PAPERS

Advancing Project Management: Authenticating the Shift From Process to "Nuanced" Project-Based Management in the Ambidextrous Organization

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ABSTRACT

In this article, we recognize the ambidextrous nature of organizations, and use this concept to analyze the changing nature of the understood project management paradigm. Specifically, the ambidextrous nature of the modern organization explores and leverages both exploitation of existing processes, frameworks, and structures, and the exploration of new ways of achieving tasks and activities, embracing improvisational and nonroutine activity, as well as the more rigid and documented process-based activity embedded in organizational procedures. Initially, we examine the emergence of new and novel developments within both the processual and the behavioral domains within project-based management. A discussion follows that focuses on the relevance and importance of those developments from both areas and the likelihood of their influencing or contributing to a new and improved project management paradigm. Management by projects is an interesting developing field, and one that is growing in influence. The analysis we undertake points toward the emergence of a new project management paradigm, which reflects a distinct shift from the understood project management life cycle, toward a model where planning and execution merge into a more "organic" archetype, requiring skills and techniques that are advancing the required skill set of the competent project manager.

KEYWORDS: ambidextrous; critical evaluation; new model

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INTRODUCTION

Over the past 15 years or so, project-based management has been transitioning from a relatively immature management style utilized by the construction and other infrastructure-based sectors, to a management paradigm (Kuhn, 1962) that is applicable to many sectors (Cicmil & Hodgson, 2006), and that has become the accepted framework for managing change in the modern organization. There is, however, evidence to suggest that project management is undergoing an internal shift (Bredillet, 2004; Crawford, Pollack, & England, 2006; Pollack, 2007; Kolltveit, Karlsen, & Grønhaug, 2007), taking it away from dependence on planning and process and toward a more "organic" (Burns & Stalker, 1961) managerial model, encompassing more explorational and improvisational (Leybourne, 2006a) activities.

At the same time that this transition has been taking place in the project management domain, a parallel literature has been emerging, which documents the rise of the ambidextrous organization. Ambidextrous activity in an organizational sense considers the benefits of utilizing routine, process, and structure and more emergent, improvisational working styles, and leveraging the benefits of both simultaneously to improve performance. This new way of thinking about the organization in ambidextrous terms offers the opportunity to look at the evolution of project management through a different and appropriate lens, which considers both the exploitation of existing and accepted ways of achieving, and the exploration of new and innovative additions to the lexicon of working styles that can be embraced by the project manager.

This is an important issue, not least because there is currently considerable tension between the published and taught elements of the understood project management paradigm, and both anecdotal and empirical evidence of the way that project managers deliver project tasks and activities. This is complicated by the agendas of the main project management professional organizing groups (i.e., Project Management Institute [PMI], International Project Management Association [IPMA], Association for Project Management [APM], Australian Institute of Project Management [AIPM], Project & Program Management for Enterprise Innovation [P2M]), and also by the fact that project management skills are increasingly being seen as an essential

component of the experience base of the modern manager.

Additionally, there is also considerable discussion and tension between the perceived requirements of the academic community, and those of the project management practitioner body. The literature that is being generated around project management as a discipline is currently attempting to increase its appeal to practitioners, while attempting not to diminish its value to scholars. This is a situation that is not unique to project management, as it is recognized as an issue in business-related academia generally (Brannick & Coghlan, 2006; Rynes, Bartunek, & Draft, 2001; Van de Ven & Johnson, 2006), and also in specific management disciplines such as organizational psychology (Anderson, Herriot, & Hodgkinson, 2001) and human resource management (Torraco & Yorks, 2007).

The intention of this article is therefore to consider the literature about ambidextrous organizations as it applies to the project management domain, and to consider both the exploitational (i.e., formalized and structured) and the exploratory (i.e., more improvisational and innovative) elements of project-based management. We will then offer an emerging and more organically nuanced project management paradigm that may (a) offer benefits for the management of projects in the modern ambidextrous organization and (b) incorporate effective mechanisms for the execution of project tasks and activities in today's turbulent organizational environments. This will also assist in bridging the perceived academic versus practitioner divide.

This article will initially consider the extant literature relating to organizational ambidexterity, and follow by considering both the existing accepted frameworks for more "structured" project-based management, and the emerging, more exploratory ways of delivering project requirements and milestones. We will then move to a critical analysis of the current project management landscape, and discuss the evolution of the domain, and the likely adoption of more "explorational" managerial models in the modern flexible organization. Finally, we will propose an adjustment to the recognized project management paradigm of "*plan, then execute the contents of the plan with the minimum of deviation.*" A justification of this shift will also be offered.

The Literature

Initially, this section will consider the emerging literature on the ambidextrous organization and relate it to the way in which project management has been developing and highlighting parallels and ambiguities. The section will then go on to consider the existing project management frameworks and methodologies, and their appropriateness for meeting the challenges of future project-based work. These existing ways of achieving within the project domain will be considered in terms of their exploitational and explorational qualities. Finally, a number of emerging managerial approaches will be examined, together with their appropriateness for adoption within a potential adjustment to the currently understood project management paradigm.

Ambidextrous Organizations

The use of the word *ambidexterity* in scholarly debate has risen rapidly (Raisch, Birkinshaw, Probst, & Tushman, 2009) in multiple areas of research, including strategic management, innovation and technology management, organizational learning, and organizational behavior (Simsek, 2009).

Arguably, the term came to prominence with the work of O'Reilly and Tushman, which worked through a number of iterations (Tushman & Anderson, 1997, 2004; Tushman, Anderson, & O'Reilly, 1997; Tushman & O'Reilly, 1996), which resulted in a high-profile exposition of the basics in the *Harvard Business Review* (O'Reilly & Tushman, 2004). In essence, ambidexterity requires success at both exploiting the present and exploring the future (O'Reilly & Tushman, 2004).

This requirement for a better alignment of strategy, fit, and culture to improve the evolution of the organization has to be resolved with a requirement to engage with exploratory or more revolutionary change, which may have the effect of destroying the very nature of the evolutionary alignment sought (Tushman & O'Reilly, 1996). This tension between working through and implementing existing strategic plans, and seeking new and better ways of achieving, has parallels in many organizational sectors.

Project management is also changing and maturing. This change is manifesting itself in a shift from project management as the epitome of planning in the prescriptive mode (Maylor, 2001), toward movement over the past decade or so toward a more behavioral (Jaafari, 2003; Snider & Nissen, 2003) and improvisational (Leybourne, 2007) focus. In some instances, this shift has been driven by the increased turbulence of organizational environments or by the temporal challenges of fast-moving market sectors (Cooke-Davies, Cicmil, Crawford, & Richardson, 2007). In other instances, modern managers are becoming more aware of the relative shortcomings of traditional project-based structures to deal with the need to effect change or alter strategic direction to take advantage of new or emerging opportunities (Cicmil & Hodgson, 2006; Williams, 2005).

There is, however, an academically contested space within which there are two distinct camps: the traditional one where the management of project-based activity is related to process and control, and an emerging view that is more sympathetic to the need to resolve uncertainty caused by environmental turbulence and changing requirements, utilizing creativity, intuition, and the tacit knowledge built up over time and through experience.

It could be argued that this contested space or tension mirrors that espoused by Tushman and O'Reilly in their work on organizational ambidexterity. Notably,

both are linked to the need to resolve issues triggered by change and organizational and environmental disorder, and it therefore follows that some of the underpinning elements of ambidextrous management could be applied to unraveling the current tensions affecting the project management domain.

Existing and Developing Project Management Frameworks and Methodologies

Project management has matured over the past two decades in terms of project managers understanding the importance of well-managed projects within organizations and the factors that increase the success rate of projects (Papke-Shields, Beise, & Quan, 2010). This maturity has been achieved by practitioners and researchers investigating the factors within project management for a better understanding about why projects succeed and fail (Cicmil & Hodgson, 2006; Lee & Xia, 2005; Might & Fisher, 1985; Milosevic & Patanakul, 2005; Papke-Shields et al., 2010, Pinto & Slevin, 1987). It is from these investigations that the use of project management frameworks and methodologies has developed the assumption that the standardization of project management increases the success rate within projects; therefore, it is understandable that project management frameworks and methodologies have found acceptance within organizations (Cicmil & Hodgson, 2006; Milosevic & Patanakul, 2005; Mulder, 1997; Papke-Shields et al., 2010).

Project management standardization can take many forms, including the standardized use of tools, techniques, and methods. There does not seem to be a single definition to what might be included within the term *project management standardization.* Research in this area has included tools, techniques, methodologies, and different aspects of project management practices (Dvir, Raz, & Shenhar, 2003; Gowan & Mathieu, 2005; Ibbs & Kwak, 2000; Kerzner, 2000; Ling, Low, Wang, & Lim, 2009; Papke-Shields et al., 2010; Shenhar et al., 2005). For this article, we are largely using project management standardization to discuss the standard use of project management frameworks and methodologies. There has been a body of research looking at what aspects of standardization can be shown to improve the success rate for projects. From the work of Milosevic and Patanakul (2005), we can identify three standard project management factors that have been shown to have greater impact on project success, which are standardized project management processes, standardized project management tools, and standardized project leadership. The factors that have been shown to have lesser impact on project success from the same research were standardized project organization, standardized information management system, standardized project management metrics, and standardized project culture. So from this research it is understandable that the assumption that a standardized approach to project management is useful in increasing the success factors within projects, and therefore it is only natural for organizations to develop a standardized approach to project management. There are a number of researchers (Milosevic & Patanakul, 2005; Thomas & Mullaly, 2007) who indicate that much of this research was looking at projects in isolation rather than as programs or portfolios of projects.

The Development and Use of These Frameworks

Project management frameworks and methodologies have been developed by a number of national and international project management organizations: PMI, APM, AIPM, the Office of Government Commerce (OGC), and IPMA (Papke-Shields et al, 2010). Papke-Shields et al. (2010) stated that "*The spread of these standards demonstrates evidence of worldwide growth in awareness and acceptance of the need for formal PM methods.*" Not one of these project management frameworks and methodologies can be seen as an international standard; however, there is commonality among these standards in terms of project management practices (Cicmil & Hodgson, 2006). At the moment there are two most commonly known guidelines: *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)*, which has been developed by PMI and the Projects in Controlled Environments (PRINCE2), developed by OGC (McManus & Wood-Harper, 2002).

Papke-Shields et al. (2010) indicated that there is evidence that project management frameworks and methodologies are being used in practice; however, they are not being applied consistently across entire project management areas. Areas associated with time, scope, and cost were commonly standardized, and other areas, such as communication, quality, risk, and integration were used less widely. The observer might understand why time, scope, and cost were most widely standardized, because these reflect the traditional goals of project management and are typically more quantifiable than many other aspects of project management. Papke-Shields et al. (2010) also provided empirical support for the assumption that deploying formal project management frameworks and methodologies can increase project success, therefore supporting the claims from PMI, APM, AIPM, and IPMA that standardized project management does offer benefits to the project manager and the project organization. Although the *PMBOK® Guide* and PRINCE2 are quite solid guidelines, they do offer flexibility in their design, meaning that they can be customized to suit the needs of any organization (Forrester, 2006).

Do Project Management Frameworks and Methodologies Offer the Key for Success?

The assumption mentioned previously, stating that the use of standard project

management framework and methodologies will enhance project performance and increase the number of successful projects, has become a common assumption within the project management community. Dicks (2000) stated that this potential increase in success comes with extra costs, because a methodology normally requires tracking, signing off, and the use of guidelines and checklists. In some cases, the amount of documentation can be very time consuming, and often is seen to be a major drawback to the use of project management methodologies (Kerzner, 2001). Dicks (2000) also stated that it is not just the matter of using project management methodologies; there needs to be an element of continuous evaluation and improvement for any methodology use, which takes time and effort, all of which adds extra cost to the project.

A number of researchers also have indicated that further work is required to investigate this assumption that project management methodologies increase success, stating that the concept of project success has too narrow a focus (looking at only certain aspects of project management practices), and the sample sizes in a number of studies have been too small to provide statistically credible proof (Thomas & Mullaly, 2007).

Papke-Shields et al. (2010) stated that there is evidence that the use of standard project management frameworks and methodologies does increase project success; however, they indicate that further investigation is needed to determine whether increased use of "soft" project management methods could provide a higher impact to the "harder" project management practices, which are typically embedded within the project management standards. Pich, Loch, and Meyer (2002) indicated that for projects that have large elements of uncertainty and ambiguity, more soft skills are required and standard project management frameworks and methodologies might compromise the project performance. There is a body of research saying that although project management standards are more useful in large standardized projects, there is an increasing body of knowledge that indicates that iterative/experimental project management approaches are better in fast-changing or highly uncertain project environments (Eisenhardt & Tabrizi, 1995; Pich et al., 2002).

This concept of standard project management frameworks and methodologies not fitting all projects was also discussed by Milosevic and Patanakul (2005, p. 191), who stated, *"It is wrong to assume that standardizing project management factors will automatically enhance project success,"* and then went on to say standardization may not necessarily lead to an increase in project success. Garcia (2005) also stated that if a standard methodology does not fit within the framework of the organization, it would not achieve its promised benefits. Milosevic and Patanakul (2005) also pointed out that standardization of projects might reach a certain point, where projects are operated in an overly standard fashion and therefore stifle project success. One might assume they mean that the opportunities for project managers to be innovative and problem-solve are reduced by overly standardizing the management of projects. The discussion about overstandardization of processes has been held in a number of domains, for example, in the knowledge management domain (Ginsberg, 1991; Neches et al., 1993), where the discussion can be summarized by the following two points: overstandardization can overly restrict the implementation of processes, and creativity in problem solving is restricted.

Emerging Managerial and Behavioral Approaches and Project Management

Over the past decade or so, considerable attention has been focused on changing management paradigms, as evidenced by the dismantling of hierarchy, the removal of "command-and-control" structures, and the rise of flexible working styles and models. This is culminating in an attempt to identify the components of what could be described as "Management 2.0" (McDonald, 2011).

Over the same period, there have been a number of credible endeavors targeted at the documentation of new or improved project management paradigms (Maylor, 2001; Pollack, 2007; Whitty, 2005), and universally, they support the premise that project management is moving from a rigid, "tools and techniques"–based discipline toward a framework that embraces the more behavioral methods within the lexicon of managerial interventions.

Much of this activity is aimed at unraveling and resolving issues pertaining to complexity and ambiguity in the planning and execution of projects. Another issue is the rise of improvised work, often driven by the requirement to assist with time and/or cost overruns or changes in scope. There are also concerns relating to the changing demographic of project-based workers, resulting in the need to adopt new ways of managing project talks and activities, and amend and modify accepted project-based routines and procedures.

It may be useful to address these issues separately and then consider overlapping and intersecting areas and the implication of these.

Complexity and Ambiguity

The challenges of dealing with complexity and ambiguity within project-based work are becoming more recognized, and over the past decade and a half, there have been significant interest and output (Baccarini, 1996; Cooke-Davies, Crawford, Patton, Stevens, & Williams, 2011; Maylor, Vidgen, & Carver, 2008; Montuori, 2003; Williams, 1999). There is also emerging literature that recognizes projects and programs of work as having parallels with the management of complex adaptive systems (Stacey, 2001). Complexity theory suggests that new outputs can be created in ways that are not predictable, and that the

emergent results often manifest themselves as a "tipping point" between order and chaos (Stacey, 2001). The basic premise is that such systems produce these so-called emergent outcomes, and that these outcomes occur as the rigidity imposed by process and detailed planning is diluted in favor of flexibility and improvisation. The next step is toward complex adaptive systems, where these emergent structures generate the capacity to learn from the collective experience of those involved, in turn generating a library of potentially reusable actions (Cooke-Davies et al., 2007; Stacey, 1993, 2001).

Recently, this embracing of the need to resolve complexity and ambiguity has resulted in outputs directed toward the project practitioner (Haas, 2008, 2009). One framework (Pich, Loch, & Mayer, 2002) considers these issues in terms of learning, instructionism, and selectionism, suggesting that instructed issues are based on known parameters and environments that are more stable and understood, whereas issues that are defined by selectionist parameters rely on adaptation to respond to and accommodate uncertainty and complexity. Interestingly, Pich et al.'s use of adaptation creates a link with improvised work, where this is a recognized construct.

Another recent framework (Carver & Maylor, 2011) considers complexity in terms of whether it is structural or dynamic. Structural complexity is defined in terms of difficulty because of the number of components or the magnitude of the deliverable. Dynamic complexity is defined in terms of the likelihood of changing or evolving requirements, or possibly requirements that are poorly defined or understood. Carver and Maylor use a "flying" analogy to identify areas within a project where the project manager can use the autopilot, in comparison with those areas that need constant intervention because they are outside "agreed" or understood parameters.

It is evident that uncertainty, ambiguity, and complexity are increasingly recognized within the project domain. The challenge is in how to resolve or mitigate the effects of such issues.

Improvised Work

This leads us to a connection to the literature on improvisation in projects, in that often issues relating to complexity and ambiguity can be resolved using creative thought, an intuitive "gut feel" for what will work in a particular circumstance, and the adaptation of previously utilized routines (Leybourne, 2009, 2010), These are all identified as components of organizational improvisation. Additionally, bricolage, which relates to resolving issues effectively with only the resources at hand, is a meaningful skill in such circumstances (Duymedjian & Ruling, 2010).

It may be useful to start from the Latin root of improvisation, which is *improvisus*, meaning "unforeseen." It therefore follows that unforeseen means or at least includes "unplanned" activity. There is also an assumption that within the execution of those fundamentally unplanned actions, a degree of expertise is present. Dreyfus and Dreyfus (1986), in a study into the phenomenology of expertise, suggested that experts in any subject achieve a level of proficiency whereby they improvise constantly. As Montuori (2003, p. 249) stated: "*they know the rules, but do not have to think about them. They have developed the ability to act spontaneously and intuitively without needing to refer to rulebooks.*" This is certainly recognized in the improvisation literature, with intuition being accepted as a recognized construct.

The improvisation literature has been evolving significantly since the mid-1990s, and following on from the early and influential work of Moorman and Miner (1998a, 1998b), specific attention has been directed at improvising generally (e Cunha, da Cunha, & Kamoche, 1999; and many others, including Hatch, 1999; Vera & Crossan, 2004; and Weick, 1979), learning from improvisation (Chelariu, Johnston, & Young, 2002), and improvising project managers (Gallo & Gardiner, 2007; Kanter, 2002; Leybourne, 2002, 2006a, 2006b, 2006c; Leybourne & Sadler-Smith, 2006) since around the turn of the millennium. There has also been a move toward project-based techniques that concentrate on exploratory and adaptive management (Cicmil & Hodgson, 2006), particularly where projects are used to manage product and service development activity.

Recent research (Kanter, 2002; Leybourne, 2002, 2006a, 2006b, 2006c, 2010; Leybourne & Sadler-Smith, 2006) suggests that adopting and embracing the tenets of organizational improvisation within the project domain can assist in interventions aimed at resolving issues that were unforeseen, or that emerge during the project. This is a perfect example of the exploratory nature of emerging project activity within the ambidextrous organizational framework.

Rather naturally, project managers are interested in these emerging issues within the project management domain and are specifically keen to learn how new and emerging models of project management performance can assist in the resolution of issues of complexity and ambiguity and how improvised working styles and routines can help with project delivery.

The Changing Demographic of Project-Based Workers

Much has been made recently of the challenges of aligning the interests and expectations of the various democratically diverse employee groups, usually described as the "Baby Boomer" generation, "Generation X," and "Generation Y." Recent articles by Gratton (2011) and McDonald (2011) have identified the integration and management of "Gen Y" employees as a key challenge for organizations. As many of these incoming employees will be engaged in project-based work, this is a particular challenge for project managers.

However, there is a significant tension between these employee groups, with the "Baby Boomer" generation now approaching retirement and looking to manage succession. These employees often see seniority in terms of "time served," and they have negotiated historic command-and-control-based hierarchies to gain organizational power and influence. "Generation X" employees have a high level of technical skill, and are individualistic and opportunistic, expecting individual recognition for achievement. They are also often willing to abandon organizations for financial advantage. The incoming "Generation Y" is often highly educated, with a significant level of expectation. They want to be involved in meaningful and interesting work from the start of their working lives and are socially connected and group oriented, with short attention spans. Ensuring a working environment and culture that support these different styles is a significant challenge for organizations and for project managers.

There is a trend toward employees arguably becoming more like entrepreneurs, or maybe "intrapreneurs," in that they are often expected to innovate in "real time" within their organizations to resolve issues as they arise. This is the essence of improvisation, which is an increasingly important managerial skill, and it is also linked to an emerging area known as effectuation (Sarasvathy, 2008), which involves problem solving through human actions in environments that are essentially unpredictable.

In part, it could be argued that this trend toward a more entrepreneurial approach to project management is driven by the increasing maturity in the development and teaching of project management programs in higher education institutions. The proliferation of graduate project management programs has undoubtedly increased awareness and expanded the knowledge base of employees engaged in project-based work. However, as Berggren and Söderlund (2008) pointed out, historically, project management education has been criticized for its lack of relevance and rigor. Winter, Smith, Cooke-Davies, and Cicmil (2006), in an article documenting the outcomes of the UK-based "Rethinking Project Management" initiative (which the lead author of this article was involved with), state the case for a revised research agenda to empirically support the emerging, more complex and ambiguous nature of the modern project domain. There are also links going back almost two decades to the use of project management to develop effective future leaders (Bowen, Clark, Holloway, & Wheelwright, 1994).

Berggren and Söderlund (2008) suggested that, historically, project management has been based on oversimplified frameworks and models, and that there is a need for educators and researchers to engage with the creation of "*socially robust knowledge*" (p. 295). They also made the point that practicing managers, utilizing and applying their skills while engaging with progressive higher education institutions, can achieve meaningful and useful knowledge coproduction.

Interestingly, Thomas and Mengel (2008) see emerging trends in project management education assisting in the resolution of complexity in the project domain. Arguably, this view "closes the circle" relating to the linking of ambiguity and complexity with the education of a new generation of employees who will increasingly be working on projects that require an expanded view of the more "exploratory" elements of ambidexterity within both organizations and projects.

Discussion

There are a number of philosophical issues to address when considering the shifts in the development of an academic and managerial domain. One of those issues is the link between knowledge, the application of that knowledge, and modes of action. To pose a rhetorical question, how do we know what we know? Further, what are our justifications for claims of knowledge and for the purposeful application of that knowledge? There is an assumption that knowledge comes from experiencing, and there is evidence that the improvising project manager draws on a personal library of successful interventions that have been applied in different scenarios (Leybourne, 2002). They use a combination of rationalist theory, intuition, and logic, and adjust the details of the intervention to meet current criteria and requirements. This fits with Kant's assertion that we must have knowledge of subject areas in order to recognize, identify, and explain observed phenomena, in order to hypothesize a solution by deduction. We do, however, need to take account of the fact that people know more than the demonstrable knowledge that they actually acknowledge or display, because there is a considerable tacit knowledge base (Nonaka & Takeuchi, 1995; Polanyi, 1958, 1966) that we, as individuals and as project managers, are able to draw on. Baumard (1999, p. 4) suggests that we all possess *"different types of knowledge and . . . [when applied, these] lead to the analysis of various patterns, deliberate or spontaneous, which organisations follow whilst struggling with ambiguity."* It follows that ambiguity is a social construction, in that what is ambiguous for one social actor or group of social actors may not be ambiguous for another, and that often project managers (who are the principal social actors in this scenario) apply their particular set of knowledge-based solutions according to their individual or group knowledge base.

The resolution of ambiguous issues is therefore a major component in the shift to a potential new project management paradigm. It follows that the adept project manager will draw on experience that has been generated tacitly over many interventions aimed at successfully assisting in the determination or solution of complex, ambiguous, and uncertain scenarios. In organizational domains, where the maturity of project management processes is more

explicit, this tacitly generated experience can be codified and made explicit, engendering a shift toward a virtuous circle of learning that can inform future project activity.

Also, if the purpose of project-based change is to maximize the dynamic capabilities of the organization for competitive advantage, then it is useful to consider Teece, Pisano, and Shuen's (1997, p. 516) definition of dynamic capability as *"the firm's ability to integrate, build, and reconfigure internal and external competence to address rapidly changing environment. Dynamic capabilities thus reflect an organization's ability to achieve new and innovative forms of competitive advantage. . . ."* It is therefore becoming more evident that the ability of an organization and its actors to achieve this dynamic capability is based more and more on agility and the ability to mobilize scarce and available resources quickly and effectively, that is, a combination of many of the constructs of organizational improvisation, and particularly embracing the notion of bricolage.

So, if the internal orientation of a project manager is mainly based on the culture, values, beliefs, ethics, and assumptions that are accepted within the organization, then it also follows that this orientation is constantly affected by changes in these manifestations, as well as the relative turbulence of external environments. Given that in such environments project requirements are continually shifting, it is not surprising that the traditional "plan—then execute" paradigm applied to projects is being perceived as less effective in some organizational contexts. This would assist in explaining the burgeoning tendency for project managers to embrace improvisational working practices. There is, however, a tacit assumption here that the organization is comfortable with the reduction in planning and the minimization of project documentation that may flow from such practices. Often this is not the case, and an example of lack of comfort is the attempt to combine agile project management with more traditional "stage-gate" processes (Karlström & Runeson, 2005), in order to bring a greater level of structure to an intentionally "loosely" structured mode of action.

There is also a widely held view within traditional economic theory that a decision maker "optimizes"—i.e., that the decision arrived at is the perfect decision. However, Simon (1955) argued that in reality the selected choice is not a complete or perfect achievement of objectives, but is merely the best solution that is available under a given set of circumstances and with a given quota of information. It follows therefore that the effective economic actor is actually a "satisficer," who arrives at a workman-like and acceptable decision. This concept of bounded rationality (March & Simon, 1958; Simon, 1955, 1956) arguably negates many of the benefits of detailed planning and supports improvisational and intuitive solutions.

Such an argument should not remove the need for planning. Indeed, planning is an essential part of project management in that it forces the project manager and the project team to confront the issues of work breakdown, task allocation, and scheduling. However, the important issue is that in times when we are dealing with uncertainty, ambiguity, and complex interactions, the plan will never cover every eventuality and scenario, and stakeholders and project sponsors need to have realistic expectations as to the degree of rigidity within the planning process.

A Proposed "New" Model for Project Management

It is accepted that as project management has evolved, it has relied on a number of tools and techniques to "frame" the activities that have traditionally been attributed to the project manager. These accepted ways of organizing project-based work have included the work breakdown structure, Project Evaluation and Review Technique (PERT), and the Gantt chart, among others. However, as organizations are shifting toward a more flexible model, with the attendant relaxations in structure and process, it is inevitable that the assumptions surrounding work carried out within the project domain will change. A logical outcome of the changes that are manifesting themselves within organizations and project domains is that work is becoming less dependent on the aforementioned elements of process, and more focused on the resolution of changing requirements influenced by the disruptive effects of new technology, new expectations, and the demands of survival in turbulent organizational and external environments.

This is resulting in circumstances where the influence of traditional project management bodies of knowledge, such as the *PMBOK® Guide*; and methodological frameworks such as PRINCE2, are being diluted in favor of management styles and interventions that are more flexible in dealing with emerging and changing requirements, complexity, and ambiguity.

It could be construed that in the new project management landscape, the traditional "four-phase" project management life cycle (Adams & Barndt, 1988) is used to structure a degree of planning activity, and that the output from this process is used as an overview of future activity. However, the planning and execution of the project are now converging, embracing the improvisational tenets of activity to deal with elements of ambiguity, uncertainty, and complexity. Indeed, this aligns with Moorman and Miner's (1998b, p. 698) definition of improvisation as *"the degree to which composition and execution converge in time."*

Within this new model, the project plan becomes more of a high-level document to report progress against milestones to sponsors and other stakeholders, while project activity is following a less formalized mode, which allows for emerging requirements and unforeseen circumstances. This mode of working is

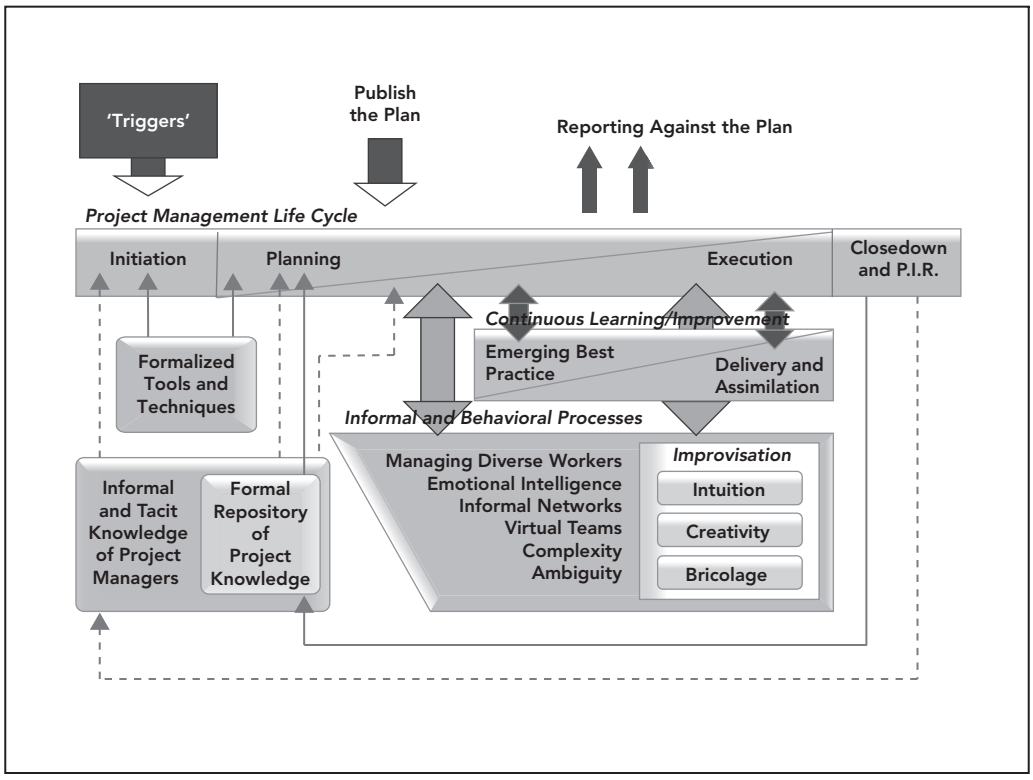

Figure 1: An emerging model of project management.

more suited to the Generation Y employees now entering the project domain, but requires significant experience, confidence, and trust.

Figure 1 demonstrates this emerging model of project management in a more graphical fashion, indicating the trigger to the conception of a project, and the publishing of and reporting against the plan milestones.

The lower half of the graphic demonstrates what happens "below the waterline" of the project. At the initiation stage, recognized tools and techniques are still used to apply logical thought to areas such as cost/benefit, work breakdown, and phasing to deliver progressively. Tacit and explicit knowledge from previous projects is also applied at this time.

However, at the combined planning and execution stage, a number of elements come into play that are not well integrated into earlier models of project management. Notably, the requirement to resolve issues of uncertainty, ambiguity, and complexity, and the development of emotional intelligence skills to effectively handle elements of cultural accommodation and team and stakeholder diversity across virtual and informal environments can generate tensions between the traditional project management process and emerging project management competences.

As we accept that project managers need to develop improvisational skills to resolve issues of uncertainty and emerging requirements, the application of continuous learning and the leveraging of experience in adapting and applying previously successful interventions become vital.

As the path from traditional project management to the new model is evolving, there are significant parallels with the concepts of exploratory and evolutionary management that are documented in the literature on ambidextrous organizations. However, although there is a need for exploratory activity in the early conception and planning of projects, the execution of the modern project is essentially evolutionary, and the emerging and more nuanced project management model is increasingly emulating Tushman and O'Reilly's ambidextrous management exemplar. ■

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