

# Research Strategy Development for Dummies : Define a Framework of Research Options and then Use It

Kersti Nogeste  
Principal Consultant  
Project Expertise Pty Ltd  
PO Box 464  
Collins Street West VIC 8007  
AUSTRALIA  
knogeste@projectexpertise.com.au

## ABSTRACT

This paper describes how a framework of qualitative research options was constructed and then used to define the research strategy for addressing the research question of *How to improve the way in which project stakeholders define and align intangible project outcomes with tangible project outputs ?*

The decision to construct and then use the framework was taken to ensure that all relevant research options were considered in terms of the research paradigm, approach, methodology and data collection methods; and to link the research question to the most appropriate combination of research paradigm, approach, methodology and data collection.

The framework was constructed as a series of top-down tiers (research paradigm, approach, methodology and data collection methods), underpinned by the unit of analysis, researcher role, ethics and research quality. Each tier comprised a selection of relevant research options – paradigms (positivist, realist, interpretivist, constructivist); approaches (inductive, deductive), methodologies (ethnography, grounded theory, case study, action research) and data collection methods (individual/group meetings, workshops, reference documentation).

Once the framework was constructed, the research question was compared and linked to relevant research option/s in each successive tier; starting with the paradigm options, working through the approach options, methodology options and data collection options. Combinations of research options were considered to be valid as long as they could be justified, and no options were considered to be mutually exclusive; so, multiple options could be chosen from each tier of the framework.

The resulting research strategy followed the realist paradigm using a combination of inductive and deductive approaches to implement an action research methodology, collecting data through a combination of individual and group meetings, group workshops and reference to documentation.

Implementation of this research strategy answered the research question by developing a method for defining and aligning intangible project outcomes and tangible project outputs.

## KEYWORDS

Qualitative, Research Strategy, Paradigm, Approach, Methodology, Data Collection

## 1 INTRODUCTION

### 1.1 Objective

The objective of this paper is to demonstrate how a researcher can justify a research strategy; by first defining a research strategy framework to demonstrate their understanding of the relevant research knowledge base and then secondly, using the framework as the means of justifying the proposed research strategy.

### 1.2 The Research Idea and Question

The research strategy framework described in this paper was designed to address the research component of a Doctor of Project Management (DPM) degree. The DPM is a research degree that comprises a combination of coursework (33%) and research (67%) [Graduate School of Business, 2004 #621], with the research goal being to discover “new approaches to the practice of project management”, by paying particular attention to the interaction between project managers and project stakeholders (Graduate School of Business 2004).

As intended by the DPM course design, a coursework project prompted the “research idea” (Saunders 2003) which was *to improve the way in which project stakeholders defined intangible project outcomes, including in terms of their aligned project outputs.*

The research idea led in turn, to the research question of *How to improve the way in which project stakeholders define and align intangible project outcomes with tangible project outputs ?*

Figure 1 illustrates the context and focus of the research idea, research question and corresponding research study (Nogeste 2006).

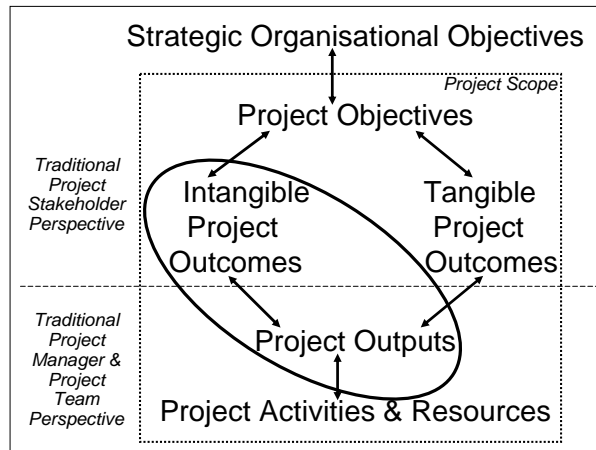


Figure 1 - The context and focus of the research idea, research question and corresponding research study (Nogeste 2006)

## 2 DEFINING THE RESEARCH STRATEGY FRAMEWORK

### 2.1 Introduction

Taking a 'top down' view to developing a research strategy, an early decision is whether to follow a predominantly qualitative or quantitative path, because "generally, research can be divided into two broad methods – quantitative and qualitative" (Creswell 1998). In principle, little is forsaken by taking either a qualitative or quantitative approach because at the highest level, quantitative and qualitative research share the common goal of understanding available evidence sufficiently well to be able to explain it in terms of a theory (Hyde 2000; Parker 2004) that describes the observable world (Hyde 2000).

With DPM research intended to discover new approaches to the practice of project management, by paying particular attention to the interaction between project managers and project stakeholders (Parker 2004), qualitative research provides a means of getting close to project manager/project stakeholder interactions.

### 2.2 The Framework

In taking the qualitative path to research the open-ended (project) management research question, the researcher needs to be prepared for the research experience to be uncertain and emergent and "just as complex as management itself" (Carter 1999). Therefore, in order to define the most effective and efficient research strategy (Martinsuo 2001), the researcher needs to understand the research options available to them.

So, having decided upon a qualitative research strategy, the next step is to explore the available research options in terms of research paradigms, approaches, methodologies and data collection methods as illustrated in Figure 2.

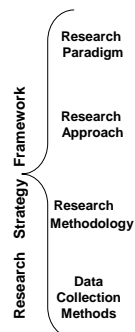


Figure 2 - Research Strategy Framework

## 2.3 Research Paradigms

Taking a top-down view of research options, a research paradigm provides the “overarching framework” (Heron & Reason 1997) that defines the researcher’s approach to “the development of knowledge” (Saunders 2003).

There is no common agreement regarding the types or numbers of key research paradigms. For example, Saunders describes the three most common paradigms included in the literature as being positivism, realism and interpretivism (Saunders 2003), whilst Riege describes the four main paradigms as positivism, realism, critical theory and constructivism (Riege 2003) and Stiles describes them as positivism, symbolic interactions, ethnomethodology, realism, idealism and phenomenology (Stiles 2003).

Of these options, the author’s review of methodology literature focused on positivism, interpretivism, constructivism, and realism as illustrated in Figure 3.

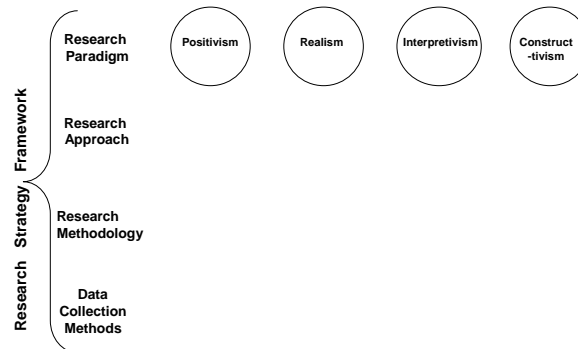


Figure 3 - Research Strategy Framework - Paradigm Options

### 2.3.1 Positivism

Positivist researchers are theory driven, so implement fixed, defined research plans which are designed to prove that a predefined hypothesis is true (Clark 2004). Positivism is usually associated with the natural sciences (Saunders 2003) where a positivist hypothesis has the notion of a single concrete reality which is knowable and unchangeable (Clark 2004) and can be defined by ‘definite laws’ (Saunders 2003) that define relationships and/or causality that apply at all times (Welman 2002).

Whilst positivist research tends to be associated with “quantifiable observations that lend themselves to statistical analysis” (Saunders 2003), this need not necessarily be the case, with qualitative data also able to be used in positivist research (Johnson and Cassell cited in Arnold 2004).

### 2.3.2 Interpretivism

The interpretivist research paradigm assumes that the world is just as people perceive it to be (Cavana 2001).

Therefore the aim of interpretivist research is for the researcher to “uncover the socially constructed meaning as it is understood by an individual or group of individuals” (Cavana 2001) and to “describe it in a way that is meaningful for these research participants” (Saunders 2003).

This is achieved by the researcher engaging and participating with (Cavana 2001) the “social actors” (Schwandt cited in Locke 2001) involved in the research situation, to develop an understanding of their subjective reality based upon the actors’ motives, actions and intentions (Saunders 2003).

So, in contrast with the ‘single reality’ view of positivism, interpretivist research assumes “it is more likely that people experience physical and social reality in different ways” (Cavana 2001). Therefore in contrast with positivism, the interpretivist researcher needs to have a relatively flexible research plan capable of responding to information provided by the research “actors” (Cavana 2001).

### 2.3.3 Constructivism

Constructivism is based on the concept of each person constructing knowledge (Oregon State University 2005) according to their individual interpretation of situations (Yackel, Cobb & Merkel 1990). More than a dozen different versions of constructivism are proposed in the literature (Windschitl 2002).

Constructivists consider all meanings to be co-created and to be of equal importance, so they do not claim that their findings are more important than those of their research audience, nor that their findings are necessarily complete or final (Clark 2004).

Generally, given its dependency on identifying individuals' knowledge constructs, data collection under this research paradigm is a discovery process dependent on the researcher making repeat visits to the "study site" to refine their hypotheses over time (Clark 2004).

### 2.3.4 Realism

If positivism is considered to lie at one end of the spectrum of paradigms and interpretivism and constructivism towards the other end, then realism bridges these perceived extremes, overlapping each (Stiles 2003).

On the one hand, realism accepts that people's understanding of the world emanates from their personal perspective and therefore knowledge of a situation needs to be examined 'inside out' (Stiles 2003). However, this understanding is qualified by the realist researcher's appreciation that this form of knowledge might be "partial or incomplete" (May quoted in Stiles 2003) and therefore needs to be complemented by the use of theoretical frameworks that "determine the underlying mechanisms that influence people's actions" (Stiles 2003). By bridging the gap between the positivist and constructivist and interpretivist perspectives (Stiles 2003), realist research removes the debate about the selection of a paradigm being an 'either-or' decision. Instead, realists aim to understand the research situation by assembling multi-faceted views of reality (Riege 2003).

## 2.4 Research Approaches

### 2.4.1 Introduction

The two most commonly described research approaches – deductive and inductive, both comprise the steps of data collection and theory development, just in the reverse order from each other (Saunders 2003). The deductive approach can be considered to be theory-driven, whilst the inductive approach is data-driven (Dick 2002).

Therefore, the author's review of methodology literature examined both inductive and deductive focused research approaches as illustrated in Figure 4.

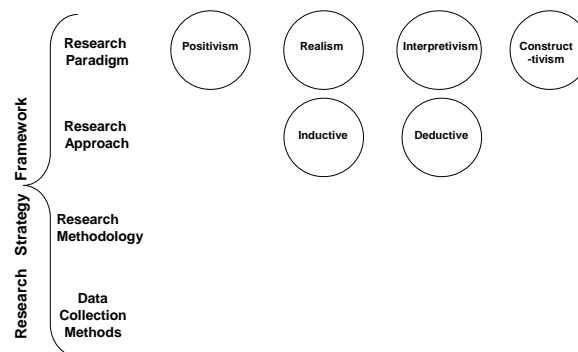


Figure 4 - Research Strategy Framework - Paradigm and Approach Options

A deductive approach firstly develops a theory (or hypothesis) which is then proven by collected data. So, a deductive approach is best suited to researching a topic on which there is a wealth of literature that can be used as the basis for defining the theoretical proposition (Saunders 2003).

Whereas an inductive approach collects data and then uses it to develop a theory (Saunders 2003). So, given its dependence on collecting, analysing and reflecting upon data, the inductive approach is well suited to researching topics "on which there is little existing literature" (Saunders 2003). In addition, an inductive approach is considered to be one of "moving from the specific to the general" because it "involves moving from individual observations to statements of general patterns or laws" (Collis 2003).

Decisions regarding this aspect of the research strategy need not be made on an 'either-or' basis since a research strategy may comprise a combination of deductive and inductive research (Saunders 2003). To the point where after the initial inductive or deductive stage, the research becomes a series of iterations or "interplays" (Hyde 2000) between deduction and induction.

## 2.5 Research Methodologies

### 2.5.1 Introduction

Qualitative research is described as encompassing a number of methodologies, with the three key ones being ethnography, case study and action research, with grounded theory 'overlapping' each of the three former methodologies to some degree (Locke 2001).

Therefore, the author's review of methodology literature examined each of these methodologies as illustrated in Figure 5.

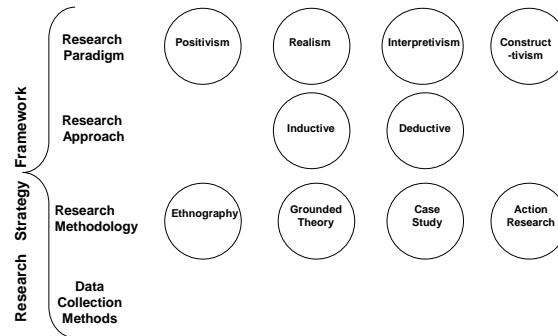


Figure 5 - Research Strategy Framework - Paradigm, Approach and Methodology Options

### 2.5.2 Ethnography

Ethnography “stems from anthropology”, and is the study of people’s societies and customs (Collis 2003), conducted with a view to understanding the culture of the group being researched (Patton cited in Brook 2004; Collis 2003, p70) “in the way in which they interpret it” (Saunders 2003).

In adopting an ethnographical methodology, researchers need to be prepared for this mode of research to be very time consuming and to be conducted over a long period of time (Saunders 2003).

### 2.5.3 Grounded Theory

The grounded theory methodology develops theory from data collected (Urquhart as cited in Brook 2004) through direct contact with the research situation and no prior theorising (Locke 2001; Saunders 2003, p93). With no preset guidelines theory emerges from the researcher’s investigation, ‘illuminating’ the research situation (Turner quoted in Collis 2003) with new insights being integrated as they arise (Stiles 2003).

The aim of grounded theory is to use the defined theory to develop recommendations that are “intelligible to, and usable by, those in the situation being studied” and “open to comment and correction by them” (Turner quoted in Collis 2003).

Whilst often considered the simplest form of an inductive research approach, grounded theory can also be considered as “theory building through a combination of induction and deduction” (Saunders 2003).

### 2.5.4 Case Study Research

There are a variety of definitions and documented differentiators of the case study research methodology (Eisenhardt 1989; Gillham 2000; Riege 2003).

However, the following definition of case study research captures a lot of the common elements of the many available definitions “a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real life context using multiple sources of evidence” (Robson as cited in Saunders 2003). The real life context of case study research is an essential element of this methodology, making it well suited to research where “the context is an important part of the study” (Yin as cited in Brook 2004). The expectation being that examination of the real life context will be both “holistic and meaningful “ (Yin 1994). Another key element of case study research is that it provides researchers with the methodology required to observe and explain “contemporary events over which the researcher has little or no control” (McGuire 1998).

Ultimately, in terms of the research product, case study research results in narratives (based on available material) written from the researcher’s point of view (Forster, Browne & Steane 1998).

### 2.5.5 Action Research

Despite gaining international recognition as a field of research practice, “action research cannot be programmatic and cannot be defined in terms of hard and fast methods” (Reason & Bradbury 2001),

therefore “action research does not have one neat, widely accepted definition” (Altrichter et al. 2002) nor one which has gained “pre-eminence on the field” (Altrichter et al. 2002). Instead, action research is a ‘family’ of methodologies which are “approaches to inquiry” (Reason and Bradbury cited in Olsen & Lindoe 2004) that pursue the dual outcomes of action (or change) and research (or understanding) at the same time (Dick 2002; Earl-Slater 2002).

Consistent with the concept of a ‘family’, the family of action research methodologies shares a common set of characteristics :

- Action research includes the researcher taking genuine action (Reason and Bradbury cited in Gummesson 2000; Olsen & Lindoe 2004);
- Research is concurrent with action (Coughlan & Coughlan 2002);
- Action research comprises a series of successive research cycles, which when connected become a spiral (Saunders 2003). With each cycle in turn comprising planning, action and reflection (Dick 2002);
- The reflective aspect of action research is critical because it combines thought about observations and relevant literature to plan the next cycle of action and research (Kemmis & McTaggart 1992);
- Successive action research cycles converge towards a better understanding of practice in action (Dick 1999; Earl-Slater 2002);
- Action research is a participative form of research dependent on direct researcher and practitioner involvement (Saunders 2003), interaction and cooperation (Gummesson 2000).
- Action research is based upon the collection and collation of real world data (Earl-Slater 2002) which can be collected in one or more of many ways (Gummesson 2000) and may comprise either or both hard and soft data (Coughlan & Coughlan 2002).

## 2.6 Data Collection Methods

Data can be collected from a variety of sources, including documents and people.

Two key means of collecting data from people, is to conduct surveys or interviews. Surveys support the collection of standard data for easy comparison, being especially suited to “the collection of a large amount of data from a sizeable population in a highly economical way” (Saunders 2003). In contrast, interviews tend to rely on closer direct contact between the researcher-interviewer and the interviewee and also involve a smaller number of interviewees than survey respondents.

Regardless of whether surveys or interviews are used to collect data, both need to be designed carefully. For example, as described by Saunders (2003), interviews need to be designed in terms of their :

- Type e.g. life stories, focus groups;
- Format e.g. structured, standardised;
- Number of interviewees e.g. individuals, groups;
- Interviewee role e.g. respondents or informants;
- Mode e.g. phone, face to face.

Based on this information, as illustrated in Figure 6, the author defined the data collection options as individual meetings/interviews, group meetings/interviews, workshops and reference to documentation.

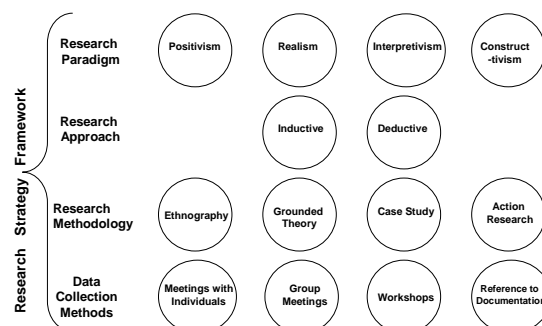


Figure 6 - Research Strategy Framework - Defined Paradigms, Approaches, Methodologies and Data Collection Options

### 3 USING THE RESEARCH STRATEGY FRAMEWORK

#### 3.1 Introduction

Having defined the Research Strategy Framework, the next step is to define the particular research strategy that will be used to address the research question of *How to improve the way in which project stakeholders define and align intangible project outcomes with tangible project outputs ?*

Whilst also keeping in mind, the need for Doctor of Project Management (DPM) research to (Graduate School of Business 2004) :

- demonstrate workplace change which is dependent upon the researcher studying the operation of a real life workplace ‘in context’;
- address the dual imperatives of research and action;
- be flexible enough to change in response to research/action outcomes.

#### 3.2 Paradigm

Working top-down through the research strategy framework defined in the previous section, the research paradigm was the first consideration. Taking each option in turn, positivism did not seem appropriate because of its dependency on a predefined hypothesis which did not exist for this research study, which instead was based on developing a response to an open ended ‘how’ research question. Interpretivism seemed too limited because the definition of ‘what is going on’ is defined in terms of the research ‘actors’ perceptions. Application of the constructivist paradigm seemed to be dependent on a number of factors including the researcher having an understanding of one or more forms of ‘social theory’, being able to make repeated visits to the research site and being an equal/peer of the research participants; a combination of dependencies that the author could not fulfil.

Therefore the remaining option of the realist paradigm was selected, not only because the other paradigms were eliminated but also because the realist paradigm seemed the most suitable. The realist paradigm would allow the researcher to combine peoples’ personal perspectives with a theoretical framework; a close fit with the DPM research requirement to conduct research through action. In addition, the realist paradigm would allow the author to adopt the dual roles of an ‘outside researcher’ and an ‘inside participant’ providing a balanced perspective that is generally not available when selecting one of the other distinctly singular paradigms, in which the researcher takes either one view or the other (Stiles 2003). The realist paradigm would also tolerate the initial fuzziness and potential real-life complexities involved with addressing the research question (Dick 1993).

Figure 7 illustrates the selection of the realist paradigm from the research strategy framework defined in the previous section.

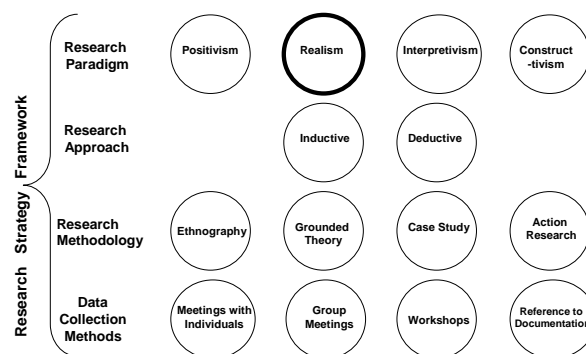


Figure 7 - Research Strategy Framework - Selected Paradigm

#### 3.3 Approach

Continuing the top-down development of the research strategy, when considering whether to take an inductive or deductive research approach, a deductive approach dependent on a predefined hypothesis was not considered an appropriate starting point. Instead based on the open-ended ‘how’ research question, induction presented the best initial means of collecting and collating data (Stiles 2003) to illuminate the research situation. It was considered important to use an inductive approach to analyse the data because “the aim of the research was to generate a comprehensive understanding of the research problem”, rather than force it into a deductive framework (Shaw 1999). Then, following on from the inductive process, the researcher could step aside and apply deduction to “think rationally about the missing information and form conclusions based on logic” (Collis 2003).

With the expectation that when initial conclusions have been deduced, that the research approach would revert to an inductive approach to test the initial (tentative) theory with existing or new data.

Figure 8 illustrates the selection of the realist paradigm and combined inductive and deductive approach from the research strategy framework defined in the previous section.

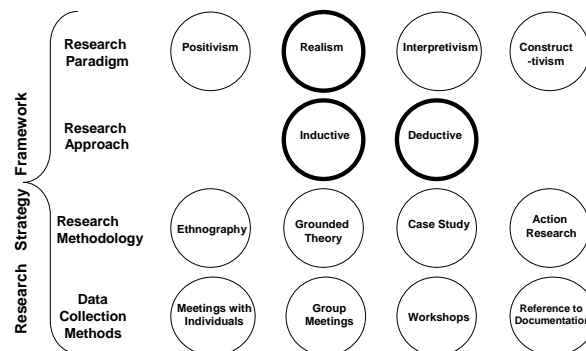


Figure 8 - Research Strategy Framework - Selected Paradigm and Approach

### 3.4 Methodology

Having considered the qualitative methodologies of ethnography, grounded theory, case study research and action research, the author determined that action research was the most suitable methodology for their research study that would focus on a small number of cases, with elements of grounded theory applied in initial exploratory cases. With the inclusion of cases and grounded theory in the larger context of action research, action research could be considered to be the “meta-methodology” (Dick 2002).

Ethnography was not considered appropriate because it lacked an ‘action’ component, so would not satisfy the DPM research requirement nor necessarily address the research question. Also, the ethnographical methodology relied on a longitudinal study that was considered to exceed the scope of a single person professional doctorate research study.

Whilst acknowledging that grounded theory has the goal of “developing theoretical elements that are useful to practitioners over situations they encounter on a daily basis” (Glaser and Strauss cited in Locke 2001), this methodology was rejected as the dominant research methodology because it lacked an ‘action’ component. As described by Locke, researchers who apply grounded theory do “not share action researchers’ commitments to organisational transformation or to partnering with research subjects in the inquiry process” (Locke 2001).

Despite rejecting grounded theory as the dominant research methodology, the author did expect to use elements of grounded theory in the initial exploratory action research cases. Because the research study was being approached from the perspective of “researching what social stakeholders understand to be a pressing problem” (Levin & Greenwood 2001), with the author working with the evidence to generate (grounded) theory (Gillham 2000).

The case study research methodology was also rejected as the dominant research methodology because it lacked the ‘action’ component. Case study research is intended for observing research situations “when the relevant behaviours cannot be manipulated” (Yin 1994) so was not suitable for a research study that would attempt to improve an existing workplace situation. Nevertheless, aspects of case study research were considered relevant to the planned research study from the perspective that action research is somewhat dependent on a researcher’s observations to provide “a rich understanding of the context of the research and the processes being enacted” (Morris and Wood as cited in Saunders 2003).

Primarily, action research was selected as the main research methodology, because it addresses the dual imperatives of action and research.

Figure 9 illustrates the selection of the realist paradigm, combined inductive and deductive approach and predominantly action research methodology complemented by grounded theory and case study research, from the research strategy framework defined in the previous section.



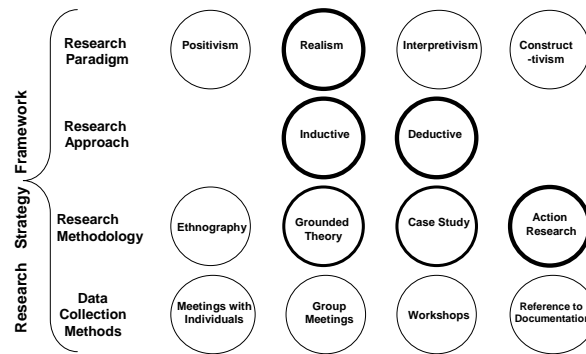


Figure 9 - Research Strategy Framework - Selected Paradigm, Approach and Methodology

### 3.5 Data Collection

As mentioned in the previous section, data will be collected for a series of cases, commencing with exploratory cases. With each case bounded by time and place (Creswell 1998).

As illustrated in Figure 10, the researcher will collect data from a variety of sources : individual and group interviews/meetings, workshops and reference to documentation.

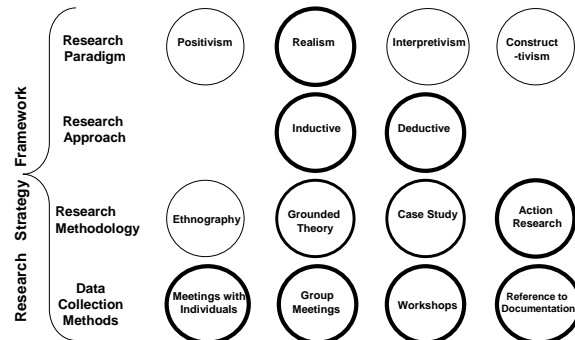


Figure 10 - Research Strategy Framework - Selected Paradigm, Approach, Methodology and Data Collection

Collection of data from multiple sources at multiple times in multiple settings is typical of qualitative research and the mix of interview/meeting types and structure is fairly typical of business research.

### 3.6 Summary

Therefore, the resulting research strategy will follow the realist paradigm using a combination of inductive and deductive approaches to implement an action research methodology, collecting data through a combination of individual and group meetings, group workshops and reference to documentation.

### 3.7 Other Considerations

When determining the research strategy to be undertaken, As illustrated in Figure 11, four (4) other aspects were also considered :

1. Unit of Analysis
2. Researcher Role
3. Ethics
4. Research Quality

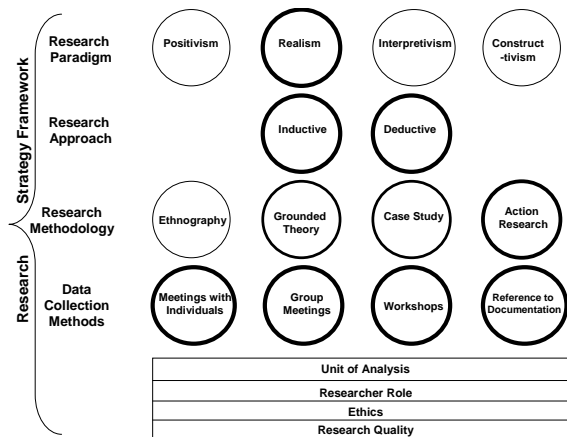


Figure 11 - Research Strategy Framework - including additional considerations

In the case of this particular research strategy, the research question of *How to improve the way in which project stakeholders define and align intangible project outcomes with tangible project outputs ?* will be answered by

1. Unit of Analysis

Based on the definition of a unit analysis comprising a valid sample of “people, behaviours, events or processes” (Marshall and Rossman cited in Rocco 2003), each action research case study will involve a research client’s workplace project, therefore the corresponding unit of analysis will be *a diverse group of project stakeholders preselected by each research client.*

2. Researcher Role

Based on the typology illustrated by Figure 12, the researcher will commence as an Observer as Participant during the initial two (2) exploratory action research cycles, changing to a Participant as Observer for the remaining three (3) major cycles.

		<b>Researcher takes part in activity</b>			
<b>Researcher's identity is revealed</b>	<b>Participant as Observer</b>	Complete Participant		<b>Researcher's identity is concealed</b>	
	<b>Observer as Participant</b>	Complete Observer			
		<b>Researcher observes activity</b>			

Figure 12 - Typology of participant observer researcher roles (Saunders 2003)

The initial role of Observer as Participant is a “spectator” role, with the researcher focusing on their researcher role and the role of Participant as Observer is a fieldwork relationship, where the researcher works with the research participants (Saunders 2003).

The change in the balance of participation/observation during the course of a research study is considered acceptable because participant observers can assume a number of roles within the context of case study research, depending on the level of research validity, participation and observation (Yin 1994).

3. Ethics

Ethical considerations will be governed by

- the research design proposal approved by the University Human Research Ethics Committee;
- the corresponding Prescribed Consent Forms to be completed and signed by each research participant, which define the “authentic relationship” between the action researcher and research participant (Coughlan & Coughlan 2002);
- the original signed paper copies of the consent forms being held on file by the researcher.

#### 4. Research Quality

The quality of the proposed research strategy will be confirmed by

- conducting a literature review of research quality;
- defining quality requirements based on the literature review (e.g. research validity, reliability, rigour and workability);
- assessing the quality of the proposed research strategy according to the defined quality requirements.

#### 4 CONCLUSION

Using the example of a research strategy framework defined for the purposes of a doctoral research study, this paper has met the objective of demonstrating how a researcher can justify a research strategy; by first defining a research strategy framework to demonstrate their understanding of the relevant research knowledge base and then secondly, using the framework as the means of justifying the proposed research strategy.

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