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# Defining Intangible IS Project Products Using PRINCE2 Product Descriptions

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## Abstract

*Achievement of strategic organisational objectives is dependent on the development and management of an organisation's tangibles and intangibles, with an increasing need for the improved management of intangibles. Therefore it can also be expected that there will be an increasing reliance on projects to deliver a combination of tangible and intangible outcomes (e.g. relationships, leadership, learning, leadership, culture/values, reputation and trust).*

*An example being an Information System project conducted by a state government agency for which there were a combination of expected tangible and intangible project products, the former being able to be defined relatively easily using PRINCE2 project methodology Product Descriptions, but the latter posing quite a challenge to define in the same way.*

*The challenge was partially met by an exploratory action research cycle conducted by the author working together with the government agency. The intangible project products were able to be defined and documented as PRINCE2 Product Descriptions albeit over too long a period of time to be practicable in a real-life situation.*

*The paper provides a step-wise description of the action research cycle, including the final steps of reflection and replanning that redefine the action steps for use in future problem solving and research situations.*

**Keywords:** PRINCE2, Information Systems, Intangibles, Project Management, Outcomes, Outputs

## Introduction

Achievement of strategic organisational objectives is dependent on the development and management of an organisation's tangibles and intangibles, with an increasing need for the improved management of intangibles. Therefore it can also be expected that there will be an increasing reliance on projects to deliver a combination of tangible and intangible outcomes. However, as a starting point, there is no single agreed definition of 'intangibles'. Instead, a number of organisations and individual authors have made attempts to describe lists of currently relevant intangibles, including the UK Government Future and Innovation Unit which lists the currently most relevant intangibles as leadership, communication,

culture/values, relationships, knowledge, processes and systems, reputation and trust, skills and competencies (Future and Innovation Unit 2001).

Whilst there is no single definition of intangibles, there is little disagreement about the increasing importance of intangibles, with intangibles described as “gaining ascendancy over the tangible” (O'Donnell et al. 2003, p83) and thus creating a need for "a new managing approach where intangibles are in the limelight" (Guthrie & Johanson 2003, p430). With this new form of management being reliant on continuing work by researchers and business managers, to develop, implement and disclose methods for the visualisation, measurement and management of intangibles within companies (Garcia-Ayuso 2003, p602).

Of relevance to this paper, is that technology and information systems (IS) loom large in the intangibles related body of literature, especially given the findings of Brynjolfsson and Yang who identified “a strong correlation between the total value of computers in a corporation and the implicit value assigned to the intangibles in that corporation by the stock market.” Finding that “the firm that has a dollar of computers typically has another \$9 of related intangibles” (Brynjolfsson and Yang cited in Blair & Wallman 2001, p13).

When considering IS projects in particular, PRINCE2 presents as a worldwide *de facto* standard project management method (Office of Government Commerce 2002, p1) which includes Product Descriptions that are intended to provide a “clear, complete and unambiguous” definition (Office of Government Commerce 2002, p284) of the “purpose, composition, derivation and quality criteria” (Office of Government Commerce 2002, p314) of project products. With PRINCE2 products “vary(ing) enormously from physical items, such as (documents,) buildings and machinery, to intangible things such as culture change and public perception” (Office of Government Commerce 2002, p6). Therefore, PRINCE2 Product Descriptions are considered to provide a means for project stakeholders to define and document (visualise) intangible project products.

However, when a state government agency Information System project (in Australia) attempted to use PRINCE2 Product Descriptions to define intangible project products they found it quite a challenge. Therefore the agency agreed to participate in the author's doctoral level research into the improved identification and documentation of intangible project outcomes, by providing a problem solving project for the author to include in an exploratory action research cycle focussed on addressing the research question of *Can PRINCE2 Product Descriptions be used to define and document project stakeholders' descriptions of intangible project products ?*

It is the intention of this paper to contribute to the joint development by researchers and business managers of new approaches that will assist with the visualisation of an organisation's intangible project products by describing how PRINCE2 Product Descriptions can be used to define and document intangible project products.

This paper continues with an overview of the relevant literature – the current definition of intangibles, the increasing importance of intangibles, the PRINCE2 Project Management methodology and PRINCE2 Product Descriptions. This is followed by an introduction to the action research methodology and an overview of the project organisation and problem solving project, followed by a step-wise description of the exploratory action research cycle that addressed problem solving and research in parallel. The paper concludes by reflecting upon and redefining the action steps for use in future problem solving and research situations.

## Literature Review

As described above, the scope of the literature review was defined by the challenge of defining the intangible project products of an Information System project using Product Descriptions derived from the PRINCE2 project management methodology. Therefore the key topics explored in the literature review were

- the current role of intangibles and in particular their relevance to Information Systems (IS);
- the PRINCE2 project management methodology and PRINCE2 Product Descriptions in particular.

### *The current definition of intangibles*

For a number of reasons, there is no single agreed definition of ‘intangibles’. These reasons include “misunderstanding” and “misuse” of the term (Keen & Digrius 2003, p105), a “lack of informed opinion” (Keen & Digrius 2003, p105), the meaning of the term being context sensitive (Blair & Wallman 2001, p9) (Keen & Digrius 2003, p105), intangibles being “worth different things to different people” (Kaplan & Norton 2004, p52), intangibles being ‘described’ rather than ‘defined’ in concrete or quantitative terms (Blair & Wallman 2001, p2) and the fact that intangibles do not fulfil the accounting definition for assets (i.e. “intangible assets”) (Blair & Wallman 2001, p52).

The Brookings Institution report into intangibles provides a broad definition of intangibles as “non-physical factors that contribute to, or are used in producing goods or providing services, or that are expected to generate future productive benefits for the individual or firms that control the use of those factors” (Blair & Wallman 2001, p3). In addition, a number of organisations have defined lists of currently relevant intangibles which can be used as reference points in the absence of a single prevailing definition.

The following table (Table 1) summarises the lists of currently relevant intangibles identified by the UK Government Future and Innovation Unit (2001), Low and Kalafut (2002) and Andriessen and Tissen (2000).

Table 1. Currently relevant intangibles

<b>UK Government Future and Innovation Unit</b> (Future and Innovation Unit 2001, p4)	<b>Low and Kalafut</b> authors of “The Invisible Advantage” (Low & Kalafut 2002, p53)	<b>Andriessen and Tissen</b> authors of “Weightless Wealth” (Andriessen & Tissen 2000, p3)	
		<b>Type</b>	<b>Element</b>
Relationships (In- House and External)	Networks and Alliances	Assets & Endowments	Customer Base Supplier Network Talent Network
Knowledge (Acquisition, Retention and Deployment)	Intellectual Capital	Technology and Explicit Knowledge	Patents Manuals
Processes and Systems	Technology and Processes	Technology and Explicit Knowledge	
		Skills and Tacit Knowledge	Know-how
		Primary and Management Processes	Control Management Information
		Assets and Endowments	Ownership of Standards

<b>UK Government Future and Innovation Unit</b> (Future and Innovation Unit 2001, p4)	<b>Low and Kalafut</b> authors of “The Invisible Advantage” (Low & Kalafut 2002, p53)	<b>Andriessen and Tissen</b> authors of “Weightless Wealth” (Andriessen & Tissen 2000, p3)	
Leadership and Communication	Leadership	Primary and Management Processes	Leadership Communication
	Communications and Transparency		
Culture and Values	Workplace Organisation and Culture	Collective Values and Norms	
Reputation and Trust	Reputation		
Skills and Competencies	Human Capital	Skills and Tacit Knowledge	Competencies
	Strategy Execution		
	Brand Equity	Assets & Endowments	Brand & Image
	Innovation		
	Adaptability		

Rather than be overly concerned about the length or composition of a ‘list’ of intangibles, these authors suggest that organisations focus on managing and developing a “full spectrum” of intangibles (Future and Innovation Unit 2001, p1) with a view to the component intangibles changing over time (Low & Kalafut 2002, p225). Given these perspectives, an agreed static definition of ‘intangibles’ may be considered less of an issue.

### ***The Increasing Importance of Intangibles***

Whilst there may be differences of opinion concerning the definition of intangibles, there seems little disagreement about the increasing importance of intangibles. Lev describes the topic of ‘intangibles’ as occupying “an even larger niche in the mushrooming management literature, both popular and academic” (Lev 2001, p1). Upon examining the literature there seems to be good reason for this, with Armacost describing it as “almost indisputable” that economic growth is being primarily driven by “investments in intellectual, organisational, institutional and reputation assets. With the most important factors leading to businesses success and economic growth in developed economies in this century being ‘intangible’ or ‘non-physical’” (Armacost in the Introduction to Blair & Wallman 2001, pv). These comments are echoed by Ballou et al, who describe how “decades ago businesses generated value through tangible assets, such as buildings and equipment”. Whereas now “in our more knowledge-based economy, businesses are likely to generate much of their value through differentiating themselves by using intangible assets such as priority processes, brands, strong relationships and knowledge” (Ballou, Burgman & Molnar 2004, p29). Assessments such as these have the UK Government Future and Innovation Unit encouraging “organisations to look beyond their existing financial statements to consider how a wide spectrum of excluded intangibles contribute to their current and future potential to create value” (Future and Innovation Unit 2001, p36). O’Donnell et al describe it as a matter of “the intangible gaining ascendancy over the tangible” (O’Donnell et al. 2003, p83). This is not say that the focus has to shift completely from the tangible to the intangible, rather that “it is the overall mix of tangible and intangible investments that differentiates one organisation from another” (Future and Innovation Unit 2001, p36); organisations need to understand the mix of tangibles and intangibles that they need to develop and maintain “to achieve goals and overcome both identified and latent problems” (Future and Innovation Unit 2001, p2).

Technology and information systems (IS) loom large in the intangible related literature, especially given the findings of Brynjolfsson and Yang who identified “a strong correlation between the total value of computers in a corporation and the implicit value assigned to the intangibles in that corporation by the stock market.” Finding that “the firm that has a dollar of computers typically has another \$9 of related intangibles” (Brynjolfsson and Yang cited in Blair & Wallman 2001, p13). Whilst not as specific as the findings of Brynjolfsson and Yang, other authors also describe the importance of (information) technology in an organisation’s mix of tangibles and intangibles :

- “Technology investments can be productive, but only if the organisation doing the investing makes the corresponding investments in intangibles – people and processes – that are necessary” (Low & Kalafut 2002, p148);
- “Successful investment in technology requires investment in a host of other intangibles, notable work processes, human capital and workplace organisation. Technology alone rarely provides a company with a competitive edge. Technology complemented by investments in intangibles does – or at least it can” (Low & Kalafut 2002, p142);
- “Intangible assets almost never create value by themselves. They need to be combined with other assets. Investments in IT for example, have little value unless complemented by HR training and incentive programs. And conversely, many HR training programs have little value unless complemented with modern technology” (Kaplan & Norton 2004, p54).

By increasing their focus on intangibles, managers will start to see their organisation through the same “lenses” used by customers, current and potential employees and investors, “which means you’ll be better able to manage the variables that they’re watching and seeing” (Low & Kalafut 2002, p14). Further, once managers really understand intangibles, it is expected that they will never manage their organisation the same way again (Low & Kalafut 2002, p14); requiring "a new managing approach where intangibles are in the limelight" (Guthrie & Johanson 2003, p430). With this emerging form of successful management being reliant on continuing work by researchers and business managers, to develop, implement and disclose methods for the visualisation, measurement and management of intangibles within companies (Garcia-Ayuso 2003, p602).

### ***PRINCE2 project management methodology***

#### ***PRINCE2 introduction***

PRINCE2 (**P**rojects **I**N **C**ontrolled **E**nvironments version **2**) is a structured project management method developed by the UK Office of Government Commerce to provide a flexible and adaptable approach to suit all projects (Office of Government Commerce 2002,p9). Given its combination of rigour and versatility, PRINCE2 is currently recognised as a *de facto* project management standard used by public and private sector organisations worldwide (Office of Government Commerce 2002, p1). Tailoring of the method to suit the circumstances of a particular project is critical to its successful use (Office of Government Commerce 2002,p9).

#### ***PRINCE2 products and product descriptions***

PRINCE2 projects are focused on delivering specified products to meet a specified Business Case (Office of Government Commerce 2002, p9), with PRINCE2 products comprising both project inputs and outputs (Office of Government Commerce 2002, p313) - “everything the

project has to create or change, however physical or otherwise this may be” (Office of Government Commerce 2002, p6).

Each product to be produced by a project managed using PRINCE2 is described during the project planning stage by a Product Description that provides a “clear, complete and unambiguous” definition (Office of Government Commerce 2002, p284) including the descriptions of the product “purpose, composition, derivation and quality criteria” (Office of Government Commerce 2002, p314). According to PRINCE2 it is the project manager’s responsibility to write Product Descriptions (Office of Government Commerce 2002, p284). Nevertheless, it is recommended that project managers engage various stakeholders to assist with Product Description development (Office of Government Commerce 2002, p284), to ensure a common understanding of the expected project products from the outset of the project. Ideally, these stakeholders include “staff who know the proposed product” along with product users who will assist with the definition of product quality criteria (Office of Government Commerce 2002, p226). Once approved by the relevant stakeholders, each Product Description is used by the product creator to develop the product and later also as a means of confirming the quality of the completed product (Office of Government Commerce 2002, p225).

PRINCE2 products “can vary enormously from physical items, such as (documents,) buildings and machinery, to intangible things such as culture change and public perception” (Office of Government Commerce 2002, p6).

## Methodology

The author is a candidate in a professional doctorate degree program and at the time of the research study described in this paper was attempting to answer the research question *How can project stakeholders improve their descriptions of intangible project outcomes ?*

A key requirement of the professional doctorate is that the candidate-researcher demonstrates workplace change by addressing the dual imperatives of problem solving and research. As a result, action research was chosen as the primary research methodology for addressing the open-ended research question because it is intended to address two separate, parallel agendas; the research agenda and the project agenda (Saunders 2003, p94).

Sometimes, achievement of these two parallel agendas is described as being integrated into a single action research cycle such as that proposed by McKemmis and Taggart in Figure 1 :

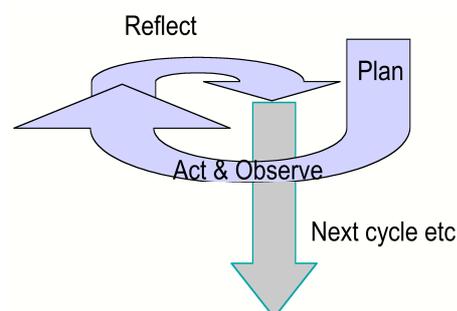


Figure 1. Action Learning Cycle (Kemmis & McTaggart 1988, p11)

Alternatively, the action research cycle can be depicted as two interlinked cycles of problem solving interest and responsibilities (action/practice) and research interest and responsibilities (research/theory) as proposed by McKay and Marshall (McKay & Marshall 2001, p46, p50). With these dual cycles able to be represented both graphically (Figure 2) and in table-text form (Table 2).

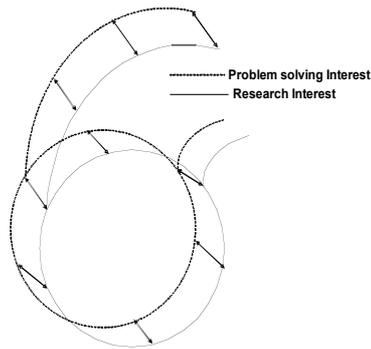


Figure 2. Action research viewed as a dual cycle process (McKay & Marshall 2001, p52).

Table 2. The problem solving interest and research interest in action research (adapted from McKay & Marshall 2001, p50-51).

Step	The problem solving cycle	The research interest cycle
1	Identify the problem	Identify the research themes/interests/questions.
2	Conduct reconnaissance about the problem context	Conducted reconnaissance of the relevant literature.
3	Plan the problem solving activity.	Plan the research project to answer the research themes/interests/questions.
4	Define action steps	
5	Implement action steps	
6	Reflect upon the problem solving efficacy.	Reflect upon the effect of the action steps on the research themes/interests/questions.
7a	If further change is required, amend the action plan and return to step 4.	
7b	Exit, if outcomes are satisfactory.	Exit, if questions are satisfactorily Resolved.

Other dual cycle conceptualisations also exist, including those proposed by Rowley (2003), Locke (2001), Zuber-Skerritt and Perry (2002).

Whilst action research was defined as the primary research methodology, elements of case study research were also included because both research methodologies are open-ended; simultaneously raising and answering questions, with action research possibly being “the most demanding and far-reaching method of doing case study research” (Gummeson 2000, p116). The blending of action research with case study research is a design decision supported by a number of authors, including Stake (2003), Wolcott (as cited in Locke 2001, p16), Dick (2002, p166) and Gummeson (2000, p3) .

The action research cycle described in this paper is one (1) of two (2) initial exploratory action research cycles completed by the author in a series of five (5) cycles as depicted in Figure 3.

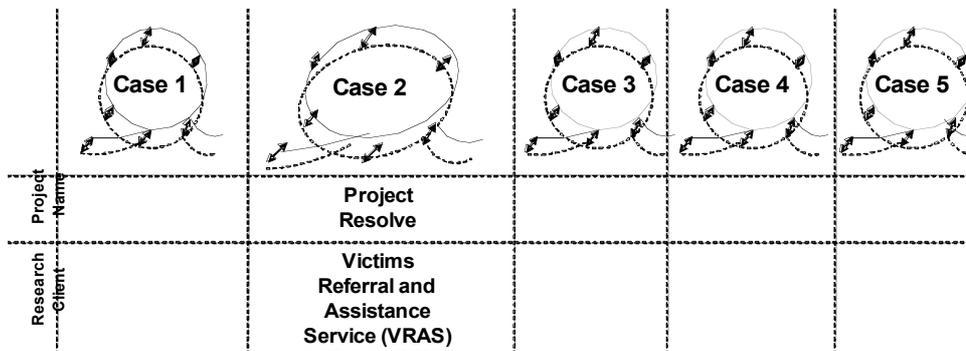


Figure 3. The series of five action research cycles

For each of the action research cycles, the case as a unit of analysis comprised *project stakeholders identified by the sponsor of the problem solving project*.

## **The action research context**

### ***The project organisation***

The Victorian State Government in Australia established the Victims Referral and Assistance Service (VRAS) as a Department of Justice agency on 1 July 1997. The VRAS mission was “To assist victims of crime to overcome the negative effects of their experiences resulting from crime” (Victims Referral and Assistance Service 2002, p4) by serving as the single central referral and advice agency (Victims Referral and Assistance Service 2002, p4) linking “the wide variety of people who can impact upon victims of crime” including “support agencies and community organisations, lawyers, police officers, correctional service agencies, academics, bureaucrats and administrators” (Victims Referral and Assistance Service 2002, p1).

The Director, VRAS agreed to the agency participating in the author’s research study, without a need for organisational anonymity.

VRAS comprised a combination of specialist projects (e.g. supporting victims of the October 2002 “Bali Bombing”) and three key operational components – “the Victims Helpline, Victims Counselling Service and Regional Projects” (Victims Referral and Assistance Service 2002, p2).

The Victims Helpline “staffed by an equivalent full-time total of sixteen Victim Service Officers (VSOs)” (Victims Referral and Assistance Service 2002, p5-6) took 56,000 calls from mid 1999 to mid 2000 (Victims Referral and Assistance Service 2002, p12). VSOs are university graduates with “qualifications predominantly in criminology, social science, social work or psychology” and are provided access to an integrated set of databases comprising (Victims Referral and Assistance Service 2002, p5-6) :

- Qmaster – a telephone answering system that ensured no victim of crime calling VRAS got an ‘engaged’ signal or was put on hold when they called, instead if all VSOs were busy, a signal alerted another staff member to pick up the incoming call;
- Case Management System (CMS) – the system used by VSOs to record details related to the crime and the victim whilst speaking to the victim on the phone;
- Infocom – a database of referral agencies that VSOs may refer victims of crime to, including approved counsellors, domestic violence agencies, specialist and government agencies within Victoria and interstate;
- Oracle Financials – the financial recording system used to record payments to referral agencies, cross-referenced to a victim’s record in CMS.

### ***The problem solving project***

The Director, VRAS nominated Project Resolve as the problem solving project to be included in the exploratory action research cycle. Project Resolve comprised two parallel sub-projects – the Case Management System upgrade and the Infocom database upgrade.

The project had commenced in mid 2002 and was due to be completed by mid 2003. The author was introduced to the Director, VRAS in December 2002 and commenced working with the Project Resolve Project Manager and their Project Management Coach during the same month.

For this action research cycle, the case as a unit of analysis comprised Project Resolve stakeholders identified by the Project Resolve Project Manager and their Project Management Coach.

### *The dual action research cycles*

The dual cycles of problem solving and research were applied as described in Table 3 to address the problem of using PRINCE2 Product Descriptions to identify and define Project Resolve intangible project products.

Table 3. The dual cycles of problem solving and research.

Step	The problem solving cycle	The research interest cycle
<b>1</b>	<b>Identify the problem</b>	<b>Identify the research themes/interests/questions</b>
	The problem to be solved is the use of PRINCE2 Product Descriptions to define and document Project Resolve intangible project products.	The original research question of <i>How can project stakeholders improve their descriptions of intangible project outcomes ?</i> was customised for the purposes of helping VRAS solve the project problem, to become <i>Can PRINCE2 Product Descriptions be used to define and document project stakeholders' descriptions of intangible project products ?</i>
<b>2</b>	<b>Conduct reconnaissance about the problem context</b>	<b>Conducted reconnaissance of the relevant literature</b>
	Information about VRAS and Project Resolve was gained from VRAS publications and a series of planning meetings conducted with the Project Resolve Project Manager and their Project Management Coach.	The author's prior review of intangibles related literature was supplemented by a review of literature related Information Systems, the PRINCE2 project management methodology and PRINCE Product Descriptions.
<b>3</b>	<b>Plan the problem solving activity</b>	<b>Plan the research project to answer the research themes/interests/questions</b>
	During February 2003, five (5) groups of like stakeholders will be asked to define their expected intangible project products in a series of structured meetings scheduled by the Project Resolve Project Manager and conducted by the author, with the author responsible for documenting the meeting outcomes in the form of PRINCE2 Product Descriptions. The five (5) groups of like stakeholders are 1) The Information Technology Team, 2) The Administration Team, 3) Users of Management Reports 4) Victim Support Officers (VSOs) and 5) the Project Resolve Project Manager and their Project Management Coach.	Stakeholder meetings were planned as a walkthrough of the table of questions titled A Stakeholder's Expectations of Intangible Project Products, included as Appendix 1* derived from the categories of currently relevant intangibles defined by the UK Government Future and Innovation Unit (Future and Innovation Unit 2001). Within the stakeholder meetings, the author was to assume the role of Observer as Participant being a "detached outsider" (Welman 2002, p184) focusing primarily on their researcher role (Saunders 2003, p225-226). As the primary data collection instrument, the author was well aware of being included in the research context i.e. the research context including a researcher context (McClintock, Ison & Armson 2003, p726). The PRINCE2 Product Description template was drafted with reference to the PRINCE2 literature review and is included as Appendix 2*.
Step	The problem solving cycle	The research interest cycle
<b>4</b>	<b>Define Action Steps</b>	
	During January 2003, the Project Resolve Project Manager to <ul style="list-style-type: none"> <li>Introduce the action research problem solving project to VRAS staff members by sending an introductory email message to team leaders and arranging a one hour meeting with each team.</li> </ul> During February 2003, the author to <ul style="list-style-type: none"> <li>Conduct each scheduled meeting of like project stakeholders according to a structured format, starting with author and stakeholder introductions, followed by the signing of participant consent forms and a walkthrough of the table included as Appendix 1*, asking stakeholders to define their expected intangible project products;</li> </ul>	

Step	The problem solving cycle	The research interest cycle
<b>4</b> cont.	<b>Define Action Steps</b> <i>continued</i>	
	<p data-bbox="277 342 783 371">During February 2003, the author to <i>continued</i></p> <ul data-bbox="277 376 1414 564" style="list-style-type: none"> <li>• Document meeting outcomes as PRINCE2 Product Descriptions using the Intangible Product Description template (included as Appendix 2*);</li> <li>• Provide the write-up of meeting outcomes to meeting participants for review and comment;</li> <li>• Finalise the write-up of meeting outcomes;</li> <li>• Review the finalised write-up of meeting outcomes with the Project Resolve Project Manager and their Project Management Coach.</li> </ul>	
<b>5</b>	<b>Implement Action Steps</b>	
	<p data-bbox="277 611 791 640">The action steps were implemented as follows :</p> <p data-bbox="277 645 1107 674">From January 2003 into February 2003, the Project Resolve Project Manager</p> <ul data-bbox="277 678 1414 768" style="list-style-type: none"> <li>• Contacted each of the five (5) stakeholder groups</li> <li>• Scheduled eight (8), rather than five (5) stakeholder meetings, because some project stakeholders requested individual meetings.</li> </ul> <p data-bbox="277 772 874 801">From February 2003 through to April 2003, the author;</p> <ul data-bbox="277 806 1414 1518" style="list-style-type: none"> <li>• Conducted eight (8) project stakeholder meetings;</li> <li>• Changed the planned meeting structure after the first meeting because the walkthrough of the table of planned questions (as per Appendix 1*) was too time consuming and stakeholders' replies to initial questions were found to address multiple planned questions, making many of the remaining planned questions, redundant. Instead the dialogue between the author and project stakeholders became less structured, focusing instead on the column headings of the table (derived from the categories of currently relevant intangibles defined by the UK Government Future and Innovation Unit (Future and Innovation Unit 2001)).</li> <li>• Justified making changes part way through Implementation based on their understanding that exploratory research relies upon a researcher's willingness to change direction "as a result of new data that appears and new insights that occur" (Saunders 2003, p97), without undue concern for the original plan (Kemmis &amp; McTaggart 1992, p77);</li> <li>• Had to revise the initial version of the Product Description template because it was found to be lacking, further adding to the author's write-up workload (as per the format of Appendix 3*);</li> <li>• Provided the write-up of stakeholder meeting outcomes as planned, to each individual/group of relevant stakeholders to review and provide feedback. In addition to reviewing the documented meeting outcomes, the author also asked stakeholders to assign an 'importance rating' (from 1 = Very Low Importance through to 5 = Very High Importance) to each documented Intangible Product Description to assist the author to prioritise the thirty six (36) Intangible Product Descriptions. In descending order of average importance (1 – Very Unimportant through to 5 – Very Important), the categories of intangibles were Leadership (5), Reputation &amp; Trust (4.75), Innovation and Learning (4.75), Culture/Values (4.5), Relationships (4,5) and Communication (3.17), Processes (3.25).</li> </ul> <p data-bbox="277 1523 632 1552">Starting in May 2003, the author</p> <ul data-bbox="277 1556 1414 1742" style="list-style-type: none"> <li>• Updated the meeting outcome reports with stakeholders' review feedback.</li> <li>• Identified a relationship between intangible project products and tangible project products and as a result drafted two additional unplanned cross reference tables. The first table cross-referenced intangible project product descriptions to tangible project products (Refer Appendix 4* for a sample excerpt) and the second similarly formatted table cross referenced intangible project product descriptions to tangible operational (non-project) products.</li> </ul> <p data-bbox="277 1747 587 1776">In late May 2003, the author</p> <ul data-bbox="277 1780 1414 1841" style="list-style-type: none"> <li>• Reviewed the finalised write-up of all combined stakeholder meeting outcomes with the Project Resolve Project Manager and their Project Management Coach.</li> </ul>	

Step	The problem solving cycle	The research interest cycle
6	<b>Reflect upon the problem solving efficacy</b>	<b>Reflect upon the effect of the action steps on the research themes/interests/questions</b>
	<p>The problem was solved – PRINCE2 product descriptions were able to be used to define and document intangible project products.</p> <p>However, the time required to write-up stakeholder meeting outcomes was not tenable in a real-life project situation, where the time to complete the documentation activities took far too long for the intangible product descriptions to be of practical use as project planning inputs. Another major shortcoming of the process was that it did not adequately capture the prioritisation of intangible project product descriptions.</p>	<p>Project stakeholders had little if any problem articulating their expectations regarding intangible project products.</p> <p>As per the problem solving observations, the action steps resulted in the author having to do far more work than anticipated in too long a time to be practicable.</p> <p>Also, it was observed that the number of intangible product descriptions per intangibles category was not indicative of the relative importance assigned to them by project stakeholders.</p> <p>In summary, the process for facilitating project stakeholders' definition of intangible project products required considerable revision.</p>
7a	<b>If further change is required, amend the action plan and return to step 4</b>	
	<p>Similar to a project Lessons Learned activity, the author, Project Resolve Project Manager and their Project Management Coach identified key aspects of the action plan that were worth repeating and those that required amendment.</p> <p>Aspects of the action plan worth repeating were :</p> <ul style="list-style-type: none"> <li>• Stakeholders being provided with introductory information;</li> <li>• Stakeholders being provided with a reference list of intangibles as a basis for discussion.</li> </ul> <p>Noted action plan amendments included :</p> <ul style="list-style-type: none"> <li>• A reduced number of stakeholder meetings;</li> <li>• Stakeholder meetings needing to be semi-structured in order to provide sufficient balance between defining expected intangible project products sufficiently well, fitting the discussion within an allotted time frame (i.e. a meeting agenda) whilst also providing stakeholders with sufficient flexibility to describe project specific aspects of intangible project products;</li> <li>• The format used to write-up project stakeholder meeting outcomes needed to be simplified so that it took less time to complete;</li> <li>• The method for rating the importance of intangible product descriptions needed to be improved.</li> </ul>	
4	<b>Redefine Action Steps</b>	
	<p>The redefined action steps were :</p> <ol style="list-style-type: none"> <li>1. Develop an introductory PowerPoint slide pack to use as the basis of introductory meetings with Project Sponsors and Project Stakeholders;</li> <li>2. Meet the Project Sponsor or their delegate (e.g. Project Manager) to discuss the combined problem solving and research objectives of defining and documenting intangible project outcomes. The expected outcomes of this meeting are : <ul style="list-style-type: none"> <li>• Agreement that the definition of expected intangible outcomes is important to a project;</li> <li>• Identification of a problem solving project;</li> <li>• An identified list of project stakeholders;</li> <li>• A tentatively agreed date, time and place for an introductory meeting between the researcher and project stakeholders to discuss and review the combined problem solving and research objectives of defining and documenting intangible project outcomes.</li> </ul> </li> <li>3. Conduct the introductory stakeholder meeting to discuss and review the combined problem solving and research objective of defining and documenting intangible project outcomes. The expected outcomes of this meeting are <ul style="list-style-type: none"> <li>• Common agreement that intangible outcomes are important to the project;</li> <li>• An agreed time, place and duration of a stakeholder workshop to define intangible project outcomes;</li> </ul> </li> </ol>	

Step	The problem solving cycle	The research interest cycle
4 cont.	<b>Redefine Action Steps</b> <i>continued</i>	
	<p>4. Conduct the stakeholder workshop to identify, prioritise and describe expected intangible project outcomes by</p> <ol style="list-style-type: none"> <li>i. Listing planned tangible project outputs;</li> <li>ii. Listing and prioritising intangible project outcomes, derived from the categories of currently relevant intangibles defined by the UK Government Future and Innovation Unit (Future and Innovation Unit 2001) i.e. leadership, communication, culture/values, innovation, relationship, learning, processes, reputation and trust.</li> <li>iii. In order of priority, describing each intangible outcome in terms of a profile that comprises <ul style="list-style-type: none"> <li>o Outcome Title</li> <li>o Outcome Identifier</li> <li>o Short Description</li> <li>o Benefit Description</li> <li>o Presentation</li> <li>o Associated Tangible Outputs</li> <li>o Dependencies</li> </ul> </li> </ol> <p>5. Following the stakeholder workshop, document the workshop outcomes, as a summary workshop report comprising</p> <ul style="list-style-type: none"> <li>• An Executive Summary;</li> <li>• An Introduction;</li> <li>• A set of Intangible Outcome Profiles;</li> <li>• A table cross-referencing intangible project outcomes to tangible project outputs;</li> <li>• A table cross-referencing intangible project outcomes to tangible operational (non-project) outputs.</li> </ul> <p>6. Review the Workshop Summary report with the Project Sponsor, their delegate and/or the project stakeholders, especially with regard to the currently unplanned tangible project and operational outputs cross-referenced to intangible project outcomes i.e. tangible outputs that delivery of intangible project outcomes was somewhat dependent upon. Assist the Project Sponsor and/or their delegate to define the Next Steps for implementing the combined problem solving and research findings.</p>	

## Conclusions and Implications

With the aim of contributing to the development of new approaches for visualising an organisation's intangible project products, this paper described an exploratory action research cycle that assisted a state government Information System project to address the problem of using Product Descriptions derived from the PRINCE2 project management methodology to define and document intangible project products, whilst also addressing the author's research interest of improving the identification and definition of intangible project outcomes.

The paper confirmed that tailored versions of PRINCE2 Product Descriptions were capable of being used for defining and documenting intangible project products, although the method used to do so was too time consuming to be practicable in a real-life project situation.

Nevertheless, by applying action research principles, the latter action research steps of reflection and replanning resulted in the redefinition of action steps for use in future problem solving and research situations.

Since the action research cycle was conducted in 2003, future implications of the research are able to be reported at the time of writing in 2005, in that the redefined action steps were successfully applied with minor modifications in three (3) successive action research cycles

(refer following Postscript), resulting in a straightforward, effective and efficient method for project stakeholders to identify and define intangible project outcomes and related tangible project outputs.

Acknowledging that the author conducted only a small number of action research cycles, readers are encouraged to apply the redefined action steps (and outcome profile described in the Postscript) to their own Information System projects, as part of project planning or evaluation processes.

### **Postscript**

As described above, the exploratory action research cycle described in this paper comprised the second of a sequence of five (5) action research cycles conducted by the author.

As part of planning action research cycle 3, the author advanced the approach defined at the end of exploratory action research cycle 2, in two (2) key ways; by

1. Further developing the introductory PowerPoint slide pack;
2. Amending the outcome profile.

The Outcome Profile was amended to address a combination of benefits management and project management concepts, to become :

- Outcome Description
- Outcome Beneficiary/ies
- Outcome Owner
- Benefits
- Assessment
  - Quantitative
  - Qualitative e.g. "scoring (e.g. on a scale of 1 to 5), anecdotes and stories
- Roles and Responsibilities
- Outputs
- Dependencies
- Risk Assessment
- Financial Summary

This version of the outcome profile was successfully applied in the latter three (3) of the five (5) action research cycles.

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**\* Appendices will be provided upon request to the authors.**