

Rethinking Project Management: Researching the actuality of projects

Svetlana Cicmil ^{a,*}, Terry Williams ^b, Janice Thomas ^c, Damian Hodgson ^d

^a *Bristol Business School, University of the West of England, Frenchay Campus, Bristol BS16 1QY, UK*

^b *School of Management, University of Southampton, Highfield, Southampton SO17 1BJ, UK*

^c *School of Innovative Management, Athabasca University, 1 University Drive, Athabasca, Canada AB T9S 3A3*

^d *Manchester Business School, Booth Street West, Manchester M15 6PB, UK*

Abstract

This paper puts forth the somewhat controversial position that what is needed to improve project management in practice is not more research on what should be done or the frequency and/or use of traditional project management practices. We argue that while a great deal is written about traditional project management we know very little about the “actuality” of project based working and management. This paper formulates a research approach that takes seriously practitioner’s lived experience of projects. We explore the ontological, epistemological and methodological assumptions underlying this kind of research and provide examples of some project management research originating from this perspective. We conclude by summarizing the findings from these studies and providing insights into the map ahead for future such research. In this kind of work the attention is refocused on praxis, on context-dependent judgement, on situational ethics and on reflexivity which enables social actors to see how power actually functions in context.

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1. Introduction

The aim of the paper is to formulate and map a strand of research within the project management field that adequately addresses the ‘actuality’ of project based working and management. The paper draws on the aims, process and outcomes of the Rethinking Project Management Network, including the discussions that took place over its duration within and outside formal meetings, and on a number of joint initiatives among us, the authors of this paper, which resulted from our shared interest in methodologies and concepts relevant to this strand of research in the field. Our central claim is that a better understanding of *project actuality* – that is, of complex social processes that go on at various levels of project working, will inform equally beneficially the intended theoretical developments

in the project management field and practical action in project environments, and will contribute to more satisfactory outcomes of contemporary projects.

In the subsequent sections of this paper we will explain this claim by proposing a framework for conceptualisation of ‘project actuality’ and how we understand it. We do so by drawing on selected work in the field of sociology of management practice, on our own recent work in the PM field, on examples and insights from discussions and experiences generated from the ‘Rethinking Project Management’ Network meetings and sense-making papers, and on the aims and outcomes of the RPM Network, outlined and represented in Table 1 and Fig. 1 of the first paper in this special issue [1]. We will particularly outline two key aspects of the ‘project actuality research’ that we propose as unique in comparison with other strands of inquiry in the domain of project management: (1) the underpinning conceptual and philosophical considerations and (2) the methodological approaches and ‘treatment’ of empirical evidence. These are seen as complementary to (and not

* Corresponding author.

E-mail address: svetlana.cicmil@uwe.ac.uk (S. Cicmil).

competing with) other strands of the project management research and they, together, enhance the intellectual foundations of the field in terms of its practical relevance and theoretical diversity.

2. Understanding project actuality

At this point, we draw the reader's attention to the paper in this issue by Winter et al. [1] which summarises and discusses the principle finding of the Network – the proposed shift in thinking and research orientation to tackle the identified and so far neglected themes from practitioners' experiences with project working and management in a novel way, thus creating knowledge which is relevant to practice and reflects the interests of both academic and practitioner communities. In a nutshell, the identified themes for collaborative investigation are the areas of project complexity, social process, value creation, project conceptualisation and practitioner development. Table 1 in [1] details the proposed directions, which have been used together with the methodological framework (Fig. 1 in [1]) to facilitate this paper.

3. Conceptual and theoretical considerations in project actuality research

We would like to start with the premise that 'project actuality' encompasses the understanding of the lived experience of organisational members with work and life in their local project environments. Their actions, decisions and behaviours are understood as being embedded in and continuously re-shaped by local patterns of power relations and communicative inter-subjective interaction in real time. The underlying assumption, that reflects practitioners' accounts, is that projects are complex social settings characterized by tensions between unpredictability, control and collaborative interaction among diverse participants on any project. Project management practice is consequently seen as a *social conduct*, defined by history, context, individual values and wider structural frameworks. With this kind of assumptions, actuality research, as a stream of thought, demonstrates a deep interest in *lived* experience of project actors, with the aim to understand what is actually going on in the arrangements labelled 'project' over time, to give an alternative account of what project managers do in concrete project situations and to explore skills and knowledge that constitute the social and political action in managing projects. Researching the actuality of projects means focusing on *social process* and how practitioners *think in action*, in the local situation of a living present.

In conceptualizing such an inquiry researchers typically engage in a reflective deliberation about theoretical traditions that address the issues of management as social conduct in the above outlined way, which results in pragmatic philosophical considerations of the issues such as complexity, power, intuition, decision making, collaborative

working, learning and communication, and the relationship between agency and structure in the local context. This represents a shift from a model-based, instrumental approach to researching projects and project management, towards a praxis-based theory and research. The former produces universal theory which, while sound, is not always useful in the specific context of application. The latter focuses on the empirical reality of projects by taking into account different contexts in which project management is enacted, thus addressing complexity, non-linearity, values, multiple perspectives and social processes in project environments. Researching the actuality of projects, therefore, consists of 'gathering, analysing, and disseminating knowledge about people working in concert with things, technologies, and each other and the means through which these relations are coordinated and controlled, for what ends' [2]. Similarly to what is being proposed with Table 1 in [1] as the outcome of the Network process, actuality research invokes the need for integrative pragmatic theory and the development of social knowledge and wisdom relevant to the context of project management practice.

Taking this research direction, scholars and practitioners 'may inspire the construction of theories which include the moral dimension of human conduct in organisations and explain the dynamics of complex processes over time' [3, p. 877]. In contrast to other types of project management research which draws on models and objective, instrumental rationality of actors, a pragmatic research of project actuality generates knowledge and builds theories which have the following qualities [3–6, among others]:

- the understanding of the actors' moral and ethical motives (practical reason) and their sense-making processes (enactment) and how their actions unfold over time and in connection with other, multiple events;
- the experience of emotions and feelings that drive action in complex environments;
- closer insight into intentions, political agendas and personal drives of individual actors; and
- the identification of tensions, power asymmetries and patterns of communicative relating among individuals and groups and how they are being negotiated in the context.

This kind of thinking is represented in Heidegger's concept of *da sein* or 'involved-in-the-world' manager [7]; processual approaches to studying management such as 'becoming ontology', e.g. [8] and 'complex responsive processes of relating in organisations' [5,9]; and a number of other works by writers who consider the relationship between agency and structure, and methodological approaches to theorising practice by connecting action to culture, structure, power, and patterns of intersubjective relating and dominant discourses, as being the key concerns in contemporary social theory [6,10–14, among others]. In this kind of work the attention is refocused on praxis, on context-dependent judgement, on situational

ethics and on reflexivity which enables social actors to see how power actually functions in context. The notion of praxis becomes central to theorising skills, knowledge and competencies of managers. ‘Praxis’ is a form of action which is fundamentally contingent on context-dependent judgement and situational ethics.

We believe that philosophically oriented research and writing in project management, that actuality researchers argue for, is a good way to build a more pluralist community of researchers, one which takes stances on ethical and political matters, frequently neglected in the mainstream PM work. Focused on serious consideration of ‘knowledge in action’, actuality research provides an insight into some shortcomings of the mainstream goal of disseminating ‘best practice’ in project management to masses of practitioners, where there is more often than not, an implicit belief in the possibility of the progressive rationalisation of social action and of commodified PM body of knowledge.

In order to fulfil its intellectual task, any inquiry that takes project actuality as its focus, should combine practical philosophical considerations and conceptual diversity in theorising practice with concrete empirical analysis [3,6,8]. In the section below we discuss the overarching methodological approach to project actuality research.

4. Methodological foundations of project actuality research

The preceding discussion poses an implicit requirement for theorising practice to be listening to practitioners and their interpretation of their own experiences and actions. Appropriate research strategies such as rich ethnographic studies and action research are based on co-authorship. Co-authorship enables theory building by combining scholarly theorising and practitioners’ narratives. The researcher is not ‘interviewing’ nor ‘surveying’ the participant but engaging in a critical dialogue with the practitioner who reflects and interprets their own experience.

Calori [3], for example, proposes ‘pragmatic epistemology’ as a methodological framework, involving reflective practitioners and pragmatic researchers who engage together in co-authoring theories and creating knowledge which is immediate, pragmatic and contextualised. The key principles of this methodological approach match the nature of actuality research in project management. In summary, a study following the principles of pragmatic epistemology:

- is designed as a participative cooperative inquiry where the primary emphasis is not on ‘universals’ (i.e. elements of perceived ‘good practice’) but on a range of atypical things and activities experienced as significant by actors in the local context;
- encourages both the participants and the researchers to think more deeply about the research topic, and the implications of potential outcomes of the research for a wider range of interested parties;

- allows for holistic and shared understanding of human action (practice) which, in turn, enables the construction of epistemic theories (about practice) as the researcher and the researched ‘should share time-space and action-reflection in face-to-face situations’ [3, p. 878];
- encourages reflection and a multiple perspectives approach; and
- requires a conscious effort to understand the interrelationship and inseparability between agency (individual behaviour and action) and structure (organisational policies, procedures, and legitimised routines) in the context, rather than considering them as discrete and detached from each other.

The underlying value embedded in this kind of research methodology is *co-production of knowledge* between the researcher and the researched (e.g. PM practitioner) with the aim to connect action and reflection through fusion and cooperation between reflective practitioners and pragmatic researchers [3,15–18].

5. Implications for the developments in project management field

The studies dedicated to researching the actuality of projects subject to a critical examination the conventional *PM body of knowledge* and the universal ‘best practice’ *prescriptions* offered to practitioners in most of the mainstream texts, manuals and procedures. The mainstream research into projects and project management has been criticised in the recent years for its heavy reliance on the functionalist/instrumental view of projects and organisations [19–25,38,39], where the function of project management is taken to be the accomplishment of some finite piece of work in a specified period of time, within a certain budget, and to agreed specification (which is, in turn, a conventional definition of project). Project actuality research attempts to respond to some of the critique. From this perspective, projects do not exist as given, ready made and neutral, but are constituted by the actions of interdependent actors through the process of power and conversational relating in the medium of symbols which act as representations of shared meaning and direction for action [8,5,26]. This perspective ‘deliberately seek[s] out information for answering questions about what structural factors influence individual actions, how those actions are constructed, and their structural consequences’ [6, p. 138].

This violates the principles of positivist scientific research but provides a different kind of (useful social) knowledge which, combined with normative theoretical approaches and knowledge in project management, broadens the intellectual foundations of the project management subject and of the field as practiced. There are significant differences in theory and knowledge constructed on the basis of studying ‘knowledge objects’ such as projects and project management processes as *pre-existing, given*, before we become aware of them, and theory and knowledge

which take practice as *becoming*, or *emerging* under specific conditions of power, structures, history and intentions of actors in a specific local context, and reflecting lived (not modelled) experience of practicing project managers. The practitioners' accounts presented and discussed within the Network indicate that practice based knowledge is bounded by its contextual nature where actions and dispositional behaviours of practitioners are influenced by their own identity and processes of sense-making (of the context and its circumstances) where actors apply their implicit rules in combination with the external ones explicated in manuals and procedures. Similarly, the underlying normative aspirations and functionalist agenda in a wider field of management have long been critiqued in, for example [2,6,16,27–29] among others. Alvesson and Deetz [29] have commented on the problems with narrow, conventional approaches to studying the practice of management which focus on planning, organizing, coordinating and controlling, but which do not fully reflect organisational reality as messy, ambiguous, fragmented and political in character.

6. Some illustrations of project actuality research

In this section, we illustrate how some of the key issues raised in the Network meetings and sense-making papers on the theme of project actuality have been addressed in concrete research inquiries by the authors of this paper.

6.1. Researching complexity as an aspect of project actuality

In line with the conceptual and methodological foundations of actuality research, Cicmil and Marshall [30] have drawn on processual theory of complexity [5,9,14] and a becoming ontology [8,31] to: (1) propose a critical framework for the conceptualisation of the complex nature of construction projects; (2) evaluate the relationship between an innovative procurement mechanism and team integration processes; and (3) identify alternative types of knowledge and skills relevant to practitioners involved in this kind of projects. Positioned within the framework of pragmatic epistemology, the study deployed a longitudinal, case study based method framed as cooperative inquiry (where the researchers and the researched cooperated in interpreting the lived experience) to achieve the above three aims. The intention was to broaden our understanding of what goes on in project settings from practitioner's point of view, what kind of knowledge they consider useful in their everyday practice in their local situations, and what kind of skills and competencies are relevant to complexities of project arrangements.

Four key themes have been explored in a series of co-operative participative interview sessions of this kind:

- the practical use of formal project management tools and techniques (planning and control) in context,

- the way project managers participated in complex processes of intersubjective interaction, including both conversational and power relating;
- the way they coped with unpredictability, ambiguity and equivocality in the local project situation in the living present; and
- the kind of knowledge and skills that they used and developed during the experience.

The participating practitioners became the researcher's partners in the process of the inquiry. The process of active interviewing (as a method of data collection) encouraged the practitioners' reflection and accounts in relation to discrete projects in a specific context of the living present.

The perspective of a 'becoming' ontology (in contrast to a 'being' ontology) which was used as interpretative framework, privileges 'activity over substance, process over product, and novelty over continuity' [8, p. 866]; it emphasises the role of language, the nature of intersubjective conversational and power relating, and emergent properties of organisational arrangements as outcomes of disparate and ambiguous political practices. Such a combination of theoretical and methodological approaches enabled researchers and participating practitioners to address together the important issues of project management praxis such as social responsibility, judgement, emotions, the operation of dominant discourses, power-knowledge relationship, and practical wisdom, which are rarely captured by conventional research methodologies in project management. As a result, the authors were able to offer theoretically more coherent concept of project complexity that captures the persisting concerns articulated by practitioners: (1) complex processes of communicative and power relating among project actors; (2) ambiguity and equivocality related to project performance criteria (success/failure) over time; and (3) the consequence of time-flux (change, unpredictability, and the paradox of control). In addition, the study illuminated the nature of the actions and interventions required to manage in complex project settings, particularly drawing attention to the practice of public reflection and multiple perspectives approach in communicative interaction in project based work seen as a collaborative learning process.

6.2. Project management education and development

Another example of actuality research is the work by Cicmil and Hodgson [32–35] in which the authors' aim has been to revisit the concepts of project management knowledge and skills from the position of critical management studies, and utilising the principles of phronetic social science [6] and the data collection method known as 'active interviewing' [36]. This study has been dedicated to broadening our understanding of practical action and managerial conduct in project environments and of knowledge and skills that project managers use in their daily coping with the complexity of projects.

The rationale for the inquiry was a concern shared by the authors that, governed by the tradition of ‘natural sciences’, the project management body of knowledge has for long emphasised the role of project actors and managers as ‘implementers’ narrowing down their role to the issues of control (time and cost) and content (planned scope of work reflecting a predetermined purpose and goal of the project), marginalising their wider potential role as competent social and political actors in complex arrangements structured as projects [37]. This assumes rationality, universality, objectivity, the capacity of individuals to collect, analyse and communicate information, in resolving problems of project work and make value-free decisions. This implies the image of project managers as ‘skilful technicians’ with the associated expectations regarding their personal behaviour, traits, knowledge and responses to complexity.

The methodological approach and the interpretation of empirical material was guided by the proposition that improvisation is part of coping and acting, as external rules cannot account for their own interpretation *in situ* by actors. The actors’ responses are governed by skills that have in time and with experience become reflexively automatic and intuitive, and as important for good results as are analysis, rationality and rules [2,4,6]. Knowledge about ‘conduct’ in a local situation of the living present combines both epistemic knowledge (of universal regularities) and practical knowledge (prudence) which arises through action and experience. This implies heterogeneity, context dependent knowledge, reflexivity in learning and action, the social and psychological process of knowing or adopting, and enacting knowledge and recommendations.

The view on management skills adopted in this study is, therefore, less static and more processual, involving reflection and prudence as part of human conduct in organisations. This does not exclude *instrumental rationality* as an important aspect of project management as a social skill, but insists on balancing it with *value rationality*, which means recognising and coping with the operation of power in any social setting, the need for intuition, multiple perspective, holistic thinking, moral and ethical consideration as part of complex human interaction and relating. In this kind of work the attention is refocused from ‘theory for practice’ (the heritage from ‘normal science’ approaches to management) towards ‘theory of practice’ (focusing on praxis). This conception contrasts sharply with the functionalist assumption, implicit in many accounts of project management education, which limits itself to instrumental rationality and therefore constructs the project manager as a skilful technician.

Instead, Flyvbjerg suggests phronesis to put forward his notion of the manager as a ‘virtuoso social and political actor’ whose virtues include reflexivity, ethics value rationality, and the use of judgement, and intuition in context. Citing Aristotle, Flyvbjerg thus argues in favour of practical rationality in management, understood as ‘...the possession of the single virtue of *prudence* (which) carr(ies)

with it the possession of them all’ [6, p. 60]. Following this approach, two key issues emerged from Cicmil and Hodgson studies. The first is related to the process of learning, development and mastering of project management skills and competencies beyond those prescribed by the mainstream literature (Table 1). The research confirms the relevance of value-rational intellectual virtues (practical rationality and considerations of value and power) for action in project environments. Here, context-dependent, reflection-based knowledge and a practitioner’s own concrete experiences form the basis for the development of intuitive, holistic, and synchronous management practices that are at the crux of a virtuoso performance in project environments.

The second important insight from this research relates to the ways of broadening the intellectual foundations of the project management discipline to include these virtues. by contrasting the traditional approaches based on rational, objective, and universal representations of ‘the project’ with a phronetic analysis of the ambiguous, fragmented and political reality of project situations. This reality, we argue, is far removed from the vision of project managers as rational technicians, dealing with technical issues that are resolvable through the application of superior knowledge of the planning and control techniques, while marginalising political and social aspects of project reality. Because of this, we would underline the need to acknowledge prudence and value-rationality as important virtues in the context of contemporary projects – above and beyond the traditional, mainstream view of project management as value-neutral competence (Table 2).

6.3. Making sense of project management

Yet another example of actuality research is the work by Thomas and Buckle [38–44] exploring the many representations of “project management” that are present in everyday project experience and the challenges the existence of these varied ways to understand this construct creates in the lived experience of project participants.

The origins of this research lies in a very practical question “If projects fail because of miscommunication and failure to meet expectations, what is it about project management that makes this happen so much in a project environment?” Starting from this very pragmatic desire to understand the “lived experience” of project managers coping with uncertainty and complexity while all the while believing that there is an appropriate way to process that should be clear to all participants, the research found that grounding project management research in attempting to understand what really goes on in projects required a very different theoretical perspective. These studies take a critical stance using Weickian sensemaking theories [26,45], Foucaudian explorations of power-knowledge [46], and post-positivist reconsiderations of management theory (i.e. 2, 7, 8, 15) to deconstruct not only the understandings held by project participants but some of the origins of these

Table 1
Expertise, competence and knowledge in project work and management (adapted from [35])

Level	Experience	Action based on	Comment
<i>Novice</i>	Faces a given problem and a given situation in a given task area for the first time	<ul style="list-style-type: none"> • Instructions (training course, PMBOK) • Learning to recognise objective facts about and characteristics of the situation (models and definitions of project) • Learning rules of action, as generalised for all similar situations on the basis of identified facts, thus context-independent (project management methodology, procedures, best practice) • Evaluating the performance of the skills on the basis of how well the learned rules are followed 	The rules are necessary for gaining initial experiences but they can quickly become a barrier to acquiring skills at higher levels
<i>Advanced beginner</i>	Achieves some real-life experience	<ul style="list-style-type: none"> • Learning to recognise relevant elements in relevant situations on the basis of their similarities with previous examples (typology of projects) • The context of experience becomes important and decisive in the choice of relevant elements, in addition to context-independent rules (learning from experience, limited reflection) PMBOK trial-and-error 	Personal experience via trial and error becomes more important than context-independent, verbally formulated facts and rules.
<i>Competent performer</i>	With more experience the number of recognisable elements and facts becomes overwhelming	<ul style="list-style-type: none"> • Learning from own experience and from others to prioritise elements of the situation • Organising information by choosing a goal and a plan • Dealing only with a set of key factors relevant to the goal and plan, thus simplifying the task and obtaining improved results • The choice of a certain goal and plan and the need to have a plan is paradoxical (simultaneous subjectivity and objectivity) – it is not unproblematic and requires deliberation, the relationship of involvement between performer and environment • Elements-rules-goals-plans-decision: the model of analytical, proficient performer • Ability to think on one's feet (confidence, reflection, choice of action and risk taking) 	The individual learns to apply hierarchical, prioritising procedure for decision-making on the basis of set priorities rather than on total knowledge of the given situation. Choosing the goal and plan is not unproblematic – it implies personal involvement in actions, hence responsibility/ethics
<i>Proficient performer</i>	Away from cognitivist, analytical rationality (rules, principles, and universal solutions) towards perceiving situations rapidly, intuitively, holistically, visually, bodily, relationally	<ul style="list-style-type: none"> • The awareness of interpretation and judgement involved in such decision making, rather than logical information processing and analytical problem solving only • Deeply 'involved-in-the-world' manager/performer who already knows as he/she has evolved their understanding of the situation on the basis of prior actions and experience • Reflective understanding and participation in power relations • 'Emergent enquiry' – participative methodology of knowledge creation in context • Intuitively, synchronously • Participative critical reflection over the intuition – the self and the group • The thought, body, knowledge, and action are inseparable, are simultaneously forming and are being formed by one another; thinking-doing • Understanding that power relating is an intrinsic part of intersubjective relating, always there • Considerations for the present and deliberation about the future 	Intuitively understands and organises the tasks in the local situation in the living present but continues to reflect analytically on what will happen as the emergent situation unfolds
<i>Expert or virtuoso</i>			Characterised by effortless performance at the level of virtuosity; No thinking/doing, decision/action, or plan/implement divide; Action based on logic replaced by experientially based action; intuitive and rational at the same time

Table 2

Instrumental rationality and practical wisdom – a comparison of assumptions and concerns [35,32]

Instrumental rationality – key assumptions	Practical wisdom centred sociology of PM	Value-rational evaluation questions
<p>Practitioners face an <i>objective reality</i> – ‘the project’</p> <ul style="list-style-type: none"> • A goal-oriented system of activity and structures – • Exists out there in a pre-given form readily available to be managed or studied • The ‘Project life cycle’ (PLC) model is a universal representation of the true nature of ‘projects’ • The model serves as a decision making tool with predictive and explanatory power <p>Documentation (project plans reports, contracts, etc) and other symbols (deadlines, milestones, budgets, information systems) that it invokes are seen only as a means of project monitoring, control, and information storing; otherwise socially insignificant</p>	<ul style="list-style-type: none"> – Viewing ‘project’ as a pattern of complex process of conversational and power relating among organisational members; in the medium of symbols, which are also power relating – Awareness of social and political aspects of symbols such as project plans and other project artefacts as a means for the ends other than the stated – Awareness of ruling illusions, strategic imperatives, and ideologies that create and reproduce a particular, dominant view of reality of the project in its context 	<ol style="list-style-type: none"> 1. Where are we going with the kind of intentions behind this project? 2. Who gains and who loses while going there, and by which mechanisms of power? 3. Is it desirable? 4. What should be done?
<p><i>Instrumental/rational</i> approach to organisational decision making and management processes</p> <ul style="list-style-type: none"> • Linearity of PLC model promotes the possibility of attaining project objectives through the sequential and progressive application of orderly methodology (which is control, content, and implementation focused) • Decision/action, thinking/doing, planning/implementation divide • Success/failure – polarised ends, causally linked to critical success factors 	<ul style="list-style-type: none"> – Complexity of communicative processes between the actors (individuals and groups) enrolled on the project and outside the project – Political coalition view of projects- no ‘neutral ground’ for success/failure attributions, polyphony of voices – Project working – joint accomplishment of a sophisticated, cooperative activity over time and across space but always in a social context where judgement, intuition and power play equally important role as logic, rationality, and science – Project management as social and political action: thinking on one’s feet at the times of dislocation due to lack of ‘information’ and knowledge; coping with the feelings of incompetence and anxiety (one’s own and others) and creating the possibility for future joint action as well as considering the present – Evaluates the situation using judgement, intuition, previous experience and holistic, multi-perspective approach as well as logic and universal principles of project management to act and perform in the specific local context in the living present 	
<p>Managers are <i>rational technicians</i></p> <ul style="list-style-type: none"> • Skilfully use a well defined methodology to navigate through the stages of PLC to accomplish some finite piece of work in a specified time, within a certain budget, and to agreed specification • Responsibility for a competent control of the implementation process • Promotes a non-contingent approach to the desired competence profile of project manager, the policy of composing project team, the choice of planning methods and the evaluation criteria, the design of project communication system 		
<p>Project management is a <i>value-neutral</i> competence</p> <ul style="list-style-type: none"> • Specific language and terminology sustain the ‘scientific’ aura of the field • Project management methodology and structures are universally applicable as a neat and orderly solution to implementing complex organisational initiatives • Instrumental reason allows only for means-ends relationships and promotes itself as politically neutral 	<ul style="list-style-type: none"> – Instrumental rationality balanced with value rationality and reflexivity – Evaluation of cooperative action along value-rational criteria including asymmetry of power, polyphony of voices, recognition of winners and losers – Paying attention to patterning of themes – Holistic reflexive understanding in context and facilitation of free-flowing conversation – Value rational considerations of the present and deliberations about the future – Facing as well as exercising power 	

understandings as embedded either in the professional guidelines or textbook representations of the field.

This research is based on two types of data sources. The first is interview transcripts from interviews collected using “active interviewing” techniques. Participants were first asked to define project management and then to reflect on and explore the “lived experience” of a specific project experience discussing the tools, knowledge, and skills they used in that instance. In this way, the participants provided both their understanding of the thing called “project management” and their practical knowledge of the realities of how they conduct themselves in local situations in pursuit of managing projects. Towards the end of the interview the researchers engaged in more collaborative discussions of the nature of the gaps or contradictions between what the participants “knew” to be good project management practice from the traditional discourse and what they had to do on their project to be successful. The second data source is standard project management texts and practice guidelines which provide the foundation of the discourse as replicated and reified through training and “best practice” dissemination. The objective in all of these studies has been to explore the contradictions between the “espoused theories” of project management embedded in current project management discourse (both that of the texts or the project participants themselves) and contrast it with the “theories in use” derived from the practical action and managerial conduct evident in stories of project experience and necessity.

Three different research streams contribute to the understandings developed in addressing these questions. The first stream conducted by Thomas [38,39] explored the gap between project management experience and project management doctrine. This set of studies sought to make sense of these gaps and use them to understand the nature of communication breakdowns on projects. Theoretically these studies contributed to the Weickian sensemaking literature by tying individual and organisational sensemaking together and exploring the implications of these different levels of sensemaking on practical action. Another study by Thomas and Tjaeder [40] examined the implications of two dominant approaches to making sense of project management (that of control versus that of learning). These studies also make a strong argument for the expansion of project management research by looking for other theoretical foundations for such studies than the rational, linear, empirically based studies that held sway at that time. Practically these studies provided a foundation for understanding the need for a common language and understanding of constructs for the ability to develop a “common mind” on projects. Methodologically these studies made a strong case for the need for more project management research grounded in the lived experience of project participants expanding the interest from solely focussing on project managers and expected actions to including the whole team in explorations of project management activity looking at the reality of project experience.

A second stream [41–43] takes a more critical stance to the guidelines and texts depicting traditional approaches to project management. This stream uses Foucauldian analytical techniques to explore the underlying power-knowledge structures embedded in the traditional PM discourse. Highlighting the technical rational, universalistic portrayal of project management discourse and contrasting this with the claimed strengths of a project management approach in introducing flexibility and professional action provides insights into the role this particular form of project management plays in control and domination. By exploring the embedded assumptions and purpose of some of the activities in traditional project management discourse, this set of studies provided theoretical and practical arenas to question some of the fundamental assumptions of the traditional discourse and provide alternative questions to ask in thinking about what the traditional project management perspective does not allow to be seen, spoken or done.

The third stream conducted by Thomas and Buckle [44,45] examines the nature of the assumptions embedded in the foremost North American project management guidelines and compares this to the assumptions embedded in competent project management practitioner’s discourse reflecting on their experience of project management. Exploring the language used to define project management in this document and exploring the cognitive styles privileged in this document allows us to think about the nature of codification and what is lost in the process. Exploring the discourse of successful practitioners and contrasting their epistemic knowledge with their practical wisdom on the subject suggests the ways that this reification of the traditional project management discourse can actually hinder the development and identity construction of competent project managers. This set of studies shows that competent practitioners have a much broader and more intellectually complex understanding of project management than the discourse embedded in the PMBOK guide – but that they feel they must apologise for using some of the “virtuoso” skills as they are not recognised in the traditional discourse. The nature of the omissions from the guide and the differences among the different practitioners provides interesting insights into the types of knowledge and activity that is privileged in traditional project management discourses and highlights the project realities and complexities that practitioners are currently left to navigate on their own. They also show the gaps in training of project managers. Those that are knowledgeable in traditional project management discourse may not value the virtuoso political and social skills necessary to be successful in the complicated and messy real world of projects.

6.4. Researching the actuality of failures of complex projects

Our understanding how complex projects behave has developed in recent years using management science modelling techniques particularly through the work of two

teams: Cooper and others at PA Consulting [46–50], and the Strathclyde Eden/Williams/Ackermann team [50–53], the latter having been involved for some years in post-mortem analysis of a range of projects as part of claims preparation. While using different techniques, this latter stream of work has similarities to the Thomas and Buckle work above, analysing the lived experience within actual projects, and gaining results that have echoes of all of the streams of work above.

The main results from this stream of work provide explanations for project behaviour deriving from systemic inter-related sets of causal factors rather than tracing effects to single causes. The work shows how the systemicity involved produces a totality of effect beyond the sum of the results that would be expected from individual causes. In particular, key results derive from dynamics set up by these effects turning into positive feedback loops, or “vicious circles”. Many of the key loops identified in this work are set up and exacerbated through management response to project perturbations – hence the sometimes counter-intuitive effect of such actions, often highly magnifying small effects. By taking actions that are implied or suggested by conventional methods (i.e. according to the conventional PM body of knowledge) in order to try to deal with late-running projects, managers themselves are exacerbating the feedback and making the over-runs worse.

The systemic modelling work provided explanations for why some projects severely over-ran. But these explanations clash with the assumptions described for the current dominant project management discourse, as described in Williams [54]. The conventional PM body of knowledge presents a set of normative procedures which appear to be self-evidently correct: following these procedures, it is implied, will produce effectively-managed projects; project-failure is indicative of inadequate attention to the proper project management procedures. The bodies of knowledge are clearly positivist (dealing with an external objective world and focussing on value-free “facts”) and concentrate on managing scope within the project. They strongly emphasise planning and seek to follow the original plan throughout the project as rigorously as it possibly can be – effectively regarding the project as decoupled from the environment; they also assume a traditional management control mechanism within the project.

The systemic models show behaviour arising from the complex interactions of the various parts of the project; they demonstrate how behaviour arises that would not be predicted from an analysis of the individual parts of the project and thus show how the traditional decomposition models in some circumstances can be inadequate. The project behaviour shown in this body of work is complex and non-intuitive. It shows causal feed-back, leading to non-linear behaviour, and produces effects which can sometimes manifest themselves after significant time-delays; and the behaviour of such systems is difficult for the human brain to predict and understand intuitively. Furthermore, the models differ from the bodies of knowledge in their empha-

sis on “soft” factors; the factors within the feedback loops are not only hard “concrete” factors: “soft” variables are often important links in the chains of causality and are thus critical in determining the project behaviour; such variables might include morale, schedule pressure, client changing his mind and so on; in addition, there is a recognition that the models need to incorporate not only “real” data but management perceptions of data.

“Systemic” models have been used to explain failures occurring in projects which might have been well-managed by traditional project-management methods. The failures analysed by these methods are in complex projects subject to uncertainty. Conventional techniques are designed for projects with large numbers of elements, but the assumed structures are subject to very limited types of interdependence, and conventional methods are even more unsuited to projects under high uncertainty. It is when uncertainty affects a traditionally-managed project that is structurally complex that the systemic effects discussed above start to occur. But the systemic models demonstrated an important aspect: it is management actions to accelerate perturbed projects which particularly exacerbate the feedback; when the project is heavily time-constrained, so the project manager feels forced to take acceleration actions, and this produces the problems from feedback. Thus we have identified the three compounding factors which come together in complex structures of positive feedback to cause extreme over-runs when projects are managed conventionally: structural complexity, uncertainty and a tight time-constraint. Recognition of the problems inherent in conventional prescriptive procedures has led to the development of contrasting project management methodologies. While being within a strategic framework, these methodologies are usually identified by words such as “lean” or “agile”, and are particularly prevalent in the software industry [55] (perhaps due to the particular goal-uncertainties of such projects). These methods contradict the underlying emphases of conventional approaches: the project emerges rather than being entirely pre-planned; the management style is much more co-operative, recognising that the Plan prepared pre-project is fallible and incomplete, and there is acceptance that the plan cannot be fully prepared because of the influence of the external environment.

The systemic modelling work analysed the reasons for project over-runs for many seriously over-run project, giving explanations in terms of positive feedback, often exacerbated by management actions, and importantly including both “hard” and “soft” factors in the causal analysis; the analysis shows that conventional methods can be inappropriate and potentially disadvantageous for projects that are structurally complex, uncertain, and heavily time-limited. Projects which exhibit these three characteristics would appear to lend themselves less to conventional methods and newer methods might be more appropriate, such as “agile”/“lean” methods often called “agile” or “lean”. However, the thesis of Williams [54] is not that we should simply ignore conventional project

management methods and move to these opposing techniques. Rather, with the understanding gained from this analysis of the systemic modelling work, we need to move our discourse to take account of the effects encompassed in this work; then we need to categorise projects according to the dimensions which give projects a propensity for the type of systemic effects, so that an appropriate management style can be specified, in particular an appropriate balance between conventional methods as espoused in the bodies of knowledge and these contrasting methods. This work suggests that once a project is subject to disruptions and delays dynamics then the traditional project management tools are probably inappropriate for managing the project. The use of traditional tools is likely to unintentionally exacerbate the undesirable consequences and lead to greater overruns than need be the case. Even the nature of the agenda at project progress meetings needs to have a different focus and emphasis. Awareness of the potential consequences of mitigation becomes important as possible traditionally 'obvious' actions are proposed.

7. Conclusions, implications and the way forward

Our aim in this paper has been to discuss critically the nature of knowledge that could be created about the actuality of projects and how it contributes to our understanding of project environments, to improvements in practice, and to educational and developmental efforts. We attempted to shed some light on the assumptions behind theoretical and methodological approaches to researching the actuality of projects and project management that, in our view, can be helpful in broadening the boundaries of the project management body of thought and contributing to more satisfactory processes and outcomes of contemporary projects.

Researching the actuality of projects, as presented in this article, draws on:

- a combination of practical philosophical considerations and concrete empirical analyses towards understanding human action, and for that matter, managerial action in the concrete situation and
- requires a theoretical shift from more common normative rational approaches to individual and project performance towards a more developmental one which focuses on practical action, lived experience, quality of social interaction and communicative relating, operations of power in context, identity, and the relationship between agency and structure in project environments.

The research presented in this paper as exemplars of actuality research provide some compelling and interesting insights into the actuality of managing projects addressing on-going gaps in our knowledge of how to effectively manage complex undertakings. Cicmil and

Marshall develop an empirically grounded understanding of project complexity that incorporates processes of communicative and power relating among project actors dealing with ambiguity and equivocality related to project performance criteria (success/failure) over time that is in constant flux. Cicmil and Hodgson's work casts light on the traditional foundations of project management practitioner development and demonstrates the need for developing both instrumental and value rationality as the basis for project management practice. The research by Thomas and Buckle questions the underlying assumptions embedded in traditional project management discourse and explores the impact of these embedded assumptions on the practice and practical discourse of practitioners. The Strathclyde research team's work on understanding complex project failures contributes significantly to our understanding of the complex interactions between the actuality of projects and the unintentional consequences of applying traditional "best practice" control oriented project management to complete projects under extreme time pressures. All of these research studies make significant contributions to an understanding of the actuality of projects and provide insights into how project management practitioner development needs to change to address these project realities.

Methodological issues (epistemology, ontology, and representation) are also of dominant concern in these studies. The argument is that theory and empirical research must proceed simultaneously on micro and macro levels of analysis and within both objective and subjective methodological traditions, focusing on action which is habituated, practical, tacit, dispositional, and at the same time structured. From this perspective, it is important not only to explore or explain what is but also to examine why it is as it is and what activities are encouraged or discouraged by this focus, and how it comes to be. The recommended methodological approaches are capable of addressing a much wider range of important project issues such as: the social responsibility of management, ethical conduct, bounded rationality, anxiety, emotions, the operation of dominant discourses, power/knowledge relationship, culture, and identity.

Despite this, we do not promote 'actuality research' as a competing or privileged stream of thought to the more mainstream ones. We argue for it as an alternative lens through which new insights into projects and project management practice can be generated. One of the key assertions is that the understanding which drives much of project management literature does not satisfactorily explain the richness of what actually occurs in project environments. This implies an alternative view on *managerial knowledge and competencies, challenging the traditional image of 'professional' project manager as thinking, purposive, decisive, and rational*. Therefore, the theoretical and methodological characteristics of 'actuality' research may have significant implications for management education, training, development and ultimately

the future of project management as a professional occupation.

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