

**Submission 11422**

**Configuring Knowledge in Practice-Grounded Research Networks:  
A Contemporary Example**

**David Partington & Malcolm Young  
Cranfield University  
Cranfield  
Bedford MK43 0AL  
United Kingdom  
Tel: +44 (0) 1234 741122**

**d.partington@cranfield.ac.uk  
malcolm.young@cranfield.ac.uk**

**Paper presented to Academy of Management, Denver 2002  
Research Methods Division**

**Configuring Knowledge in Practice-Grounded Research Networks:  
A Contemporary Example**

**Abstract**

Management scholars have an opportunity to play two important roles in helping to address the practice-grounded management research agenda. First, they are well-placed to act as cross-sector integrators of management knowledge within networks of organizations which are faced with similar management problems but which are otherwise dissimilar and unconnected. Second, they potentially have access to a wide range of advanced or specialized research skills, in particular the development and application of innovative quantitative and qualitative methods to new problems. In this paper we describe a research initiative that aims to combine these two roles in the pursuit of knowledge about the characteristics of competent strategy implementers. Taking the perspective of strategic *programs*, we highlight important theoretical differences between programs and rationalistic, reductionist, generic approaches to *project* management which, for many management professionals, are the principal source of program management knowledge. We argue that a variant of the interpretive research approach known as *phenomenography* may be combined with traditional, rigorous grounded theorizing to answer important practically-oriented questions about program management competence, with the ultimate aim of generating useful knowledge about the selection and development of strategic program managers in contrasting contexts.

Keywords: Mode 2 research; strategy implementation; phenomenography

## INTRODUCTION

The accelerating pace of social, economic and technological change has been accompanied by structural shifts in the processes by which scientific knowledge is produced in contemporary society. The resulting challenges to the traditional role of universities in the production and dissemination of knowledge have been recorded in the 'Mode 1/Mode 2' debate, which extends throughout the scientific research community. These shifts in mode of knowledge production are described by Gibbons, Limoges, Nowotny, Schwartzman, Scott, & Trow (1994), who contrast traditional Mode 1 knowledge, generated in a context of established institutions and disciplines, with Mode 2 knowledge, created in a context of application. The principal features of Mode 2 research are: it is 'transdisciplinary' - beyond the scope of any one contributing discipline; it is conducted by people who apply a broad set of skills and experiences in a variety of university and non-university settings rather than exclusively by functionally-constrained academics; it takes place within a non-hierarchical, transient structure rather than within a stable hierarchy; it arises not so much from a desire for academic progress, but more from the concerns of societies.

There is little doubt that the broader *scientific* research agenda is increasingly both set and addressed by transient, transdisciplinary networks of university departments and non-academic organizations. Evidence that non-academic institutions are increasingly developing their own scientific research capability is offered by Pettigrew (2001), who reports a recent study of trends in scientific publication in the UK which found that 60% of published scientific papers have a non-academic address. In the narrower field of management, the Mode 1/Mode 2 debate has been taken up by a number of scholars. In addition to the attention of writers such as Tranfield & Starkey (1998) and Huff (2000), who are concerned with the prevalence and nature of the Mode 2 phenomenon, there is a growing interest in the development and application of methods that are appropriate to a practice-based management research agenda. In the 2001 Academy meeting, for example, a special forum on practitioner and practice-grounded research provided examples in substantive areas such as knowledge creation (Roth, Sandberg, & Svensson, 2001) and knowledge management (Partington, Tranfield, Young, Bessant, & Sapsed, 2001). If practice-grounded research is to continue to become a more prominent theme in the Academy there is a need for

further consideration of the role of management scholars in Mode 2 research, and for innovative methodological development.

Taking up the first of these two themes, we suggest that, in addition to their traditional discipline-based functions, management scholars will have a growing opportunity to play two important roles as configurers of knowledge in a practitioner-driven research agenda. First, there are unprecedented opportunities for organizations in diverse sectors to learn from one another's experiences and knowledge of innovative management practice. As societies and technologies change, similar management problems are faced by organizations which are otherwise dissimilar, and which lack the benefit of an appropriate integrating knowledge network. As collaborators in such a network, management scholars are ideally placed to act as impartial brokers of cross-sector learning. Second, many commercial organizations are well positioned to develop their own scientific and technological research capability, either internally or through the management of networks and alliances. However, it is unlikely that even the largest firms will be inclined to invest in acquiring and maintaining the kinds of highly-developed management research skills – including both the development of appropriate agendas and the application of the full range of advanced or specialized quantitative and qualitative methods – which are, necessarily, valued and nurtured by schools of business and management.

In this paper we outline the design of a research project which aims to combine these two knowledge-configuring roles in the field of strategy implementation. Methodologically, the project combines grounded theorizing with the application of a variant of the interpretive research approach known as *phenomenography* to the study of management competence in the implementation of strategy in contrasting contexts. Phenomenography is 'the empirical study of the limited number of qualitatively different ways in which we experience, conceptualize, understand, perceive, apprehend etc., various phenomena in and aspects of the world around us' (Marton, 1994). The phenomenographic specialization has a strong tradition in education research going back to the early 1970s (see Marton, 1981). In recent years there have been examples of its application to understanding human competence at work, notably by Sandberg (1994, 2000). A session at the 2001 Academy revealed a growing interest in the application of interpretive approaches to competence at work in such

diverse areas as caring (Wrzesniewski & Dutton, 2001) and transportation (Feldman, 2001). We aim to extend that interest by furthering the development of interpretive approaches to understanding strategy implementation competence. Thus the aims of our research are not only to contribute to the substantive literature on strategy implementation but also to develop new methods which will inform practitioners who seek to select and develop competent strategy implementers. This paper deals with the latter aim.

## **THEORETICAL BACKGROUND**

### **Strategy implementation**

The Academy's incumbent president Jean Bartunek defined the Academy's internal agenda for 2002 as 'strategic "doing"'. Specifically, she refers to implementing the strategic intent set out in the Academy's 2001 direction statement, by 'developing and implementing specific, actionable items that express [the Academy's] strategic direction' (Bartunek, 2001: 1). The challenge of strategy implementation facing the Academy reflects a universal concern: how should strategy be 'done'?

Although the days are long gone since strategy implementation was seen as a perfunctory adjunct to the main task of strategic planning, strategy implementation is a young field of knowledge. Arguably, it always will be. In a rapidly changing world those who are charged with the responsibility for strategy implementation know the extreme difficulties of managing the dynamic complexity of a strategic moving target. How should a telecommunications firm deal with the need for major long-term technological investment in a regulated industry which lacks any semblance of stability? How should an aero-engine manufacturer approach a global market characterized by sudden rises and falls in civilian and military demand? How should a newly-merged bank manage a 'culture change' initiative when it is laying off a significant number of employees? Clearly, such questions as these are strongly context-bound, and yet many managers are keen to learn from outsiders – from other sectors, from consultants, and from academics.

What advice do management scholars have to offer to strategy implementers? The body of literature on strategy implementation shows that the subject has been addressed from an impressive variety of perspectives. This variety reflects both the importance and the extraordinary complexity of the process of realizing strategic visions and plans. Further, the body of scholarly output from each single perspective stands as a separate celebration of the theoretical depth and keen focus that can result from a long-term conversation among like-minded academics. Noble's (1999) meta-review of implementation-related research literature, for example, lists a large number of papers deploying a wide range of theoretical frameworks. His categorization of findings from different perspectives may be exemplified by a selection of key papers which provide a flavour of the Mode 1 nature of scholarly debate on strategy implementation. They include: (1) decentralized organizational structures result in more effective SBUs (Gupta, 1987); (2) a strong relationship exists between types of control mechanisms and firm performance (Jaworski, Stathakopolous, & Krishnan, 1993); (3) strategic consensus, both cognitive and affective, maximizes performance (Floyd & Woolridge, 1992); (4) the autonomous strategic behaviour of 'subversives' is sometimes desirable (Bonoma, 1986); (5) radical changes are characterized by slower adoption (Robertson & Gatignon, 1986); (6) different leadership styles are employed (Bourgeois & Brodwin, 1984), and (7) strategy implementation success may be linked to communication processes (Hambrick & Canella, 1989).

Despite this rich legacy, Noble laments the scarcity of strategy implementation research. He concludes that it is a fertile area for future study. Addressing this issue, we describe a new research initiative that applies the two themes of knowledge configuration outlined earlier (cross-sector learning; innovative method) to one specific question relating to strategy implementation that has been repeatedly expressed by managers: namely, what makes a competent strategy-implementer?

### **Program management**

Many organizations attempt to implement strategy through a series of inter-related projects. As project management approaches are applied in the pursuit of ever more varied, multi-faceted and complex organizational change initiatives, the concept of corporate *program management* has emerged and grown in prominence (see, for

example, Pellegrinelli, 1997; Partington, 2000; Grundy, 2001). Broadly, corporate program management refers to the structures and processes used to co-ordinate and direct the multiple initiatives which together constitute an organization's intended strategy. In many organizations programs have become a preferred vehicle for delivering large-scale customer-focused initiatives and for making complex, enterprise-wide changes. As a result program management is an acknowledged, high-profile approach in a wide variety of sectors, including defence, aerospace, financial services, software development, telecommunications, health, pharmaceuticals and infrastructure industries.

**Accompanying the burgeoning use of programs for implementing strategy, senior management teams in sectors such as these readily articulate a growing need to understand what program management entails in their particular context. However, despite the acknowledged, widespread use of strategic programs there has been practically no research from a program management perspective, either in general or in the various contexts of its application. In the face of this lack of useful theoretical ideas about program management, newly-evolving practices are at the forefront of the current practitioner agenda. The prevalence of programs and the urgency of management rhetoric on the subject give strong support to the notion that program management is an area where, in a world which becomes more turbulent and unpredictable almost by the day, practice may be ahead of theory.**

One issue in particular – the selection and development of competent program managers – has become an urgent practical concern, and a priority in many large organizations. Many practitioners have naturally looked for knowledge and guidance on program management matters to project management's professional organizations, so it is worth briefly examining their stance on the subject. Project management's professional organizations, both national and global, have sought to elevate their status by defining what constitutes the project management profession's 'body of knowledge'. Two prominent examples of such bodies of knowledge are the USA Project Management Institute's Guide to the Project Management Body of Knowledge (PMBOK) (PMI, 1996) and the UK Association for Project Management's Body of Knowledge (APM BoK) (APM, 2000). In these documents,

which are the result of internal debate among the organizations' members, the 'official' position of program management in relation to project management is made apparent, and at the same time the scarcity of definable knowledge of program management is revealed. The PMBOK (USA), which contains 37 knowledge topics arranged under nine thematic headings, defines a program as 'a group of related projects managed in a co-ordinated way'. The fact that they offer no further guidance on how this might be achieved is perhaps an unstated recognition that program management knowledge is beyond their scope. Similarly, the APM BoK (UK) has 43 knowledge topics grouped under seven headings. One of the 43 topics is program management, which sits alongside two other topics – project management and project context – under the 'general' heading. The APM BoK acknowledges widespread variation in the use of the term 'program', but suggests that, 'the most common – and cogent – definition is that a program is a collection of projects related to some common objective' (2000: 15). The entire body of program management knowledge is encapsulated in a stark definition of the topic as 'the effective management of [a] program'.

The professional project management bodies thus conceive of a program as a collection of projects. Following the rationalist-reductionist approach typical of professional project management approaches, each project is, in turn, a collection of lower-level packages of work, each of which is delivered through the accomplishment of a collection of discrete smaller tasks. The implication is that tasks, work packages and projects may be combined in ever-increasing layers of scope and complexity, with programs representing the top level. Therefore, program management competence is placed at the pinnacle of a rationalistic hierarchy of project management competence. This ideology is reflected in the search by managers for program management knowledge in project management publications. It is reinforced by the prevalence of attractive, commercially-available software and generic packaged procedures for project *and* program management. Further, it suggests that an organization's pool of potential candidates for promotion to program management roles is drawn from its reserves of proven project management talent. In practice, organizational leaders who have promoted competent project managers into program management roles have found that program management competence is not simply an extension of generic project management competence. They have discovered, and



intuitively understand that, as ideal types, there are several fundamental differences between the two concepts. These differences reinforce the notion that adhering to a project-based conception of programs may be inappropriate, and point to a number of desirable characteristics of a program management research agenda which is free of the constraints of rationalistic project-based thinking.

It may be argued that, at the extreme, there are five principal differences between programs and projects. First, programs represent a divergent problem, oriented towards the achievement of emergent strategic goals, whereas projects are more inwardly focused, converging on prescribed outputs related to cost, time and specification. Second, as frameworks or structures, programs do not have life-cycles in the same way as projects, but are atemporal or have indeterminate time horizons. Third, unlike projects, which revolve around the controlled execution of planned activity, programs, in responding to external change and pressures, are emergent phenomena. Fourth, project management is concerned with the deployment of resources geared towards the effective execution of the project, whereas program management is concerned with both the deployment and development of resources from an organization-wide perspective. Fifth, and for the purposes of this paper most important, any theoretical approach to program management will necessarily be more intimately bound up with, and determined by, the program's context than project management, which is widely regarded as a generic set of principles and processes.

## **COMPETENCE AT WORK**

What different methodological approaches are available to researchers of competence at work, and which approach might best serve the needs of the program management competence agenda? The pressures on organizations to perform and to retain vitality against a background of growing unpredictability and change has made the identification and development of competence at work an increasingly important theme. The concept of competence applies at both the organizational level of 'core competences' (Prahalad & Hamel, 1990), and at the individual level, where a match is sought between person and work. The literature on individual-level competence, with which we are here concerned, reveals a number of different approaches, discussed below. Underlying all of these is the basic premise that if we understand what

competences are required for a particular kind of work we can be more efficient at selecting and developing people who possess or are likely to be able to develop those competences.

There is a large body of literature on human competence at work that reveals contrasting methodologies and perspectives, and some controversy. One widely discussed issue is that the competence movement is fraught with conceptual ambiguity, whereby competence ‘sometimes seems to refer to behaviours or actions, sometimes to the abilities or characteristics underlying behaviour, and sometimes to the outcomes or results of actions’ (Iles, 2001: 150). The difference in terminology between so-called ‘competence’ and ‘competency’ approaches is symbolic of the unresolved conceptual ambiguity in the overall competence debate. Although the term ‘competency’ was introduced to indicate a focus on work-related attributes, both terms are in common use for that purpose (and to avoid unnecessary complication we will hereafter use ‘competence’). We examine below three fundamentally different approaches to understanding competence at work: the work-oriented approach, the worker-oriented approach, and the interpretive approach. We argue that the latter provides an attractive alternative for our purpose.

### **Work-oriented approach to competence**

Early *work-oriented* approaches to competence are exemplified by Taylor’s (1911) development of ‘scientific management’ through job analysis. In the UK work-oriented *management* competence research is commonly associated with the government’s Management Charter Initiative, which uses functional analysis of work activities to define performance standards for use in management development activity. Such standards are based on the identification of specific work activities associated with a particular kind of work, and the transformation of those activities into attributes that are used in performing that work.

The field of project management provides examples of the output of work-oriented research into competence, where the characteristic ‘expert opinion’ methodology of project management’s professional organizations has been applied. For instance, the UK Association for Project Management’s Body of Knowledge (APM BoK) (APM,

2000), described earlier, is based on the findings of survey research into the opinions of project management professionals about what they feel people in the profession need to know. The APM BoK describes itself as a list of ‘topics in which practitioners and experts consider professionals in project management should be knowledgeable and competent’.

Project management’s various bodies of knowledge are intended to provide a basis for professional development. Some are specifically used to underpin written examinations that are used to test those who seek professional membership. Whether the meaning of competence, the approaches for determining competence, and the resulting standards which are typified by these bodies of knowledge are useful for determining the project management competence of individuals is debatable, especially since project management is above all a practical rather than a theoretical discipline. However, we argue that the value of such standards in selecting and developing effective program managers may be questioned for two additional reasons.

First, program management is not merely an extension of project management in a hierarchy of project work. It is an approach – albeit still taking shape in the form of evolving concepts and techniques – for effecting complex, multi-faceted change in conditions of uncertainty and environmental turbulence. Program management is distinct from project or multi-project management because it addresses different challenges and issues. If program managers are expected to act like strategic managers, through ‘temporal integration of future and present when future goals affect present behavior’ (Huy, 2001: 601), then their ability to set and promote an agenda (Quinn, 1980) and to engage in sensemaking (Weick 1995) become an important part of program management work, while such activities are not primarily associated with project management. The analytical, judgmental and implementation skills, and the ability to handle complexity, sensitivity and self-awareness, identified as important in the management of strategic change (Balogun & Hope Hailey, 1999) are not recognized as part of project management’s core principles. Influencing, lobbying, negotiating, manipulating, co-opting, leveraging diverse sources of power and applying pressure, described by Buchanan (1991) as the ‘backstage activities’ of change agents, are absent from definitions of project management competence.

Second, if competence is to be assessed by (and therefore proximally defined as) performance against standards, then only those competences that are practically and ethically assessable will be included. Standards based on work-oriented competence research will exclude covert or tacit practices. Standards will also exclude personality characteristics, which are prominent in many models of management competence. Moreover, the use of standards assumes that isolated competences, demonstrable under assessment conditions, will equate to the combination of characteristics required or demonstrated in the workplace. Given the complexity and inter-related nature of program management work this assumption is unlikely to hold.

As a general approach to understanding individual competence, research in the work-oriented tradition can result in a list of knowledge topics or work activities which is detailed enough to provide a helpful guide to the content of particular forms of work. However, the approach has been criticized because it does not specifically show the worker attributes that are required to effectively apply that knowledge or to efficiently accomplish those activities (Raven, 1994). As Sandberg (2000) has observed, its fundamental weakness is that it separates work from worker.

### **Worker-oriented approach**

The *worker-oriented* approach to studying individual competence also separates work from worker, but takes the competent worker – rather than the work – as the point of departure. Worker-oriented competence research initiatives, which have resulted in, for example, Boyatzis's (1982) widely-applied model, use a critical behaviour interview methodology to identify the underlying generic behavioural characteristics possessed by above-average performers in a given role. A typical breakdown of the components of worker-oriented competence is that offered by Spencer & Spencer (1993), who list knowledge and skill as 'surface competences' which are easier to assess and develop, and motives, traits and self-concept as personality characteristics, which present more difficulty. Even more comprehensive, multi-layered conceptions of professional competence have been offered, for example by Cheetham and Chivers (1996, 1998), whose model includes not only cognitive competence, functional competence and behavioural competence, but also ethical competence.

Again, examples of research in the worker-oriented tradition may be drawn from the project management field. Crawford (2000) lists examples of worker-oriented research aimed at discovering aspects of competence that are characteristic of effective or high-performing project managers. A typical example of the genre is Gadaken's (1994) study of the characteristics of top-performing project managers in UK and US military acquisition commands. Gadaken's research used a critical incident interview methodology with 75 project managers consisting of a group of outstanding performers and a control group of average performers. A follow-up survey set out to validate the model of competence that was developed from analysis of the interviews. The resulting model contains 16 competence elements, six of which distinguished the outstanding project managers from their contemporaries at a statistically significant level. The six are: sense of ownership/mission, political awareness, relationship development, strategic influence, interpersonal assessment, and action orientation.

Because of its focus on behaviour, the worker-oriented approach is able to overcome the criticism of the work-oriented approach's focus on tasks rather than attributes. However, the worker-oriented approach results in descriptions of competence that have been criticized as too generic and abstract to be useful in specific organizational contexts (Iles, 1993). Gadaken's competences are, arguably, open to the 'too abstract' criticism that has been levelled at other generic worker-related models, including that of Boyatzis (1982). Despite their discovery in the context of military acquisition projects, one could easily assume that Gadaken's six distinguishing elements of superior project management competence are attributes of effective managers in general.

### **Interpretive approach**

The principal criticisms of competence models derived from both work-oriented and worker-oriented approaches, represented above by examples from the field of project management, may be summarized as follows. Models are inwardly-focused in that they are based on the collective opinions of professional experts. They predefine what constitutes competence, and as a result they may not capture workers' competence (Sandberg, 1994). Because of the way they are self-validated they do not attempt to

address links between competence and performance (Crawford, 2000). Models tend to be generic; they do not take account of differences between organizations, sectors and national cultures which might require more context-specific sets of competence (Iles, 2001). Models attend more to measurable competences, giving less emphasis to ‘key managerial activities and skills like creativity, impact or sensitivity... which are hard to measure under any circumstances.’ (Iles, 2001: 152). In particular, both the work-based and worker-based approaches ignore tacit dimensions of competence, which may only be apparent in the workplace.

These shortcomings of ‘rationalistic’ models of competence typified by both work-oriented and worker-oriented approaches arise from their basis in the positivist, scientific research tradition (Sandberg, 2000). The meta-theoretical basis of both work-oriented and worker-oriented models is a dualistic ontology – which separates worker and work – and an objectivist epistemology – which assumes that researchers have access to objective knowledge of competence which is independent of the minds of those who are competent. As a result, rationalistic approaches are ‘indirect’, in that they ‘do not illuminate what constitutes competence in *accomplishing* work’ (Sandberg, 2000: 11, emphasis added).

The interpretivist research tradition offers an radical alternative to rationalistic approaches to the study of competence at work. Berger & Luckman (1966) describe the underlying philosophy of interpretivism:

The world of everyday life is not only taken for granted as reality by the ordinary members of society in the subjectively meaningful conduct of their lives. It is a world that originates in their thoughts and actions, and is maintained as real by these. (1966: 33)

Following the ideas of philosophers and sociologists such as Weber (1964/1947), Husserl (1962/1931), Schutz (1953) and Berger & Luckman (1966), the basis of the interpretivist approach is the premise that ‘person and world are inextricably related through people’s lived experiences of the world’ (Sandberg, 2000: 11). The approach is therefore ‘direct’, and has the advantage of allowing tacit dimensions of competence to be taken into account. Fundamentally, the argument underpinning the

interpretivist approach to competence may be summarized in three statements. First, the attributes used to accomplish work are context-dependent. Second, that context-dependence is acquired through the ways in which workers' experience work. Third, therefore, crucially: '*... people's ways of experiencing work are more fundamental to their competence than the attributes themselves.*' (Sandberg, 2000: 12, emphasis added).

Sandberg (1994) explains that some interpretive approaches to competence have been criticized because their resulting descriptions, although rich, present a fragmented picture of competence which is of little practical value to managers, and also because they do not capture variations in levels of competence between workers working on the same task. To overcome these criticisms Sandberg applied and developed the interpretive approach known as phenomenography, which is specifically designed to describe variations in people's experiences of given aspects of reality (see Marton, 1981; 1994). Central to the phenomenographic approach is the researcher's aim of understanding how an individual makes sense of a specific aspect of their world, termed a *conception*. Researchers in the phenomenographic tradition have found that, in any group of people, there are always a limited number (typically between two and six) of conceptions of the same aspect of reality (Marton, 1981), and that the conception held by an individual governs the actions of that individual. Further, conceptions of any aspect of reality form a hierarchy of mental models and component beliefs which are the cognitive resources used to solve problems exhibited in complex systems, and that the higher-order conceptions held by experts are less reductionist, and more holistic, than the lower order conceptions held by novices (Jacobson, 2001). An example of a hierarchy of conceptions which represent different levels of competence at work is Sandberg's (2000) study of engine optimizers working in a Volvo plant, where the equation of competence levels with individuals' performance was validated by peer opinions of colleagues' competence. He found three levels of competence, with the higher levels progressively more integrative.

There have been no examples of interpretive research into program management competence. Considering the unique and evolving nature of each piece of program management work this is perhaps not surprising. However, we believe that the phenomenographic approach to understanding workers' conceptions of their work has

the potential to provide valuable insights into management competence in contrasting contexts, both within and between organizations. Not only does the approach have the potential to overcome the shortcomings and criticisms of the rationalistic approaches listed above, it also offers a promising new way of describing and understanding the detailed knowledge structures of program managers in context, in terms of their mental models and component beliefs. The difficult question, ‘what constitutes effective program management?’, gives further support to the potential of an interpretivist epistemology. As Holgersson (2001) observes, the more senior the manager, the greater the distance between them and ‘the actual tasks where mistakes can be made... Success and failure thus appear as a question of interpretation rather than objectivity’ (2001: 114).

Before outlining our program management research agenda one further criticism of competence research, which could be said to apply to all approaches, should be considered. That is, they are based on the implicit assumption that competences are stable over time, being based on past and present views of competence. They are thus ‘historic and retrospective rather than strategic or prospective’ (Iles, 2001). The life-cycle aspect of competences is discussed by Sparrow & Bognanno (1993), who distinguish between ‘emergent’ competences (of growing importance), ‘mature’ competences (of declining importance), ‘transitional’ competences (relevant only to a particular stage in the organization’s life-cycle), or ‘core’ competences (which endure irrespective of strategic direction). A more general argument is made by du Gay, Salaman, G., & Rees (1996) who point out that environmental change results in historical variation in what it means to be a manager. For this reason a further feature of context-bound interpretivist research into program manager competence is that it should be longitudinal, allowing program managers to reveal how their scarce attention (March, 1988) is allocated to changing features of their work, thereby reflecting changes and trends in the ways they experience work.

**The basis of a phenomenographic hierarchy of conceptions is that ‘some ways of experiencing the phenomenon are more efficient than others *in relation to some given criterion* (Marton, 1994, italics added for emphasis). In research into human competence this implies a link between competence and performance. Decades of research into project management have shown how difficult it is to**



**establish the relationship between management action and performance on even the simplest endeavour. This difficulty is magnified on many dimensions when one attempts to discover links between the management of complex strategic programs and firm performance. Yet the resource-based view of the firm reminds us that it is precisely this difficulty that is a source of competitive advantage. The ‘causal ambiguity paradox’ (King & Zeithaml, 2001) is that if managers inside a firm have difficulty in defining which competences lead to superior performance then so will competitors who seek to imitate them. Because the point of departure for the ‘direct’ approach of phenomenography to understanding competence is the assumption that people’s ways of experiencing work are more fundamental to competence than the attributes needed to accomplish that work the primary question is not ‘what is competence?’, but ‘what is work?’.**

Current research initiative

Having argued in favour of an interpretive approach to understanding program management competence we now outline the design of a current research initiative which is based on an adaptation of the established principles of phenomenography. We are being sponsored by a number of large UK-based organizations (at present five) to undertake research into program management competence. The ultimate purpose of the research is to provide the organizations with context-sensitive criteria for program manager selection, and with material for program management development initiatives. The five organizations represent a diversity of sectors, namely aerospace, pharmaceuticals, software development, financial services and infrastructure development. Each of the five organizations has identified three current strategic programs, each with a program manager who is recognized within their organization as an expert. In the first phase of the research (December 2001 to October 2002) our data collection and analysis approach uses phenomenographic interviews (see Marton, 1994 for a concise overview of the processes of phenomenographic data collection and analysis), supported by observation and shadowing of program managers at formal and impromptu events, to develop a deep understanding of the ways in which the reality of their work is experienced by expert

program managers, in particular through practical examples of what is meant by program management work.

We are adapting established phenomenographic principles to provide a fresh approach to understanding the relationship between variations in program context and consequent variations in competence, as revealed by variations in conception of program management work in those contexts. Our approach represents a departure from established applications of phenomenography, in which the context is assumed to be a predefined and constant aspect of reality. Based on that assumption, the established approach uses differences in conception between individuals to represent levels in a hierarchy of competence. In a study of the skill acquisition process in a variety of contexts Dreyfus & Dreyfus (1986) identify five distinct stages in the development of a skill, labelled novice, advanced beginner, competence, proficiency, and expertise. In respect of the latter they observe, ‘the expert business manager, surgeon, nurse, lawyer, or teacher is totally engaged in skilful performance. *When things are proceeding normally, experts don’t solve problems and don’t make decisions; they do what normally works.*’ (1986: 30-31, italics in original). In contrast to traditional phenomenography our approach assumes that the level of competence is similar – all program managers in our sample are assumed to be experts – and that differences in conception represent and reveal key differences in context. By applying these simplifying assumptions and combining the key characteristics of contextual differences both within and between organizations we aim to provide a framework for analyzing the characteristics of future program management work in contrasting contexts. The framework will provide a foundation for cross-sector learning about how contexts shape competence, thereby informing processes of selection and development of program managers in particular contexts. Following Glaser and Strauss (1967) we are focusing on properties and extreme dimensions of organizational characteristics. The sets of extreme characteristics of each program will be combined to highlight contrasts and similarities between program contexts within and between organizations. Our substantive contribution will be an illumination, however partial, of the relationship between program management competence and program context.



## CONCLUSION

To illustrate how the under-exploited potential of cross-sector learning may be combined with the application of research skills in new situations we have outlined a current research initiative which seeks to illuminate an important practical management issue by studying the conceptions of work held by strategic implementers. Whilst it is impossible to foresee how practice-based research trends will develop, the possibility exists that management academics will have a growing opportunity to play a vital role working closely with managers, with the purpose of configuring those managers' knowledge. The unique position of management scholars as impartial brokers of knowledge of new practices across sectors, combined with their deeply-rooted commitment to the development and application of appropriate research skills to new problems could make this opportunity sustainable. There is evidence from the broader scientific community that the structural foundations of science and research are changing rapidly. The arguments in this paper are put forward with the hope that the debate on practice-based research will not be seen by the Academy as a temporary theme or a minor sideline, but that management scholars will continue to give serious consideration to how the conduct of their research is likely to be increasingly subject to the influences of Mode 2 trends. There is no sign that the intensity of contemporary challenges facing organizations will abate, and every indication that the practice-grounded research agenda will continue to advance the prevalence of Mode 2 management research.

## References

- Association for Project Management. 2000. Body of knowledge. High Wycombe, England: APM.
- Balogun, J., & Hope Hailey, V. 1999. Exploring strategic change. London: Prentice Hall.
- Bartunek, J. 2001. President's message: Strategic 'doing' as Academy agenda for coming year. Academy of Management News, 32(3): 1,41.
- Berger, P.L., & Luckman, T. 1966. The social construction of reality. Harmondsworth, England: Penguin.
- Bonoma, T.V. 1986. Making your marketing strategies work. Harvard Business Review, 62, Mar/Apr, 69-76.
- Bourgeois, L.J., & Brodwin, D.R. 1984. Strategic implementation: Five approaches to an elusive phenomenon. Strategic Management Journal, 5: 227-248.
- Boyatzis, R.E. 1982. The competent manager: A model for effective performance. New York: Wiley.
- Buchanan, D.A., 1991. Vulnerability and agenda: Context and process in project management. British Journal of Management, 2: 121-132.
- Cheetham, G., & Chivers, G. 1996. Towards a holistic model of professional competence. Journal of European Industrial Training, 20(5): 20-30.
- Cheetham, G., & Chivers, G. 1998. The reflective (and competent) practitioner: A model of professional competence which seeks to harmonise the reflective practitioner and competence-based approaches. Journal of European Industrial Training, 22(7): 267-276.
- Crawford, L. 2000. Project management competence: The value of standards. Unpublished doctoral dissertation, Henley Management College, UK.
- Dreyfus, H.L., & Dreyfus, S.E. 1986. Mind over machine: The power of human intuition and expertise in the era of the computer. New York: Free Press.
- du Gay, P., Salaman, G., & Rees, B. 1996. The conduct of management and the management of conduct: Contemporary managerial discourse and the constitution of the 'competent' manager. Journal of Management Studies, 33: 263-282.
- Floyd, S.W., & Woolridge, B. 1992. Managing strategic consensus: The foundation of effective implementation. Academy of Management Executive, 6: 27-39.
- Gadaken, D.O.C. 1994. Project managers as leaders: Competencies of top performers. Paper presented at 12<sup>th</sup> INTERNET World Congress on Project Management, Oslo, Norway.

- Gibbons, M., Limoges, C., Nowotny, H., Schwartzman, S., Scott, P., & Trow, M. 1994. The new production of knowledge: The dynamics of science and research in contemporary societies. London: Sage.
- Glaser, B.G., & Strauss, A.L. 1967. The discovery of grounded theory: Strategies for qualitative research. New York: Aldine.
- Grundy, T. 1993. Implementing strategic change: A practical guide for business. London: Kogan-Page.
- Gupta, A.K. 1987. SBU strategies, corporate-SBU relations, and SBU effectiveness in strategy implementation. Academy of Management Journal, 30: 477-500.
- Hambrick, D.C., & Canella, A.A. Jr. 1989. Strategy implementation as substance and selling. Academy of Management Executive, 3: 278-285.
- Holgersson, C. 2001. The social construction of top executives'. In S-E. Sjöstrand, J. Sandberg, & M. Tyrstrup (Eds.) Invisible management: The social construction of leadership: 105-125. London: Thomson Learning. .
- Huff, A. S. 2000. Presidential address: Changes in organizational knowledge production, Academy of Management Review, 25: 288-293.
- Husserl, E. 1962/1931. Ideas: general introduction to pure phenomenology. (W.R. Boyce Gibson, trans.). London: Allen and Unwin.
- Huy, Q.N. 2001. Time, temporal capability and planned change. Academy of Management Review, 26: 601-623.
- Iles, P.A. 1993. Achieving strategic coherence in HRD through competence-based management and organizational development. Personnel Review, 22(6), 63-80.
- Iles, P.A. 2001. Employee resourcing. In J. Storey (Ed.), Human resource management: A critical text: 133-164. London: Thomson Learning.
- Jacobson, M.J. 2001. Problem solving, cognition and complex systems: Differences between experts and novices. Complexity, 6(3): 41-49.
- Jaworski, B.J., Stathakopolous, V., & Krishnan, H.S. 1993. Control combinations in marketing: Conceptual framework and empirical evidence. Journal of Marketing, 57: 57-69.
- King, A.W., & Zeithaml, C.P. 2001. Competencies and firm performance: Examining the causal ambiguity paradox. Strategic Management Journal, 22, 75-99.
- March, J.G. 1988. Introduction: A chronicle of speculations about organizational decision-making. In J.G. March (Ed.) Decisions and organizations: 1-21. Oxford, England: Blackwell.

Marton, F. 1981. Phenomenography: Describing conceptions of the world around us. Instructional Science, 10: 177-200.

Marton, F. 1994. Phenomenography. In T. Husén & T.N. Postlethwaite (Eds.) The International Encyclopaedia of Education : 4424-4429. New York: Pergamon.

**Noble, C.H. 1999. The eclectic roots of strategy implementation research. Journal of Business Research, 45: 119-134.**

Partington, D. 2000. Implementing strategy through programmes of projects. In J.R. Turner, J.R. and S. Simister (Eds.) Gower Handbook of Project Management: 33-46. Aldershot, England: Gower.

**Partington, D., Tranfield, D., Young, M., Bessant, J., & Sapsed, J. 2001. Mapping contexts of application: A grounded approach to understanding the key dimensions of organizational environments. Paper presented at the annual meeting of the Academy of Management, Washington DC.**

Pellegrinelli, S. 1997. Programme management: Organising project based change. International Journal of Project Management, 15: 141-149.

**Pettigrew, A.M. 2001. The co-production and co-dissemination of knowledge across practitioner and international boundaries. Paper presented at the annual meeting of the Academy of Management, Washington DC.**

Prahalad, K.K., & Hamel, G. 1990. The core competencies of the corporation. Harvard Business Review: 79-91.

Project Management Institute. 1996. Guide to the project management body of knowledge. Upper Darby, PA: PMI.

Quinn, J.B. 1980. Strategies for change: Logical incrementalism. Homewood, Ill.: Irwin.

Raven, J. 1984. Competence in modern society. Edinburgh, Scotland: Dinwiddie Grieve.

Robertson, T.S., & Gatignon, H. 1986. Competitive effects on technology diffusion. Journal of Marketing, 50: 1-12.

**Roth, J., Sandberg, R., & Svensson, C. 2001. Action research from within for joint knowledge creation between industry and academia: Three cases illustrating the role of an insider action researcher. Paper presented at the annual meeting of the Academy of Management, Washington DC.**

Sandberg, J. 1994. Human competence at work: An interpretative approach. Göteborg, Sweden: Bas.

Sandberg, J. 2000. Understanding human competence at work: An interpretative approach. Academy of Management Journal, 43: 9-25.

Schutz, A. 1953. Common-sense and scientific interpretation of human action. Philosophy and Phenomenological Research, 14: 1-37.

**Scully, M. 2001. Company ambassadors, just drivers, or you idiots: Contests over competence in an express delivery. Paper presented at the annual meeting of the Academy of Management, Washington DC.**

Sparrow, P.R., & Bognanno, M. 1993. Competency requirement forecasting: Issues for international selection and assessment. International Journal of Selection and Assessment, 1, 50-58.

Spencer, L.M., & Spencer, S.M. 1993. Competence at work: Models for superior performance. New York: Wiley.

Taylor, F.W. 1911. The principles of scientific management. New York: Harper.

Tranfield, D.R., & Starkey, K. 1998. The nature, social organization and promotion of management research: Towards policy. British Journal of Management, 9: 341-353.

Weber, M. 1964/1947. The theory of social and economic organization. New York: Free Press.

Weick, K.E. 1995. Sensemaking in organizations. London: Sage.

Wrzesniewski, A., & Dutton, J.E. 2001. Competent caring in organizations. Paper presented at the annual meeting of the Academy of Management, Washington DC.