Project Management Research

Project Management Research:

Asia-Pacific Perspectives

Edited by

Michael Young and Beverly Pasian

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TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

LIST OF TABLES

FOREWORD

The Asia Pacific Federation of Project Management (apfpm) was established in 2010 to bring as many Project Management Member Associations in the Asia Pacific region together as possible to work and collaborate on joint projects, fundamentally supporting and helping each other and bringing into reality a pathway for all Project Managers to connect across the region. Its membership is comprised of the major Associations of China, USA, Singapore, Philippines, Taiwan, Peru, Nepal, México, Malaysia, Korea, Japan, Chile, Indonesia, India, Hong Kong, Canada, Bangladesh, and Australia.

As part of its core activities, the apfpm established a Research Committee with a mission to encourage the development and application of Project Management research. With a specific regional focus, its goal has been to create a productive and sustainable bridge between the Project Management research community and practitioners at large across the Asia Pacific.

Innovation and continuous improvement are the life blood of an organisation, and indeed of projects themselves. Without such drive to improve, any organisation that delivers projects will not sustain. We now live in a technology-driven world and era that is too competitive to tolerate organisations that are not continually striving to reinvent themselves and make their activities relevant. Research is an integral part of this whole process: identifying, analysing, developing new knowledge and understanding, and then encouraging its application.

I commend the work that Michael Young (Chair of the AIPM Knowledge & Research Council), has done on this joint monograph project. I trust it will be the first of many to come that will help us synthesise the research going on in our region. And it will also contribute to the expanding bank of knowledge of the global Project Management community.

Dr. Bill Young
President, Asia Pacific Federation of Project Management

INTRODUCTION

This book is the first in a series of monographs focussed on publishing the latest thinking and findings from project management research. This edition is focussed on the Asia-Pacific perspective and draws from conference papers presented at the International Project Management Association (IPMA) World Congress held in Brisbane, Australia in 2011 as well as the Australian Institute of Project Management national conference held in Melbourne, Australia in 2012.

Contributors to this book consist of both academics and practitioners, with authors representing the latest developments in Australia, the Netherlands, Russia, the United Kingdom and the United States of America.

This book has been structured into a number of Parts, each focusing on a key theme or topic.

Part I: Project Management Maturity explores new ideas in relation to maturity models and maturity in project management more broadly. In Chapter 1, Pasian examines how e-Learning projects can help us to understand and improve our project management maturity and introduces the Adaptive Project Management Maturity Model. Mariana continues the theme in Chapter 2 and introduces the 4M methodology that pays particular attention to methodology, people (human resources), maintenance (IT) and model (organisational structure).

In *Part II: Governance,* Chapter 3 commences with an examination of a best practice framework for project governance. In this chapter Begg and Cocks introduce their Winning Wheel and show how the model can improve project governance. In Chapter 4, Manzoni and Sarma turn to scorecards and how they can be used to measure project performance.

Part III: Programme and Portfolio Management turns to programme and portfolio and examines some of the recent developments in these fields. In Chapter 5, Trew et. al. examine the organisational culture in programmes and identify how it is critical to build this culture in order to

achieve a successful programme outcome. Koh examines portfolio roles, responsibilities and practices in Chapter 6 and proposes a clearly defined role for a portfolio manager. Chapter 7 examines how non-commercial projects are valued during project selection when ROI is not an appropriate measure. Chapter 8 delves into both portfolio management and the latest theories and also identifies the current practices as enacted through PPM software. The paper concludes by identifying that there is a gap between what software vendors are offering and the research and key goals of portfolio management.

Part IV: Methods, Tools and Techniques starts with Liberzon and Savyrina's examination of success-driven project management in Chapter 9. Chapter 10 looks at a pragmatic approach to selecting project managers. Chapter 11 examines Sun Tzu's Art of War and proposes a diagnostic model for assessing the capability of project teams.

Part V: Future Implications examines a range of project management concepts and the potential future implications both for the discipline of project management as well as for organisations. Stretton and Crawford take a longer term view and suggest that project managers become 'synthesists'. Todhunter continues this theme by exploring two alternative futures through the metaphor of two well-known Hollywood directors. Chapter 14 supports this section by examining the generational bias and how preferences between Gen-X and Gen-Y will change the nature of project management. Chapter 15 brings this section to a close by examining how reshaping the story of project managers can improve workplace performance in the future.

In publishing this collection of chapters we hope to bring a range of different perspectives to the fore which trigger new thoughts and start conversations.

Michael Young and Beverly Pasian
Editors

PART I

PROJECT MANAGEMENT MATURITY

CHAPTER ONE

WHAT E-LEARNING PROJECTS CAN SHOW US ABOUT PROJECT MANAGEMENT

BEVERLY PASIAN

Technology-enabled learning is now considered a necessity in all higher education institutions (Chavan and Pavri, 2004; Grob, Bensberg et al., 2004; Lonn and Teasley, 2009). The associated projects have become increasingly complex and grown from individual efforts between faculty members and instructional designers to institutional programmes where teams of experts combine their project management, technological and pedagogical skills and knowledge.

The adoption and quality of formal project management has varied by institution, however, resulting in a unique blending of generic and specialised project management practices that put universities on their own unique path toward project management maturity. Universities will, over time and by accumulating more project experience, develop and likely improve their project management capability. There are (at least) two challenges associated with this development.

The first lies in the identification, incorporation and continuous improvement of process and non-process factors associated with the management and evaluation of e-Learning projects. Addressing this challenge was the work of project management research focusing specifically on the management of e-Learning projects at universities (Pasian, 2011). The result was the creation of the Adaptive Project Management Maturity Model (APMMM) (Figure 1-1) with its themes summarising the four major dimensions of work contributing to the management of these projects. They are: customer involvement, defined processes, dynamic non-events and adaptive variants.

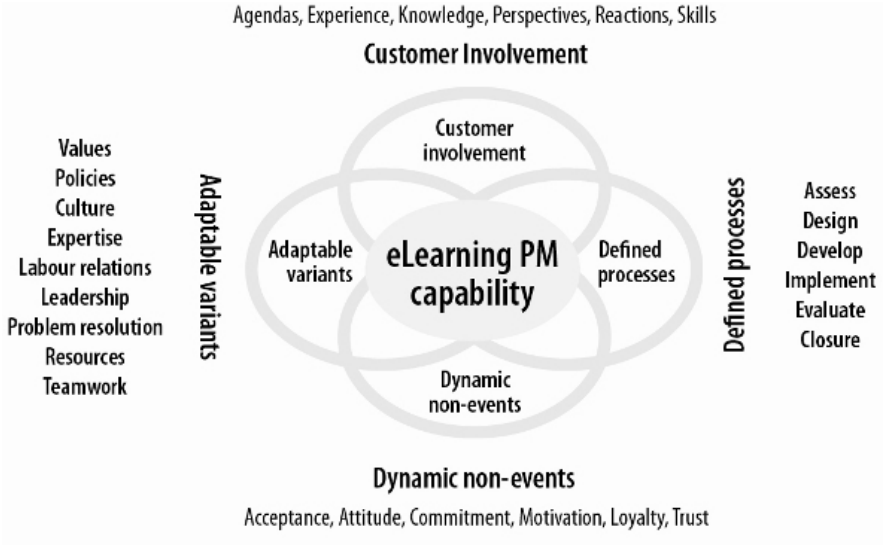

Figure 1-1: Adaptive PM Maturity Model

The second is the gap between the use of project management in education and general lack of evaluation. Early advocacy noted that ´one way to ensure high quality, cost-effective technology-based teaching and learning is through project management´ (Bates, 2000) and attempts have been made to operationalize assessment of the project management capability of e-Learning projects in maturity models specifically designed for that purpose. Two notable examples are the *e-Learning maturity model* (Marshall, 2006) and the *Online Course Design Maturity Model* (Neuhauser, 2004), both of which support the idea that organisations (specifically post-secondary institutions) can have an entire capability assessed along certain dimensions. Each provides a roadmap to improve underperforming processes: Neuhauser's model (2004) provides a 5-stage model to facilitate such growth while Marshall (2006) uses a Likert-style grid to indicate where processes can move from "not adequately-practiced" to "fully adequate." But because both models emphasize the importance of process areas, neither addresses the non-process factors that also contribute to the mature management of e-Learning projects (Pasian, 2011). It is in the use and assessment of complex, dynamic and human factors that a fuller understanding of project management can be found and steps toward higher quality education can be taken. This research represents such a step.

Background: An Australian University context

Learning Management Systems (LMS) are prevalent in the higher education sector. While there are many contributing factors for this upsurge in the last decade, this online learning and teaching presence is viewed by some universities as essential to providing a "strategic competitive advantage" (Holt & Seagrave, 2003) and to facilitate students' access to learning "at any time and in any place" (Slevin, 2008, p. 115). From a higher education management perspective, an LMS can be attractive because of its capacity to promote a paradigm shift in how educators orchestrate the act of learning (Barr, Gower & Clayton, 2008). Research studies have indicated that both students and staff value this online learning and teaching presence (Lonn & Teasley, 2009).

The implementation of a new LMS was originated when the institution was notified by the vendor that the current learning management system was no longer going to be supported. After a comprehensive research study, debate and deliberation within several university committees, Moodle, an Open Source LMS, was considered the best option to ensure a dynamic sustainable learning environment. Moodle is governed by an open source license which, unlike commercial software, permits anyone to freely use, adapt, restructure and even sell the software under the stipulation that the open source license remains uncompromised (Dougiamas and Taylor, 2003). This flexibility, along with the social constructivist philosophy behind its design, has contributed to Moodle's rapid adoption across the higher education sector.

Current literature offers a wealth of information about the contribution of LMS to education but there are still some areas where little is known about their impact on learning and teaching. Research undertaken by Weaver et al. (2005) at an Australian University indicates that quality control in LMS is a major issue for the higher education sector. Student feedback in their study suggested the use of the LMS by teaching staff was paramount. Consequently, students who experienced a well-designed unit, with timely feedback and good interaction with staff, were more likely to report a positive experience with the LMS (Weaver et al, 2005). The staff members participating in the Weaver et al. (2005) study were more focussed on the technical and administrative aspects of using the LMS rather than teaching issues. These research findings reinforce the opportunity for the move to a new system to be viewed as a change

management, rather than a migration, activity in order to equip academics to use the LMS tools to enhance student learning.

The preference to change to Open Source LMS across the institution was made two years before the official institution-wide implementation. A key strategic priority for the university was to transform the new online learning environment, rather than simply migrating from the old system to the new. An equivalent transformation agenda to build the capability of academics to manage and develop their units was also a key priority as there was a need for academics to use the LMS tools, including unit development and ongoing editing, themselves rather than relying on centralized services. In order to progress these aims, a Change Management Stream was introduced in the project to work in parallel with the Technical Stream.

Communication transmission models focus on external message instead of what actually occurs when individuals communicate, which can be explored through the actions attached to various processes (Targowski and Bowman, 1988). In this chapter, communication is considered to be "a process" within the work environment in order to explore what was described by the interviewees as "good communication". A process is not something that has a beginning, an end or a fixed set of sequences; it is dynamic and ever-changing because all of the elements within "a process" are continuously impacting on each other (Berlo, 1960). As Berlo (1960) asserts, when we attempt to write about the "communication process," there are at least two glaring contradictions: the first is the non-static interrelatedness of anything identified as a process and the second is that any effort to describe and record a process involves written language – which is static. Nevertheless, conceptualizing communication as a process, and process as non-static, overlapping sequence, is appropriate because it encapsulates the simple fact that communication does not happen in a vacuum – it is dynamic and formed from a variety of sources.

The model of communication presented by Targowski & Bowman (1988) focuses on the actions and activities attached to these four processes: the information-steering process; the decision making process; the behaviour process and the business communications process. In its simplest form, the information-steering process is the awareness and volition semantic reaction; the decision-making process is the choices made once the information is received; the behaviour process is responses to the information received and the business communications process

focuses on the generation (the sender) and interpretation (the receiver) of the messages within the above three processes. Hence, no message will mean the exact same thing to two people as everyone will have different reactions and responses and subsequently make varied decisions (Targowski & Bowman, 1988). Communication and its significance was considered a high priority at the beginning of the project and during the evaluation of the project management within institution-wide implementation.

At the outset of the project, evaluation of the institution-wide scale of the project was amalgamated into the development phase, implementation phase and consolidation phase. The framework used for this evaluation study was recommended by the Office of Learning and Teaching (former Australian Learning and Teaching Council), which encompasses four dimensions: project commencement; project processes (specifically project management); project implementation and completion; and post-project impact. Accordingly, one section of this institution-wide LMS implementation evaluation study was the measurement of the university´s project management capability using the original APMMM (Pasian, 2011). It is the evaluation of the university´s capability to manage e-Learning projects that is the focus of this chapter.

Methodology

The implementation of the new LMS was used as a case study measured against the APMMM (see Figure 1-1) to identify the non-process factors that contribute to project management maturity. Whilst case studies can take the form of explanatory, exploratory and descriptive depending on the various conditions being investigated (Yin, 1987), the outcomes of this project management evaluation were exploratory. Measuring the project management of institution-wide LMS implementation required exploratory research that was “open to using a range of evidence and discovering new issues” (Neuman, 1994, p. 18). A case study was selected, as this method of research can manage a variety of evidence such as documents, artefacts, interviews and observations to examine contemporary events (Yin, 1987). The empirical data in this chapter is based on the one-on-one interviews with eight members of the project team during the first phase of the implementation, with additional data provided through project documentation and observation of project team meetings.

In order to be able to report on the university's e-Learning project management capabilities, initial interviews were conducted with: the project sponsor, the project manager, the change stream manager, the technical stream manager, the implementation manager, the communications officer, a liaison officer and an academic developer. The interviewees are numerically identified in no particular order to ensure anonymity. The semi-structured interviews on the project management processes were designed to incorporate the APMMM. The questions explored organisational and project-related themes: description of the project's key features, identification of the project planning process, details of management support, the interviewees' roles within the project, and their responsibilities and general reflections about this project referencing the APMMM, presented in the introduction. The interviews were transcribed and coded in NVivo using the coding scheme associated with the original research**.**

Development of the APMMM: Key findings

In the model are four interwoven elements that form the cohesive structure for e-Learning capability: customer involvement, defined process, dynamic non-events and adaptable variants; each of these elements has secondary factors. Following extensive analysis, four other categories were included: communication, strategy, change and sustainability. All of the interviewees referred to "communication" in some way and the transformation agenda attached to the implementation of the institution-wide LMS was conceived in the context of sustainable change; thus, references to "change" or **"**sustainability" were considered as part of the institution's overall strategy.

These new factors came as a result of gaps that emerged in the original model. Before these were identified, however, the interview transcripts were analysed using all the elements in the model. In the table below we have summarised elements of the model that were mentioned either by many of the interviewees or many times by a select number of the interviewees. This summary is also divided to show the top 2-3 sub-nodes of the four elements in the model.

Nodes	Definition	Frequency
Customer Involvement		
Agendas	This includes the institutional vision, stakeholder aims and goals within the project.	6 references from 5 interviewees
Knowledge	How knowledge is shared by the project team members and for what purposes. (relates to perspectives which also comes back to communication).	8 references from 4 interviewees
Defined Processes		
Evaluation	The formative evaluation of the LMS implementation and project management processes in everyday practice.	7 references from 4 interviewees
Implement	The implementation of processes and procedures and the required structures to implement them.	7 references from 4 interviewees
Dynamic non-events		
Attitude	Attitude is defined an allusion to team dynamics and the resulting impact on project management performance.	12 references from 5 interviewees
Commitment	Commitment by project staff affects the project management process for implementation.	7 references from 4 interviewees
Adaptable Variants		
Culture	"Culture" is a manifestation of various factors within the institution that affect the management of projects.	26 references from 7 interviewees
Leadership	Leadership within the project which encompasses interaction with stakeholders, advisory committees, problem solving, resource allocation.	18 references from 6 interviewees
Teamwork	Teamwork refers to working collaboratively as well as roles and responsibilities of individual team members and how they intersect.	17 references from 7 interviewees

Table 1-1 – Key findings

In "Customer Involvement," the various agendas featured strongly within the interview data and encompassed the university's goals for the LMS implementation as well as each of the faculties and departments

driving their own agenda. There was also some evidence to suggest conflicts between them. Interviewees discussed how knowledge is shared within the project team and equally dealing with the "lack of knowledge" in relation to specific facets of the LMS across the university and how this was managed. When discussing knowledge and the generation of knowledge, the interviewees referred to the importance of communication.

In "Defined Processes," the diverse feedback mechanisms for formative evaluation were frequently commented on by a select group of the interviewees, which also related to the research conducted before the LMS was chosen. These responses also overlapped with implementation, as it was referred to in various contexts including: the implementation of the new LMS, the related processes and procedures, research relating to the "needs analysis", and decisions on the structure including the management of information concerning the implementation. The interviewees' comments extended beyond these two sub-nodes to include strategy and the reasons behind the transformation of online learning and teaching.

In "Dynamic Non-events," the significance of a positive outlook was asserted by several interviewees. Comments about negative attitudes were also linked to lack of commitment toward the project. According to some of the interviewees, commitment is essential for the success of the implementation. In relation to the stakeholders, interviewees referred to making them aware of the commitment involved in changing to a new LMS but equally to the support that is available and subsequently the importance of managing this process. Again, the interviewees referred to the significance of communication in this context.

In "Adaptable Variants," the interviewees commented on the various cultures found within each faculty and department, how to manage those and the challenge of trying to accommodate the diverse expectations that stem from these cultures. In general, it was considered that academic culture lends towards things being more organic. There was also reference to a change in culture with regard to every unit having an online presence as well as fatigue with all the changes. Culture was also equated with change accumulating in university culture across the sector. The project was seen as having a strong sense of leadership as well as the necessity of being concise in all situations with stakeholders by having clear answers. Some interviewees believed that there was a need to have stronger learning technology policies, as this provides concrete structures for

implementation. The interviewees' conceptualization of teamwork extended to all the stakeholders' comments which referred to "good and productive" relationships, which also came back to "good communication".

The research findings revealed that communication was mentioned by all of the interviewees with 40 references in the data; consequently, communication was the highest "single" coded category. However, strategy was mentioned by six interviewees with 21 references but when this is combined with change and sustainability, being part of the overall transformation strategy, it became the dominant category. Change was mentioned by all the interviewees with 33 references, and sustainability mentioned by five interviewees with 11 references. This overarching result instigated the adaption of the APMMM to allow flexibility for larger scale projects.

Discussion

The original model was designed for use in smaller scale e-Learning projects and needed to be expanded to encompass the university-wide implementation of a new learning management system. Accordingly, the model required the addition of "communication" and "strategy" and this was placed under "Adaptable Variants", which became the element in the model with the highest number of sub-categories. This reflects how project management maturity requires "being" open to constant adjustments from all facets during the project's lifetime.

Communication was a factor prevalent throughout the interviews. There were 40 references to various facets of communication within the implementation of the new LMS and importantly, it was also one of two nodes mentioned by all the interviewees. When discussing how project management requires "good" communication, one interviewee said:

> I think you need to be open and you need to be a very good communicator. I think you need to be able to talk to people. You need to be able to stress what the project objectives are and explain (Interviewee 4).

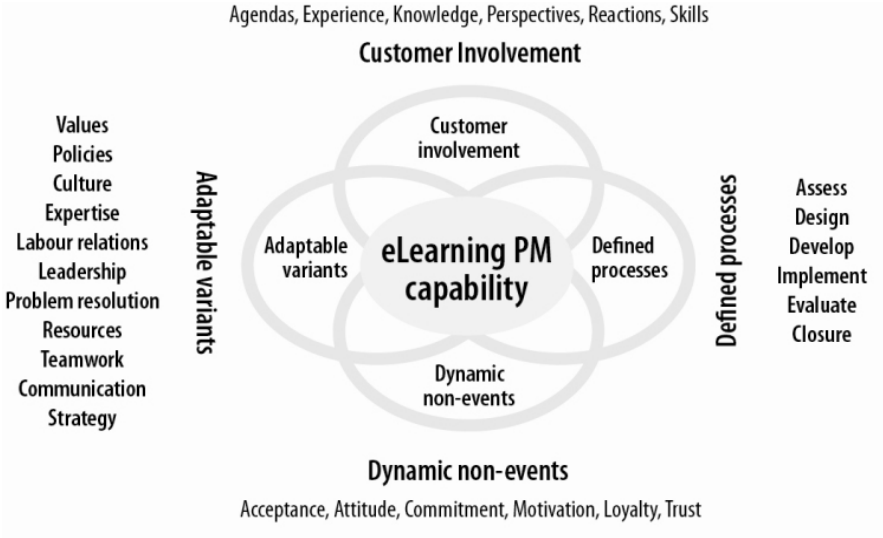

Figure 1-2: The APMMM in an LMS context

However, what makes a "good" communicator is subjective, although Dainton and Zelley (2011) define it as more than adopting a set of particular skills. People that are "good" communicators "are those that understand the underlying principles behind communication and are able to enact, appropriately and effectively, particular communication skills as the situation warrants". This is inextricably linked to the communication process presented by Targowski and Bowman (1988). An understanding of the information steering process and the associated actions and activities attached to the decision-making and behaviour processes and the "frames" within the business communication process, specifically, how the "reflecting information" within the message is received and how it can be altered (Targowski & Bowman, 1988), are all essential considerations for being a "good" communicator. This interviewee was not the only person to situate "good" communication as being an essential facet of project management, as another interviewee also commented on the importance of communication with all stakeholders:

> One of the important aspects in my mind anyway in the project is how do I communicate progress of the project? How do I communicate key aspects of the project? What communication is relevant to whom at what stage? And how do I communicate that? (Interviewee 8).

The series of questions asked of this interviewee suggests communication is governed by the actions and activities attached to various processes. The act of communicating the progress of the project and what is relevant to whom is part of "the information-steering process"; likewise understanding how to communicate key aspects of the project is one facet of "the behaviour process"; and audience consideration is one component of the business communications process as "no message means exactly the same thing to two different people" (Targowski & Bowman, 1988, p.7). As this interviewee states communication is "one of the important aspects" in the project, this is not surprising when considering the scale of this project, the various stakeholder groups and the fact that the implementation of a new LMS would have differing levels of impact on all staff members and all students.

The interviewees discussed communication as being between or with the stakeholders or project team members to ensure that everyone is up-to-date, and that everyone receives the same information. For example, one interviewee said:

> I went through a phase at the beginning of the project with my group – they're forever asking me or they're forever saying, "You're not giving us enough information," or something about this or something about that, and [I had] to constantly keep them updated (Interviewee 1).

The view that "communication" is synonymous with "information" is a popular one in business contexts, but according to Dainton and Zelley (2011), the communication process is one that involves people interactively creating, sustaining and managing meaning. In this case, this interviewee then discussed how the communication process was improved and the actions that were taken to do so.

> I was sending out weekly updates on things that were going on ... [I] also ... popped my head into ... their offices [to] see if they [had any] questions or things that we're going on, but that was really hard time wise to be able to do that (Interviewee 1).

This interviewee utilized the new LMS as a communication medium, sending updates through the system which then notified people by email. This type of communication was mixed with informal face-to-face updates; although time consuming, these methods became a vehicle for "information steering" as well as sustaining and managing meanings generated through what Targowski and Bowman (1988) call "reflecting

information", which is an awareness of the layers of meaning attached to any communication (p.8-10). Hence, having a mix of face-to-face contact as well as information in writing, sent via email in "weekly updates", offered a balance between personal and systematic communication; thus, the "information steering process" could be regularly checked and monitored on a weekly basis.

This case study revealed that the "information steering process" within a project of this size was best managed by investing time in multiple mediums. Some indicative comments included:

> It's not unusual for me to wander in somebody's office and have a chat with them, or for them to wander into my office ... So, that's, if you like, a fairly informal, non-recorded method of communication, but we also have ... a weekly newsletter to the project staff about where they are with progress ... We have a Wiki space, which [the project team] can go to and of course contribute to. Then of course we have regular correspondence through e-mail, telephone, and so on (Interviewee 2).

> We have a few different portals or areas of information repositories ... we have project space in the [LMS] for people to put [information] in there ... We also have a website, which is more for the external facing information for staff [and] Latest news is delivered in e-newsletters, e-updates, and then, we have a wiki space (Interviewee 5).

These comments elaborate on various types of communication mediums used; while informal face-to-face meetings were valued as well as electronic newsletters, the university wiki and the new LMS were utilized to support regular communications across the project. Furthermore, the dynamic documentation on the university wiki and communication tools within the new LMS, such as discussion forums, afforded recorded conversations and feedback that could be regularly re-visited by various members of the project team. These "information repositories" promoted information sharing practices within the team as well as avenues for managing communication records, feedback and information distribution. Record keeping is essential for any evaluation; thus, monitoring progress by recording communications within the project, for example keeping meeting minutes, was raised by one interviewee:

> If [people] know there are going to be minutes, then people approach the meeting in a slightly different way even beforehand because they know they could be called up to say these are the things ... that's one of the ways