory.

Keywords: Project management, Creative project management (CPM), Higher Education.

Foreword

This text documents a review of experience gained in the teaching of creative project management (CPM) in a higher education arts context. As is common with programmes in the UK, final year honours degree study is often characterised by project-based activity in scholarship and research, and, in the arts, development of large-scale project work. Consequently, project management skills are routinely taught and assessed and a topic considered and exercised across a broad spectrum of disciplines and subjects and considered as valuable transferable knowledge and skill[1].

There are questions that emerge when considering educational approaches to the development of project management capability in different disciplines. Firstly, recognising that project management itself is a defined area of expertise in its own right, primarily aligned with business, engineering and product design, there is the question of capacity and selection. If project management is a secondary concern in a given area of study—as would ar-

1. The importance attributed to project management was highlighted in the report published by the Economist in 2009 entitled: Closing the gap: the link between project management excellence and long-term success: http://viewswire.eiu.com/report_dl.asp?mode=fi&fi=1865031771.PDF&rf=0

guably be the case with fine art, creative writing, or music composition—the question emerges about what elements of project management theory to introduce and to what depth and detail with displacing core activity. There may also the issue of potential contamination of the core discipline and for selected project management techniques to demonstrate different levels of incompatibility.

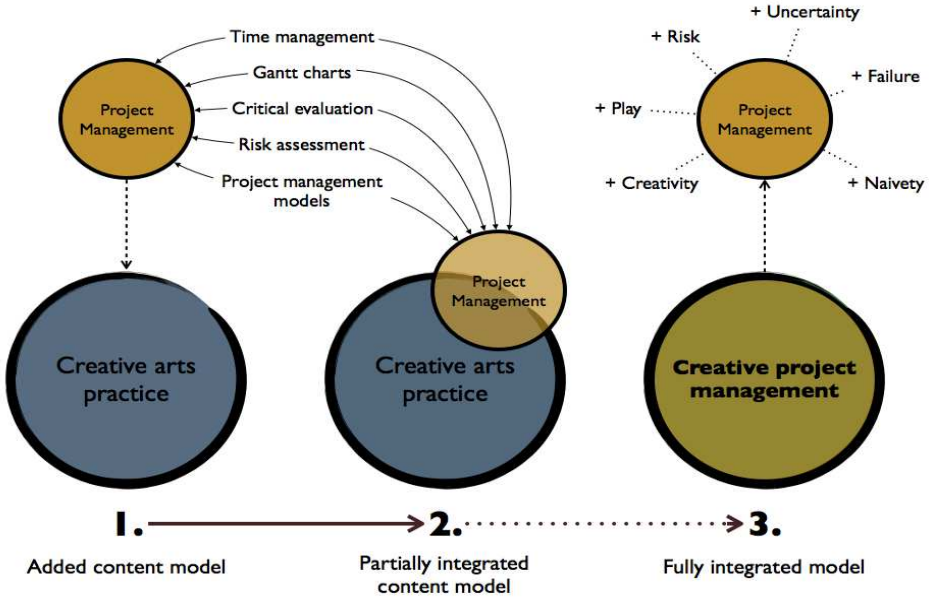

Figure 1: 3 stages of developing an integrated creative project management model

Initially, elements of project management including time management techniques, project planning and Gantt chart development, risk assessment planning and processes of critical evaluation, were introduced into an otherwise focused study of music composition. Represented by stage 1 in the diagram above (Figure 1), elements drawn from different disciplines were adapted or 'bolted on' to an established curriculum. Initially uncertain as to what extent project management theory would translate from business related contexts to creative arts contexts, certain adaptations of language and contextualisation of principles are necessary but value is nevertheless added to the teaching involved in terms of the development of relevant organisational abilities and an increasing level of transferable knowledge and skills.

Over time, and through stage 2 of in the diagram, work has subsequently focused on the professional application and management of creativity, and a more integrated analysis of project management models, their application, and implications both for immediate projects, and for wider personal and professional development. Developing a more integrated approach to the consideration of project management in the context of artistic creativity, aspects of project management theory, rather than considered as a discrete element of creative practice, are developed to become more integral to artistic endeavour. For example, with a concurrent focus on the application of creative thinking techniques and reflective evaluation of creative working practices and methodologies, the focus on project management started to develop insights that contributed to the main focus of study; that of

personal creativity and craft itself. Still considering the relationship between creative practice and project management as only partially integrated, this chapter is an attempt to articulate the move towards a fully integrated model of creative project management (CPM) identified as stage 3.

Whilst project management theory remains primarily confined to business and management in the literature and in higher education curricula globally, opportunities emerge to consider the potential for interdisciplinarity to enrich the understanding of project management and to develop new theoretical insights. A legitimate field of enquiry even if 'nascent' (Garel 2013 citing Blomquist et al., 2010), Söderlund and Maylor (2012) make an explicit claim for the status of project management research to be developed and elevated. Söderlund and Lenfle (2013) also highlight project management history as relatively underexplored and with scope for enrichment. This being the case, the arts appear to be relatively underrepresented in the literature about project management and there is therefore the potential for study of artistic practice to surface insights relevant to business and industry.

Considering project management

The term 'Project Management' carries with it different connotations according to the frame of reference. From the micro to the macro scale, all human endeavour essentially involves an integrated sequence of 'managed projects', ranging from the spontaneous and intuitive processes of real-time operation, repeated and connected patterns of structured behaviours, to wider and more general processes of life management and collective cultural activity.

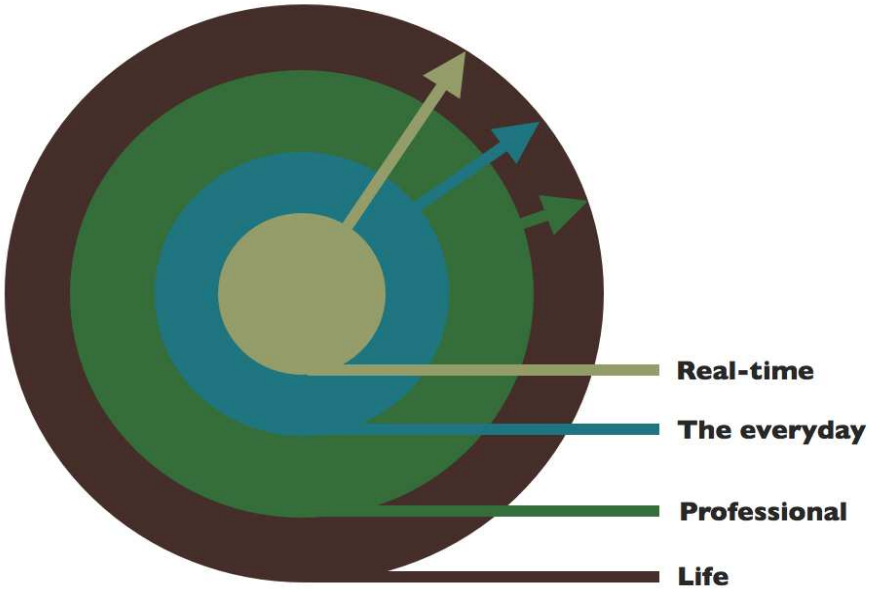

Figure 2: Levels of project management

As an area of human activity, project management has been evident for millennia. The archaeological evidence of large-scale and extraordinarily sophisticated engineering alone demonstrates the longstanding human capacity for coordination and integration of endeavor. The development of project management theory is however far more contemporary and a product of increasingly mechanized and industrialized systems. The specification of 'project management' as a discipline in itself is indeed widely attributed to U.S. Air force general Bernard Schrieve as recently as 1954.

Garel (2013) presents a succinct historical review of the development of project management theory and identifies in particular the distinction between practices and models; "the dual issue of envisaging a future undertaking and the act of making it happen" (2013, 663). Refined through the industrial revolution to embrace organisational processes driven largely by mechanisation and time-keeping, project management has risen to become a defined professional role through the increasing complexity and scale of civil engineering projects and the progressive industrialisation of defence (Kwak in Carayannis et al., 2005). Weaver (2007) also identifies the protestant reformation of the 15th century, including notable architectural innovation (Kozak-Holland & Procter, 2014), associated reductionism, later liberalism and the division of labour, Newtonianism, as significant foundations in the work of Taylor and the emergence of the 'Classical School' of scientific management.

Points of historical significance in the emergence of modern project management are widely documented. Amongst the most commonly cited include the development of graphical systems for the organisation and monitoring of projects including the 'Harmonogram' developed by Karol Adamiecki in 1896 and perhaps the more significant 'Gantt Chart' developed by Henry Gantt in 1912. Used directly in the production of ships during WWI and later in the building of the Hoover dam (1931), Gantt chart techniques and derivatives remain in widespread use. Specific project management methodologies started to emerge in the post-WWII era including the 'Critical Path Method' in 1957, developed by DuPont and Remington Rand to manage chemical plant maintenance; 'Program Evaluation Review Technique' (PERT) in 1958 used to manage the Polaris submarine programme; 'Work Breakdown Structure' in the U.S. military in 1962; Winston Royce's 'Waterfall Method' in 1970; 'Scrum' project management in 1986; PRINCE2, the '7-process' system, in 1996; and more recently, Agile project management emerging from the software sector. The now titled, 'International Project Management Association' was founded in 1965 as the 'International Management Systems Association', and 'The 'Project Management Institute' was founded in 1969, which coincided with the first professional accreditation of project management expertise, and the first project management professionals.

As Weaver (2007) argues, there is a clear distinction between generalised processes of project management and the modern professional discipline of 'Project Management'. The elements in the body of knowledge (BOK) of project management most relevant to artists and creative practitioners, and the extent to which project management theory can underpin effective approaches to the development and realization of creativity remain underexplored. In the context of this analysis, the principle aim is to interrogate first the distinctions between project management approaches—from the recognised professional corporate context, to the most open and liberated forms of artistic expression—both to inform pedagogic research about the development of project management ability as a transferable

graduate attribute, and to develop understanding of how artistic practice might inform creative approaches to project management in other disciplines.

How artists work: creative project management

Whilst there are many artists and creative practitioners famed for their industry, entrepreneurship and organisation—indeed many who have successfully transitioned from creative arts careers into leadership roles in other domains—conceptions of project management in the arts and in industry are generally conceived as differing greatly; framed by fundamentally distinct motivations, parameters, objectives and underlying activities.

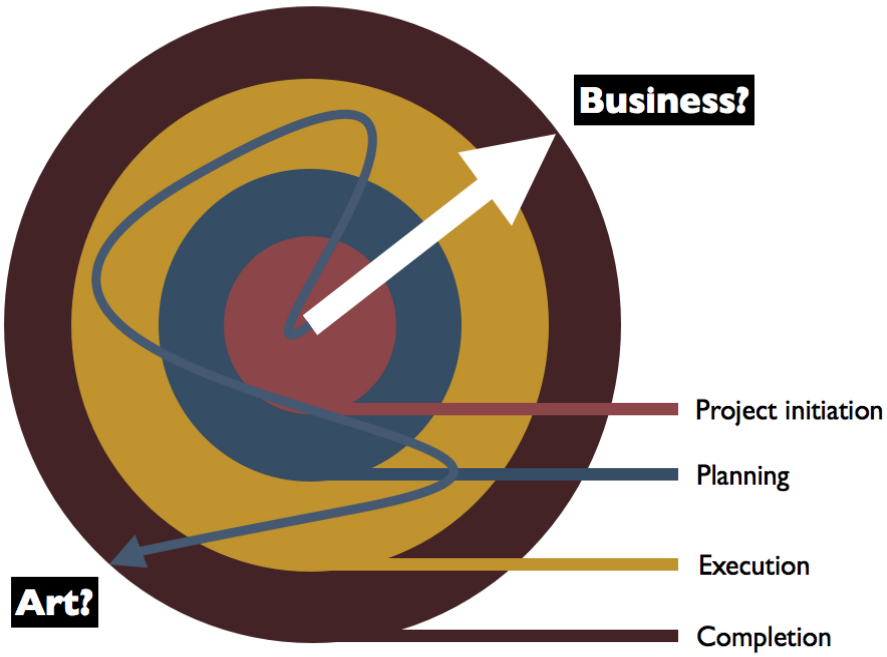

Figure 3: Project management journeys in art and business

The discourse of authenticity in the arts also dictates that any active interest in the exploitation and most certainly commercial application of creative endeavour informing the creative process would irrevocably compromise the integrity of the constructs involved. As Negus (2002) highlights, there is 'enduring distance' between production and consumption of art and well-defined 'cultural intermediary' roles. In other words, 'project management' within the corporate or industrial interpretation is present in the arts but often a component of a wider commercial arts system and practiced outside the artists themselves. If business-related project management were to be characterised by efficiency, focus and planning, artistic practice is often defined by inefficiency, ill discipline and aimlessness.

The reality of project management in the arts is however one divorced from most commonly reinforced cultural narratives surrounding the artistic process. Conceptions of spontaneity, giftedness, excess, against-the-odds and even miraculous discovery litter the un-

derlying 'genius' meme related to the cultural knowledge of the arts, indeed, an inference of the supernatural is by no means uncommon in many areas of artistic mythology and folklore. The idea that artistic expression would emerge from deliberate planning and organisation is often considered the antithesis of art itself.

> *No great artist ever sees things as they really are. If he did, he would cease to be an artist.*
> Oscar Wilde

Whilst the exceptional, the extraordinary and the 'gifted' may provide a richer biographical narrative, there is an underlying and often underplayed graft associated with artistic discipline. Leaving aside the related debates about ability, cognitive predisposition, 'talent', and the 10000 hours rule[2], underpinning all artistic endeavour, hard work is routine, doubt, crisis and suffering are frequent experiences, and invariably some form of systems for managing the development and maintenance of expertise, work and the completion of projects, often extremely productively, are always present.

Notwithstanding a general mythology that permeates the history of artistic invention and expression, the idiosyncratic and the exceptional nevertheless coincide on a considerable number of occasions. As Currey (2013) reveals in an insightful analysis, creative routines are regularly recorded as significant aspects of creative practice in the arts. Indeed, noting often obsessive discipline and protective maintenance of behavioural patterns amongst artists, Currey referred specifically to W.H. Auden's thinking in relating "military precision" of routine with the fundamental development of creativity itself.

As would be expected, working practices vary significantly between artists. There are however both some marked differences of approach and some significant coincidences of behaviours. One seemingly common aspect of working routines is walking; Beethoven, Morton Feldman, Søren Kieerkegaard, Frédéric Chopin, Gustav Mahler, Richard Strauss, and Erik Satie, are amongst many celebrated artists for whom walking was an almost ritualised feature of creative routine. Other commonalities include distinctly pharmacological approaches to the maintenance of daily working energies, and an often-profound focus on the significance of early morning activity (Currey, 2013). However, perhaps the most significant correlation in any analysis of working practice in the arts lies in self-determination.

Evaluating project management models

Distinctions between artistic practice and project management in industry stem primarily from issues of consequence (artistic engineering is not structural engineering), and scale of operation (artistic endeavour invariably operates at smaller scale compared with corporate and engineering contexts). Whilst it is possible consider a spectrum of project management categories according to these distinctions, the aim in this analysis is to interrelate rather than to distinguish.

Breaking project management down to four key stages; 1) Initiation; 2) Planning and Design; 3) Executing; and, 4) Completing; for the purposes of this analysis, Figure 3 (above) broadly characterises an interrelationship between different conceptions of project management processes and stages of development in business, commercial art and free art contexts.

2.First posited by Malcolm Gladwell and challenged by Hambick, D. Z., Oswald, F. L., Altmann, E. M., Meinz, E. J., Gobet, F. & Campitelli, G., (2013) Deliberate practice: Is that all it takes to become an expert? Intelligence, Elsevier: http://dx.doi.org/10.1016/j.intell.2013.04.001.

There are a number of aspects of project management that emerge as being of potential variance when considering relative norms and conventions in art and in industry; *Consequence*, related to the scale and practical context of the project, is perhaps the most notable.

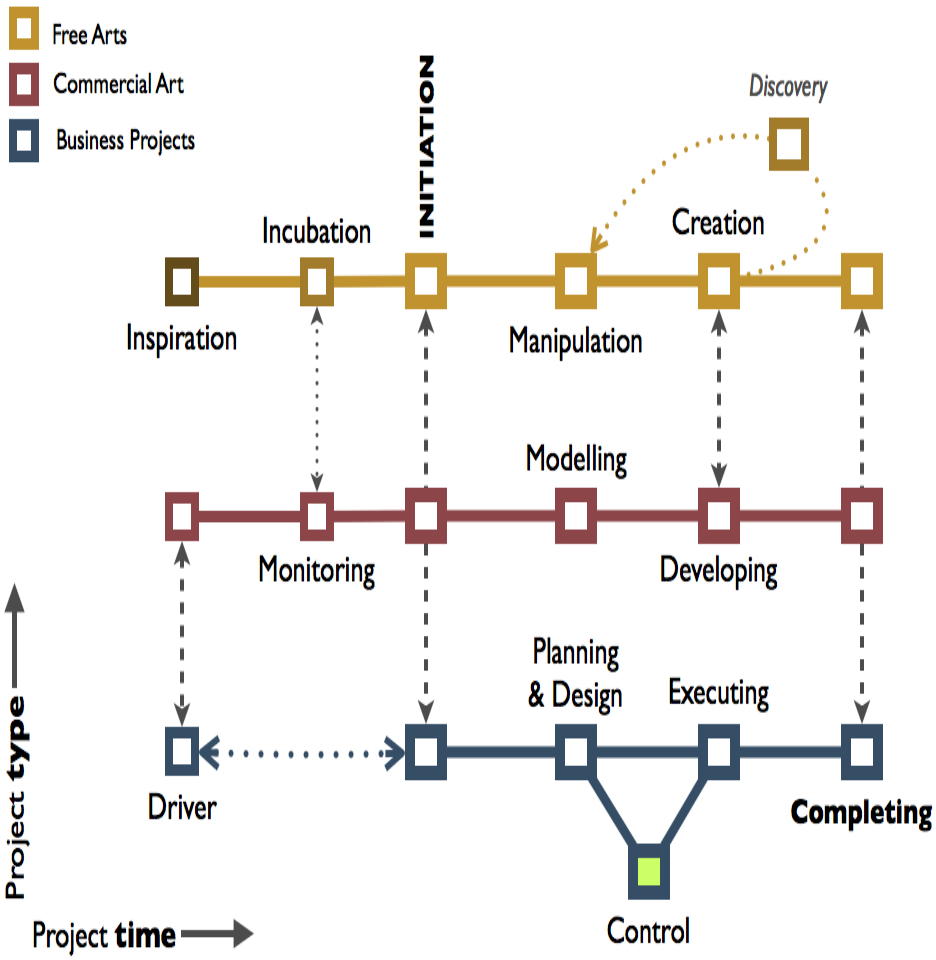

Figure 4: Stages of project management process

The cynical view of art from a purely practical perspective is that art it simply the proverbial process of "firing and arrow and painting a target where it lands"[3]. Whilst to a great extent this is arguably true, and indicative of greater flexibility in many aspects of operation, there are nevertheless considerable constraints if not major consequences surrounding any artistic practice. Indeed, to be recognised for significance in any artistic domain, a considerable number of alignments must be met related to aesthetics, quality, and creativity. Art is by no means a domain 'where anything goes'.

Characterising project management differences more broadly and in extremis, Figure 5 (on page 196) lists a number of concepts with an element of polarity, contrast or correspondence:

3. *Originally attributed to Homer Adkins referring to basic research. Later adapted by Brian Eno to define his artistic philosophy.*

Industrial project management	Creative project management
Clear destination	Uncertain destination
Clear route (and fallbacks)	Unplanned/vague route
Certainty of aims/outcomes	Uncertain aims/outcomes
Reducing uncertainty	Extending uncertainty
Working with certainty	Working with naivety
Removing uncertainty	Adding uncertainties
Resolving problems	Generating problems
Measured progress	Uncertain progress
Focus on competence	Exploring incompetence
Crisis/opportunity led deviation	Deliberate deviation
Efficiency	Inefficiency
Destination	Journey
Reducing/tackling risk	Increasing/embracing risk
Risk as danger	Risk as opportunity
Profit	Loss
Terminal	Germinal
Obstacle	Purpose
Soft	Hard
Rigidity	Flexibility
Stable	Unstable
Organised	Organic
Predictable	Unpredictable
Busy	Difficult
Exhilarating	Exhausting
Tried-and-tested (proven)	Novelty (unproven)
Familiar (known)	Unfamiliar (unknown)
Order	Disruption
Focus	Blur
Control	Participation
End	Arrival
Completion	Conclusion

Figure 5: Project management journeys in art and business

A routine experience in artistic practice is that of deliberate uncertainty and unstructured exploration of concepts, ideas, materials and technologies. Inherently focused on the search for novelty through inventiveness, artistic projects are predisposed towards the configuration of unfamiliar elements and ideas. Certainty of outcomes is consequently also a factor in project management that can vary significantly depending on context, as are efficiency and constraint by time.

Having identified a number of dynamics in comparing project management experience in business and the arts, the underlying question regarding the development of appropriate *creative project management* techniques (Figure 1, page 190) is framed by a series of key apparent variations. Rather than consider project management as a means of 'solving' problems related to inefficiency or organisation in the arts, the intention is to recognize the potential significance of activities in one domain notionally at odds with the requirements of another.

One such example is *risk*. In Figure 6 (below), the characterization of diminishing risk—and indeed the underlying imperative to reduce risk as quickly and as efficiently as possible in the commercial sector—is contrasted by the capacity and the tolerance for higher levels of risk throughout the development of projects in the arts.

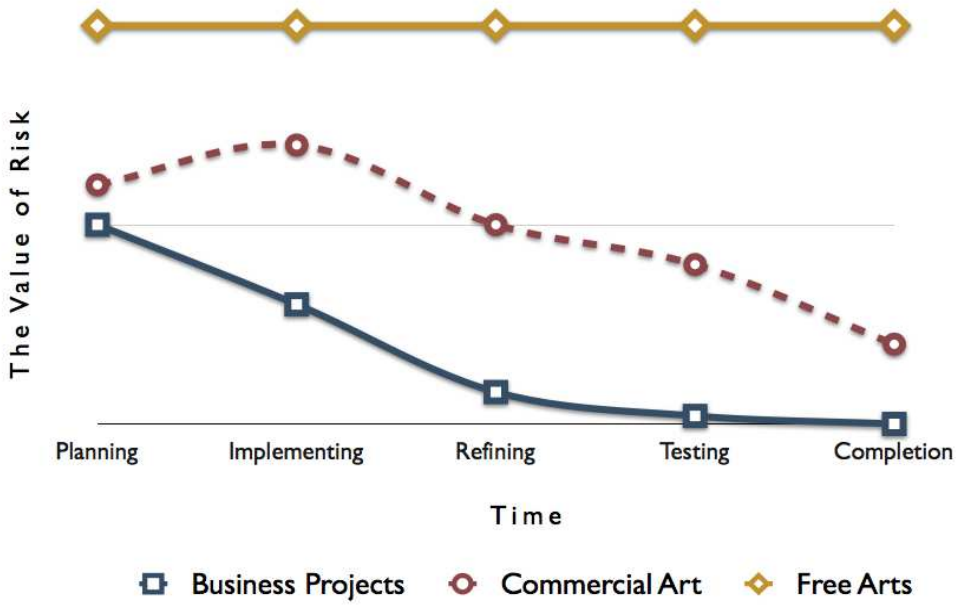

Figure 6: The value of risk over time in project management

One can envisage a series of other *Y*-axis related to certainty of outcomes, satisfaction with progress, competence, focus, deviation, or organisation. In each case the question emerges as to whether project management techniques can provide value to creative practice or might they potentially compromise either the operation or the integrity of the art the emerges given the apparent variations of experiences.

The recent history of project management theory has adjusted significantly in the face of new communication technologies and digital industries. Asynchronous and networked project activities have become more common and the transformative impact of digital tech-

nologies has led to functioning team size in many areas of project management activity becoming lean and localised. In some respects this has inaugurated as collapse in the obvious distinctions between artistic projects and professionally 'project managed' projects in that scale, pace, tools and dynamics are moving closer together in many respects.

For example, Petit (2012) and others recognise the significance of uncertainty in project management theory and the dynamics of flexibility and adaptability. Project management in the arts being perhaps more synonymous with process-based project management methods in business, project management systems including *Scrum* (Sutherland, 2004)—developing the work of Takeuchi and Nonaka (1986)—represent a progressive move towards more dynamic approaches to project management; more integrated, adaptive and responsive, and a project management methodology more synonymous with artistic practice.

> *Without the element of uncertainty, the bringing off of even, the greatest business triumph would be dull, routine, and eminently unsatisfying*
> J. Paul Getty

Pryke's 2005 project management analysis also reveals considerable resonance with artistic disciplines, namely, that any multiagency project, any group-based act of human endeavour, is subject to the vagaries and complexities of human behaviour and inter-personal contact. Citing Nohria and Eccles (1992) and their 'five reasons for taking a network perspective', a more cultural perspective of organisational project management is again presented that resonates sympathetically with practice in the arts.

Summary and conclusions

There are clearly rational and justifiable reasons why approaches to project management would and should differ between the open and consequence free environment of personal artistic expression and complex engineering projects operating within clear and considerable constraints and on vastly different scales. However, not only do even the most divergent processes incorporate elements of commonality and significant confluence of methodology and sequence of activities, there are areas in which the arts can enrich the most corporate of environments and where industry can inform creative practice and application in significant ways.

Figure 7 (See below) represents an initial adaptation of Alleman's agile project management to model introducing 'Risk', 'Experiment' and 'Play' into the project dynamics. Significant in any successful artistic work, the explicit reference to these in the context of project design was a first step towards more integrated models. Given the resonance between scrum project management and that of ensemble music practice and creative musicianship in general, more agile methodology appeared to be a natural first step. As outlined in the foreword to this text, the underlying aim in this analysis is to work towards a fully integrated model of creative project management; a framework that adds value to the discipline of artistic endeavour without compromising the integrity of artistic process and outcomes.

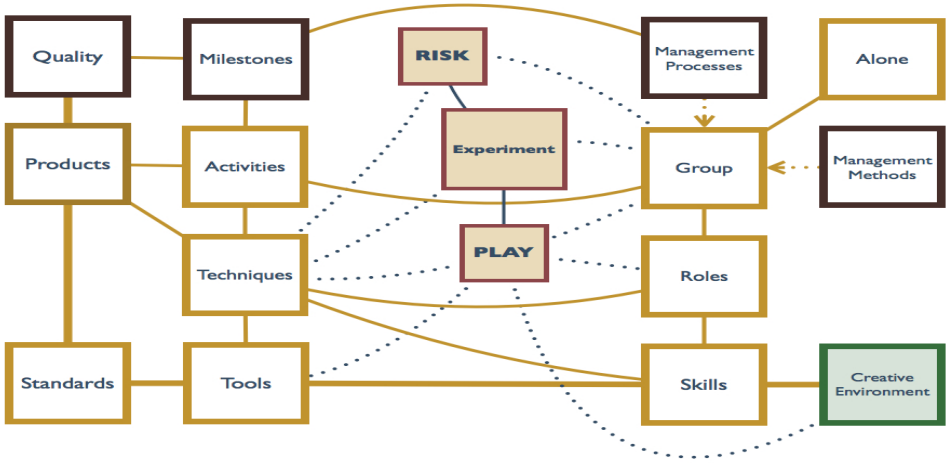

Figure 7: Adapted Agile Project management model[4]

Whilst useful in illuminating potential lines of ongoing research for project management in terms of flexibility and capacity for creativity, and effective in supporting learning and teaching in creative project management contexts, Figure 7 represents a transition between stages 2 and 3 in Figure 1. In order to develop an effective framework for the teaching of project management to fully embrace creativity and inventiveness, practice in the arts has been more centralised and elements from project management theory and the body of knowledge (BOK) incorporated and adapted.

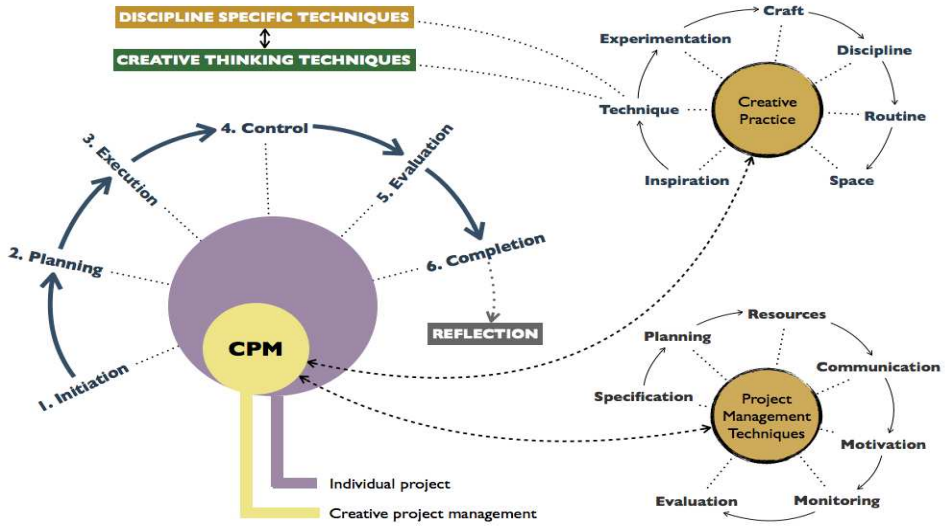

Figure 8: Creative project management (CPM) outline model

There remains much to be explored with respect to the influence of art on project management theory but the model developed in Figure 8 is a first step towards a fully integrated model. There is much to be gained through the interrelationship between art and science, business and free expression. The correct balance between discipline and indiscipline, focus

4.*Adapted from Alleman, G. B., in Carayannis &Kwak, 2002.*

and experimentation, open and closed, fast and slow (Kahneman, 2011), may be perpetually out of reach, but the search remains rich with possibilities.

> *"We all operate in two contrasting modes, which might be called open and closed. The open mode is more relaxed, more receptive, more exploratory, more democratic, more playful and more humorous. The closed mode is the tighter, more rigid, more hierarchical, more tunnel-visioned. Most people unfortunately spend most of their time in the closed mode.*
>
> *Not that the closed mode cannot be helpful. If you are leaping a ravine, the moment of takeoff is a bad time for considering alternative strategies. When you charge the enemy machine-gun post, don't waste energy trying to see the funny side of it. Do it in the "closed" mode.*
>
> *But the moment the action is over, try to return to the "open" mode - to open your mind again to all the feedback from our action that enables us to tell whether the action has been successful, or whether further action is need to improve on what we have done. In other words, we must return to the open mode, because in that mode we are the most aware, most receptive, most creative, and therefore at our most intelligent."*
> John Cleese

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