

Is Research that is Both Causally Adequate and Adequate on the Level of Meaning Possible or Necessary in Business Research? A Critical Analysis of some Methodological Alternatives.

D.A.L. Coldwell

School of Management, University of KwaZulu-Natal, Durban, South Africa

Open University, Milton Keynes, UK

Coldwell@ukzn.ac.za

Coldwell@open.ac.uk

Abstract: There has been a recent resurgence of interest in both statistical methods aimed at generating causally adequate explanations in business research and criticisms of these. Running parallel with this discussion has been critical discussion on the adequacy of such explanations at the level of meaning and specific attempts to address this issue with techniques such as those used in grounded theory. All too often the two methodological approaches have remained separated from each other- as a qualitative and a quantitative mainstream in business research. This is partly because of the different skills of the researchers involved and/or their different attitudes regarding the validity of the methods used. The Weberian methodological paradigm of explanation that is both causally adequate and adequate at the level of meaning has to some extent been lost sight of since Denzin's triangulated model was put forward as a possible solution in the 70's. However, the issue remains: is causally adequate explanation possible with statistical -type analyses and are idiographic techniques such as grounded theory able to capture explanations that are valid at the level of meaning? The paper critiques some older and more recent methods aimed at implementing statistical analyses in generating causally adequate explanation and qualitative techniques aimed at providing explanations that are adequate at the level of meaning. The paper reviews an empirical study aimed at providing such a complete explanation and questions, building on the perspectives of evidence-based management and critical realism, whether such fully adequate explanations are practically possible or, indeed, fundamentally necessary in generating knowledge that is practically useful for solving specific managerial problems.

Keywords: Causal adequacy, adequacy at the level of meaning, phenomenology, grounded research, imponderable evidence, dialectical triangulation, methodological triangulation, critical realism, evidence-based research, dualism, piecemeal social engineer.

1. Introduction: What comprises explanations that are adequate at the level of meaning and causally adequate?

As a means of simplifying an already complex subject matter, meaning and causal types of explanation initially will be considered separately in the discussion. In addition it seems reasonable to suggest that if adequacy cannot be attained at either one or both levels, the hope of obtaining explanations that are adequate at both levels simultaneously is highly unlikely. Adequacy is taken to mean in this context that such explanations are; "enough or good enough; sufficient, suitable" (Collins dictionary, 1978, p.9) and not that they are: "barely satisfactory" (ibid). In other words adequacy is taken to mean that explanations must be sufficient, suitable and good enough to satisfy specific requirements at these two methodological levels. Attempts at the meaning level of explanation generally are regarded as the preserve of phenomenology and phenomenological methodologists, under which general rubric are subsumed qualitative methodologies including, for example, grounded research, ethno methodology ((Turner,1975) and symbolic interactionism (Blumer, 1969). All these methodological approaches are quintessentially idiographic and qualitative. There are of course detailed differences between them, thus for example, while phenomenology aims to understand people's subjective experience of phenomena as an end in itself, grounded theory aims to understand people's experience of, usually, specific phenomena with a view to building middle-range theories or models.(Glaser and Strauss, 1967)

1.1 Explanatory adequacy at the level of meaning

According to Husserl phenomenology tries to get back to "the things themselves". In other words, to understand phenomena, one must first understand how they appear to each person's consciousness. This idea resembles closely Weber's notion of verstehen. Weber (1964) considers verstehen to be both observational and explanatory. Observational understanding is obtained by viewing an action or behaviour in a specific context. Explanatory understanding is obtained by comprehending action in terms of its subjectively determined meaning. As Weber (1964, p. 95) puts it: "Thus we understand the chopping of wood

or aiming of a gun in terms of the motive if we know that the woodchopper is working for a wage or is chopping a supply of firewood for his own use or is possibly doing it for recreation. But he might also be working off a fit of rage, an irrational case". Weber's main concern is to build ideal types (mental constructs), which must conform to two basic criteria: they should be causally adequate and adequate on the level of meaning. While causal adequacy essentially concerns probability, adequacy on the level of meaning entails *verstehen*. As indicated earlier, at this point in the discussion the emphasis is on a delineation of what adequate explanation at the level of meaning actually entails, later we will return specifically to a discussion of the possibility and utility of explanations that satisfy explanatory requirements at both causal and meaning levels.

There is no basic singular format for phenomenological research and it takes many forms: "one cannot pick up a book of rules on phenomenological analysis and jump in. The adoption of a new paradigm for research involves the researcher in a major reformulation of his thinking". (Psathas, 1973, p.17). However, whether the approach is grounded research or ethnomethodology, phenomenological-type research involves interpretative in-depth analyses focusing on how individuals understand natural objects in the world and the meanings they attach to particular social action and individual behaviour. Essentially it seeks to obtain data about individual and collective interpretations and meanings of the world without any pre-conceptions imposed by a researcher as regards the form or shape they might take. For example, a phenomenological technique widely gaining popularity in social research today is that of "grounded theory". Very briefly, grounded theory is made up of a series of steps towards building theory that when correctly performed "guarantee" its validity (Corbin and Strauss 1990). According to Borgatti (2006, p.1-2) the methods used by grounded theorists: "...is to read (and re-read) a textual database (such as a corpus of field notes and "discover" or label variables (called categories, concepts and properties) and their interrelationships. The ability to perceive variables and relationships is termed "theoretical sensitivity" and is affected by a number of things including one's reading of the literature and one's use of techniques designed to enhance sensitivity". It is therefore an inductive process that attempts to get back to the things themselves thus ensuring that the theoretical edifices built are grounded in the phenomena they wish to describe. This approach contrasts quite starkly with Popper's (1963). Popper (1963) maintains that theories and models are hunches or conjectures about the natural and social worlds and that the strength of a specific theory depends on its testability and its ability to survive persistent attempts at its falsification. The way a theory is devised is unimportant, what is important is amenability to attempts at its falsification and the degree to which it has been corroborated by empirical evidence.

1.2 Causally adequate explanation

The words "causal" and "causal explanation" have fallen into some degree of disrepute. This is because they have been adopted in a myriad of ways in recent research (both quantitative and qualitative) that bear little or superficial resemblance to the stringent requirements normally expected for attaining valid explanations at this level. Thus in qualitative research techniques are being used by researchers such as "cognitive causal" mapping (Kelly, 1955 and Brown, 1992) which breaches at the very least the causal requirement of constant conjunction between "cause" A and outcome B. Such "illicit" uses of the causal concept devalue the rigorous requirements of explanations at this level, while suggesting by the loose adoption of the term that such explanations are being generated by the technique used. Similarly in quantitative approaches the term "cause" as such has been largely abandoned and has been substituted by, for example, techniques that infer causes rather than find causal explanations per se (causal inference analysis), possibly as a means of protecting and distancing such analyses from excessive scrutiny as to the actual causal veracity of such inferential explanations! What is causal explanation? For Hume causal explanation has three important and indispensable components. First, it establishes a contingent and external relation between two distinct objects or events. Second, a cause must precede an effect. Finally, there must be a *constant conjunction* between cause and effect. In other words, although we can observe that A precedes B in time and that there is a contingent external relation between the two, we cannot verify that B (the effect) necessarily follows A (the cause). The necessary connection between A and B is not demonstrable or self-evident but is derived from observations of a constant conjunction between A and B occurring reliably over time. A major problem with causal explanation, even in the natural sciences where it has been applied most successfully, is that if A causes B under certain conditions and these conditions have causes, it may be necessary to conclude that the cause of B is the whole antecedent universe prior to the occurrence of B. In other words, it is meaningless to say that A causes B and such statements should be replaced by probability statements such as: "when A occurs we can be 99 per cent sure B will occur". (Cohen, 1968).

Of course when the concept of causality is applied to the social sciences with management clearly included here, numerous additional difficulties emerge. Very briefly these are, inter alia, that:

- Social phenomena are intrinsically different from natural phenomena that make causal explanations inappropriate.
- The concept of causality is inappropriate because human social behaviour unlike the behaviour of natural physical phenomena is not governed by invariable laws.
- Causal explanation is inappropriate because it is impossible to say how A causes B because we cannot explain the causal machinery working between the two phenomena (this criticism which applies also to the natural sciences is compounded when dealing with human beings with the recognition of human volition, motive and will in the causal machinery).
- Causal explanation is inappropriate because: “the constant conjunction aspect of causal explanation does not fit the explanation of actions in the common-sense world” (Spurling, 1977p.83).

Having said this, it has been argued that such criticisms in no way fatally militate against the use of the concept of causality in the social sciences. In the first instance Popper (1977) has argued for the existence of three distinct “worlds”: the physical, the mental and the world consisting of the objective content of thought. In the latter case Popper suggests that it is possible to treat spoken or written subjective thoughts as objective ideas existing independently from the individual who spoke or wrote about them initially. The second criticism concerning the difficulty of attaining invariable laws in the social sciences and thus making the use of causal explanation inappropriate can be countered by the argument that although law like statements are usually beyond the scope of the social sciences, causal explanation is still possible. All that is required is that we find regularities and conjunctions that allow us to make statements about the probabilities of such conjunctions occurring in the future. The third criticism about the lack of explanation of the causal machinery at work between two phenomena is countered by Hume (1973) who suggested that the causal power of one event over another is not intelligible but merely familiar. For Popper (1961), in the social sciences this means that causal explanation is attainable when a deductive explanation is reasonable in a specific situation. For example, as Ryan (1970; p.111) puts it: “When we explain Caesar’s crossing the Rubicon in terms of his ambitions, we appeal to a causal generalisation linking ambition with the taking of bold and decisive action at key moments, and Caesar plainly fits into the particular conditions of being an ambitious man at a point where striking at a key point is possible and called for. The nature of mental states is not in question, nor whether such things as ‘ambition’ are wholly mental or partially physical phenomena: all we want are generalisations which will act as ‘covering laws’ for the particular events we need to explain” The essential point of outlining this debate is to indicate that for the social sciences in general and management in particular the attainment of causal explanations may be *beyond* its methodological capacity. Later the argument will be put forward that with due attention to both causal and meaning levels of explanation in a methodological synthesis it may be unnecessary to reach strictly adequate explanations at either level in order for the discipline to make reliable, valid and *practically useable* statements about business behaviour.

2. Is causally adequate explanation possible in business research?

In the preceding section I have tried to outline some of the main theoretical/philosophical reasons for the inappropriateness of causal explanation in management disciplines, this section focuses on a brief description of some of the more prominent recent discussions relating to specific techniques and the identification of conditions for establishing causal explanations in the social sciences. My intention will be to show that strictly speaking even the most elaborate and rigorous new approaches fall short of causal explanation. Statistical attempts at causal explanation using techniques such as cross-lagged correlation analysis (Miles, 1974) have generally been regarded as lacking essentially because adequate experimental controls are not possible—there is no way of knowing whether A causes B, B causes A or the actual causal variable is an unidentified “third variable”. In randomised experimental situations when these are possible in the social sciences, and this is by no means always the case particularly in business research, an additional problem emerges. Here causal explanations are difficult because: “It is impossible to observe the value of $Y_t(\mathbf{u})$ and $Y_c(\mathbf{u})$ on the same unit, and therefore, it is impossible to observe the effect of t on \mathbf{u} ” (Holland, 1986, p.947). Where Y represents the effect on a specific dependent variable in population unit (\mathbf{u}) in controlled situation (c) and treatment situation (t). In other words, Holland (1986) maintains that causal explanations are only possible when the same unit is observed in both the controlled and treatment experimental situations and that since this is logically impossible the only way to obtain a causally adequate explanation in such circumstances is to estimate “the causal impact of t on \mathbf{u} that would equal the theoretically defined value if the assumptions underlying the implementation were met.” (Kenny and Judd, 2004, p.6). Holland (op.cit.) also maintains that only some variables can be manipulated (are malleable) while others have an unchanging attribute. It is only in the former instance that causal explanations are possible.

However, Holland's (1986) model, rigorous as it undoubtedly is, is also open to criticism. For example, Holland's assumptions regarding unit malleability are not usually applicable with investigations involving human beings and the theoretical estimate of the effects on a specific unit in both controlled and treatment experimental situations cannot itself be empirically tested and therefore remains hypothetical. The requirement of unit homogeneity is not fully explained in relation to studying human behaviour in widely different contexts. The problem of temporal stability because of both maturation and history effects in studies involving human subjects is intractable and the problem of finding the correct causal interval is not addressed in the Holland model. Finally, the problem of satisfying the condition of non-spuriousness (Suppes, 1970) or, in other words, the possibility of eliminating effects of unidentified, non-malleable third variables even in randomised experimental situations dealing with human beings is not convincingly addressed in Holland's model. In short, it is my contention that causally adequate explanations are not fully possible in the social sciences (they are not strictly possible in the natural sciences either if we accept the infinite regress criticism outlined earlier, but to a lesser extent than in the social sciences, because the phenomena studied can be fully manipulated and subjected to tightly controlled experimental situations that considerably diminish the possibility of spurious observations and inferences).

3. Is adequate explanation on the level of meaning possible in business research?

We have seen from our earlier discussion that explanation on the level of meaning is theoretically possible but the issue remains that if we cannot find uniformities in inter-subjective meanings of the world, as some would argue, all we are left with is a body of in-depth qualitative data of little use to man or beast. Popper (1963,p.46) puts this point well in his illustration: "...of the man who dedicated his life to natural science, wrote down everything he could observe and bequeathed his priceless collection of observations to the Royal Society to be used as inductive evidence..." In other words it is absurd to consider that the mere collection of observational or interpretative data can be done without some basic selectivity arising from a particular conjecture or curious interest...observation is always selective. It needs a chosen object, a definite task, an interest, a point of view, a problem." (ibid). Thus a serious problem in terms of the possibility of obtaining adequate explanation on the level of meaning in social scientific research (including business research) is the difficulty of documenting meaningfully adequate data and communicating it effectively to an uninitiated audience in an intelligible manner. And also maintaining a real propensity for generating intelligible reliable and valid bodies of knowledge, including information on how such knowledge can be obtained and replicated. The essence of this particular problem of explanatory adequacy is clearly identified by Wittgenstein in his idea of imponderable evidence. Wittgenstein puts it thus: "Suppose there were imponderable evidence for the chemical (internal) structure of a substance, still it would have to prove itself to be evidence by certain consequences which can be weighed. (Imponderable evidence might convince someone that a picture is genuine...but it is possible for this to be proved right by documentary evidence as well). Imponderable evidence includes subtleties of glance gesture and tone. I may recognise a genuine loving look, distinguish it from a pretended one (and here there can, of course, be 'ponderable' confirmation of my judgement). But I may be quite incapable of describing the difference. And this is not because the languages I know have no words for it. For why introduce words?-If I were a very talented painter I might conceivably represent the genuine and the simulated glance in pictures. Ask yourself: How does a man learn to get a 'nose' for something? And how can this nose be used? (Wittgenstein, in Monk 2005, p.100). Monk (2005, p. 101) adds: " To understand a person is to be able to tell, for example, whether he means what he says or not, whether his expressions of feeling are genuine or feigned". Clearly, if we accept Wittgenstein's (1958) notion of imponderable evidence there are aspects of explanations at the level of meaning that require interpretative skills that are not only difficult to communicate to others as a verifiable body of knowledge but also require considerable experience and expertise. In short, fully adequate explanation at the level of meaning in the social sciences and business research is unlikely to be attained by all but the most expert researchers in all circumstances and may very well prove unattainable in most.

4. Cause-meaning-synthesis triangulation as a methodological heuristic for discovering practically adequate explanations in business research

Many of the problems associated with methodological approaches adopted in business research reside in a lack of effective communication between the protagonists of causally adequate explanation on the one hand and the champions of explanations that are adequate on the level of meaning on the other. All too often the two methodological approaches have remained separated from each other-as a qualitative and a quantitative mainstream in business research. This is partly because of the different skills of the researchers involved and/or their different attitudes regarding the validity of the methods used. To a degree grounded research is

an attempt by some researchers to break out of this methodological straightjacket. However, although, grounded research requires building from the ground up or, to use the building of a house as an analogy, building the foundations first, whereas dialectical triangulation (to be discussed shortly) necessitates building the foundation and the house together and ensuring, as it were, that as the building of the house proceeds it's foundations are constantly checked for adequacy and sustainability.

Grounded research may lead on to causal inference analysis as a systematic building block but it is not used to check whether a construct or constructs derived from it are both causally adequate and adequate on the level of meaning. Because of this it is possible for grounded research to form a foundation on which its theoretical edifice is built to be spurious or to continue with the building analogy, built on sand. This is because grounded research is incremental, moving in cautious systematic data-gathering process towards the generation of new knowledge, whereas dialectical triangulation (to be clearly distinguished from methodological triangulation such as that put forward by Denzin, 1971) effectively audits explanations for their synthetic causal adequacy and adequacy on the level of meaning. In other words, grounded research leaves its foundations behind, once these have been established *ex ante* to build further on this structure without, as it were, "looking back". Explanatory triangulation checks the structure for its explanatory adequacy by synthesising both levels of explanation and auditing the extent of their corroboration.

Triangulation has been defined as: "the use of more than one research method to provide convergent evidence" (Page and Meyer, 2000 p.44). Although Denzin (1970) is credited with the use of multi-methods across methodological paradigms (qualitative and quantitative) the use of triangulation for validation within one paradigm (quantitative) is not new and can be traced to Campbell and Fiske's (1959) multi-trait multi-method technique. Coldwell (1981, 1982 and 1984) used a dialectical technique incorporating not simply multiple methods in a triangulated format to investigate the validity of specific findings more completely, but as a deliberate attempt to corroborate causal inferential findings on the level of meaning. To accomplish this, the two oft-regarded antithetical approaches were combined in a triangulated methodological synthesis. In other words, the technique aims at finding explanations that are both causally adequate and adequate on the level of meaning. The study referred to above focussed on the relationships between role conflict, situational anxiety and job satisfaction in unskilled industrial workers in South Africa. A sample of 200 unskilled male workers was randomly selected from three manufacturing units. The study by using triangulation consisting of a combination of nomothetic and idiographic approaches aimed at providing a methodological (provisional) synthesis, and an explanation of the interrelations between these phenomena that was both causally and meaningfully adequate.

Causal adequacy was attempted using static and cross-lagged correlations in a panel design with the data being accessed from items arranged on five-point Likert-type scales. Instruments were devised to measure role conflict, job satisfaction and situational anxiety. The instruments were subjected to tests of validity and reliability. Cronbach alpha tests revealed the 16-item role conflict and 28 item job satisfaction scales to attain internal consistency coefficients of 0,871 and 0,908 respectively. The situational anxiety scale (adapted from Zuckerman, 1960) was tested using the test-retest method of reliability assessment and a comparatively poor test-re-test coefficient of 0.443 was obtained. Validity was tested using factor analyses, which generally confirmed the validity of the role conflict and job satisfaction constructs used in the investigation (Coldwell, 1982). Although the cross-lagged correlation approach has been shown to be ineffective in showing causal predominance between phenomena since the study was conducted (Rogasa, 1980), a brief resume of its purpose and objectives is in order here. The static and dynamic aspects of the correlation analyses used in this technique effectively try to address the constant conjunction requirement of causal explanation while, according to Pelz and Andrews (1964) and Miles (1975), the cross-lagged correlations and frequency-of-change-in product-moment (FCP) analysis (Greene, 1973) attempt to ascertain the source and direction of causality. Adequacy on the level of meaning was attempted using open-ended phenomenal analysis: "The phenomenal analyst restricts himself to one question carefully aimed at obtaining spontaneous descriptions of subjective experience and it is formulated so that the subjects are able to relate freely a wide variety of situations. The purpose is to discover the moments common to all individual experiences of the same kind." (Van Kaam, 1966, p.328). Following this approach, the idiographic section of the questionnaire consisted of items concerning general aspects of the meaning of work such as: work expectations, likes and dislikes of work, why people work and supervision. The questions aimed to expose workers' because and in order to motives towards work and were phrased accordingly. Latterly, the questions focused on the specific meanings their current jobs had for them. As far as possible the meaning of work for workers was recorded in the words they used to describe it. However, in order to discover uniformities in responses of different workers, data reduction ultimately necessitated the collation of information into specific categories.

The entire questionnaire (idiographic and nomothetic) was translated from English into the various languages of the respondents by a panel of translators expert in the respective (Zulu, Northern Sotho and Xhosa) languages. Subsequently, the translations were translated back into English by alternate translators and the goodness-of fit to the original items assessed. Items were rewritten in consultation with the translators where this proved to be prudent and/or necessary. Both parts of the questionnaire were administered in individual interviews by specially trained interviewers. The idiographic (anti-thesis) section of the questionnaire was presented to respondents *before* the nomothetic (thesis) so as not to prime subjects for particular responses and the two parts were subsequently compared in a methodological synthesis aimed at assessing the validity of the concepts and the findings at the nomothetic and idiographic levels of analysis. The findings of the nomothetic and idiographic analyses were “synthesised” using chi-squared tests between respondents’ high and low scores on the role conflict job satisfaction and situational anxiety instruments (high/low defined as scores 1 standard deviation above or below mean scores) and their phenomenological awareness /experience or non-awareness/non-experience of these phenomena respectively (as assessed by the collation of the “grounded” analysis). The findings of this synthetic analysis indicated in each case that the nomothetic analysis was corroborated by the idiographic analysis and that therefore the *concepts* of role conflict, job satisfaction and situational anxiety per se could be regarded as valid at both nomothetic and idiographic levels of analysis. In other words, for example the analysis showed that respondents who scored high on the role conflict-measuring instrument were also subjectively conscious of this phenomenon in the work situation.

Tests of causal inferences stemmed from the procedure outlined above. A static correlation analyses showed that role conflict (RC), situational anxiety (SA) and job satisfaction (JS) scores were significantly interrelated (RC/JS =-0.65, $p < 0.01$, SA/JS= -0.65, $p < 0.01$ RC/SA=0.67, $p < 0.01$). And cross-lagged correlations and FCP analyses suggested that the relationship between these variables was consistent over time although the source and direction of the causal relationships between role conflict and situational anxiety, and situational anxiety and job satisfaction were indeterminate. To ascertain whether the correlation and assumed causal associations between the variables were valid on the level of meaning an exploratory analysis was conducted involving an investigation into high and low scores on specific instruments and the preponderance of a phenomenological linking of these aspects on the level of individual meaning. In this regard it was found that, of those respondents who scored high on the role conflict instrument and low on the job satisfaction instrument, 54% were found to subjectively associate role conflict with their job dissatisfaction. This tentatively suggested that role conflict was subjectively seen as being a “cause” of job dissatisfaction by a sizeable portion of pertinent sample. However, as indicated earlier this was not corroborated by the cross-lagged or FCP analyses. In short, this triangulated dialectical empirical synthesis constituted an attempt at integrating the two methodological paradigms to obtain holistically adequate explanations. And, the idea was not simply to check the validity of the findings using different techniques but to find explanations that conformed to the requirements of adequate explanations when investigating human behaviour. And, to recognise in such dialectical explanatory syntheses that they are provisional and open to change. (Coldwell, 1981). This approach conforms quite closely to that of the critical realists (Baskar, 1996, Akroyd and Fleetwood, 2000, Akroyd, 2004) in that it recognises the importance of a scientific (causally explanatory) orientation in social research, while not in any way discounting the central importance of actors’ meanings in generating adequate explanations of the social world (Layder, 1993). In short it wishes to provide explanations that although not fully adequate at the causal and meaning levels for reasons which have already been described in some detail, attempts to generate research data that will allow management to make the kind of scientifically oriented, evidence-based decisions described by Pfeffer and Sutton (2006). The realist ontological position propounded by Baskar (1978) incorporates three domains; the real, the actual and the empirical.

The domain of the real is regarded as the underlying ‘real’ structures, mechanisms, relations, events, behaviours and experiences that exist independently/outside ourselves, sometimes as past historical events, but which the meanings we attach to the social world and our social behaviour are shaped and constrained. The domain of the actual consists of actual events and behaviours that occur as we observe them. Finally, the domain of the empirical consists of our experiences of events and the meanings we attach to them. From an epistemological point of view, critical realism suggests that facts (i.e. our knowledge of the real and actual domains) are inextricably intertwined with values (i.e. our knowledge of the empirical world). Thus, as Layder (1993) points out, critical realism, while being non-positivistic in its approach, adopts a scientific attitude towards social research, it recognises the core importance of the meanings actors attach to events in the social world in generating adequate explanations of social phenomena. More recently, Olsen (2004), while adopting the realist perspective, brings the idea of a triangulated dynamic synthesis into focus again (Coldwell, 1981). Olsen (2004) points out specific recent developments in the philosophy of science

“.....have argued that the two traditions should not have a separate-but-equal status, and should instead interact” (op.cit.p.1). She suggests that triangulation is not simply aimed at validation but at: “.....deepening and widening one’s understanding” (op.cit. p.1) Olsen argues that triangulation is a technique to generate a learning dialectic, which goes beyond the mere validation of findings to achieve innovations of original conceptual frameworks (Olsen, 2003). This is made possible through an ongoing dialectic of investigation. Essentially this dialectic consists of a “bottom-up” qualitative and “top down” quantitative operationalisation of concepts in a dialectical synthesis that aims to validate existing research constructs and facilitate the emergence of further conceptual innovations.

Thus it has been suggested that neither causal adequacy nor adequacy on the level of meaning is a realistically obtainable goal in business research. And it has been indicated that a triangulated dialectical approach operating from the platform of critical realism takes account of man’s ontological situation and offers a coherent epistemological basis for our knowledge of the social world. So by adopting a triangulated dialectic that takes account of the dynamics of the business situation, business research must aim at providing adequate knowledge that is practically useful to managers. What kind of usefully adequate knowledge is this? And how might business research proceed? Pfeffer and Sutton (2006) provide some idea of the level of explanation needed in business research. Pfeffer and Sutton (2006) suggest that evidence-based research can provide the kind adequate, useful knowledge on which management can base their decisions. While not discounting the importance of learning from experience, Pfeffer and Sutton (2006) maintain that intuitions derived from personal experience often lead to poor decision-making. Managers also need to make their decisions on up-to-date evidence that recognises the dynamic and constantly changing business situation. Furthermore the evidence obtained needs to be pertinent- it is of no use to simply imitate the evidence-based decisions of managers in other organisations whose structures and circumstances bear little or no resemblance to their own. In short, adequate and useful managerial decisions are derived from evidence-based, non-intuitive, up-to-date, pertinent knowledge. However, it is suggested here that to provide the kind of research to effectively fuel evidence-based research, it needs to approach business research with a coherent ontological perspective that takes account of the reality of what it seeks to describe. It is argued here that critical realism provides the necessary backdrop for this to occur. In short the approach that will best allow the collection of reliable and valid data on which management can make the most adequate and effective decisions is that suggested most recently by Olsen (2004)- a triangulated dialectical methodology that aims at causal adequacy and adequacy on the level of meaning , but is never able to achieve this while recognising the dynamics and transience of knowledge in the business situation.

5. Conclusion

This paper has briefly outlined major issues in generating explanations in social science and management that are both causally adequate and adequate at the level of meaning. It has been argued that truly causally adequate explanation is beyond the capacity of such research and that adequate explanation on the level of meaning also is, at best, problematical. In this final section I want to consider two questions that can be derived from this conclusion. The first is: is our apparent inability to present explanations that are causally adequate and adequate on the level of meaning fatal to generating potentially useful business research outcomes? And the second is: What other means are available to generate practically useable concepts and knowledge in business research? In answer to the first question concerning our inability to provide explanations that are both causally adequate and adequate at the level of meaning (in fact, our inability to provide explanations fully adequate at either level), on the viability and utility of the knowledge obtained in business research; the answer is; probably not, if we accept that business research needs only to generate practically and dynamically sensitive useable knowledge and not invariable laws. This` answer is not meant to suggest that business research should therefore abandon its quest to generate knowledge that approaches explanations that are adequate as closely as possible at these levels, but only that since such adequacy is unlikely to be achieved it is preferable to adopt a methodological approach that is capable of producing practically useable research outcomes. By practically useable research outcomes I mean knowledge that is derived from as sophisticated sampling and quantitative and qualitative combinations as the content and context of the study allows, ranging from experimental and cross-sectional designs to time series and one-shot case studies (Ghauri and Gronhaug, 1995). This is the kind of research that feeds evidence-based, scientifically oriented management decision-making advocated by Pfeffer and Sutton (2006).

In answer to the second question posed above it is argued that business research should adopt the triangulated dialectical synthetic model outlined earlier to generate practically useful research outcomes. This dialectical synthetic model corresponds to the approach advocated by the critical realists (Bhaskar,

1998, Ackroyd and Fleetwood 2000, Ackroyd, 2004), and incorporated specifically in a triangulated framework most recently by Olsen (2003). The advantages of this triangulated method, and more specifically the dialectical methodological approach proposed by Coldwell (1981) is that it conforms quite nicely to the ontological paradigm of the critical realists in social research practice in that it incorporates the two quantitative domains of the real and actual while interrogating the qualitative domain of the empirical.. Layder (1993) regards this dualism as a core feature in realism, which attempts to preserve both a scientific orientation towards social research and also recognises the central importance of actors' meanings for adequate explanations of the social world. And, furthermore, such an approach provides scientifically-oriented, tested evidence that allows management to generate the kind of valid decision-making on which the health of organisations depend, while taking account of (through the transience of the dialectical synthesis) the dynamically changing environment in which businesses operate today. In sum, the approach of the business researcher considered appropriate in the research context per se is regarded as being fairly similar to that outlined by Popper (1961: 66-67) in his description of a piecemeal social engineer: " The piecemeal engineer knows, like Socrates, how little he knows. He knows that we can only learn from our mistakes. Accordingly he will make his way, step by step, carefully comparing the results expected with the results achieved...." This step-by-step cautious approach emphasises the provisional nature of his/her findings. His/her results remain provisional because the syntheses of the dialectic between quantitative and qualitative approaches are transitory and open to modification and refinement if not fundamental change.

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Learning from a Doctoral Research Project: Structure and Content of a Research Proposal

Javed Iqbal

Impact College, School of Business and Management, Manchester, UK

binsadiq@hotmail.com

Abstract: Students have to present a formal research proposal at the time of admission or at the end of their first year study in the case of a doctorate. Many of them feel uncomfortable in preparing such proposals due to lack of experience or knowledge. This paper describes the way a research proposal may be prepared for doctoral projects in social sciences. The paper provides a road map to write a suitable proposal acceptable to their supervisors or examination committee. The proposal is based on a case study undertaken by the author and addresses key issues in preparing a postgraduate proposal including researcher's professional background, selection of topic, research question, research objectives, and importance of the study, scope, methodology, conceptual framework and potential outcome. These themes have been grouped under four parts: the context, the content, the process and the product.

Keywords: research proposal, social sciences, postgraduate study, case study

1. Introduction

The formal research programmes in the educational institutes are meant to train students to practice research as a profession. Many institutes require a formal research proposal for admission. (Onwuegbuzie, 1997) defines a research proposal as "a formal written plan which collimates ideas about a proposed study in order to obtain approval to conduct the study or to seek funding". Students find it difficult to access relevant material and guidance to prepare a reasonable research proposal (RP). The published material does not provide empirical evidence to write a problem solving research proposal. Many students contact the author for guidance in preparing doctoral proposals in management, information systems and other social topics. This stimulates to draft the paper. It is based on a proposal submitted for the doctoral degree and the insight gained through writing the thesis. It would be helpful for the potential candidates who are planning to submit a similar research proposal for any postgraduate study or research since the RP as Sharp et al (2002) argue "establishes both the need for the study and that the researcher has or can acquire the skills and other resources required". And Baker (2000) refers to the contemporary requirements, "doctoral degrees in the social sciences have tended to become more structured and seen more as a professional qualifications than an opportunity to undertake a piece of original research under limited guidance and supervision". The structure of this paper is based on the processual research model developed by Pettigrew et al (1989) and modified by Iqbal (2003). The model was meant to conduct empirical studies or to address an issue. It seems suitable to be used to resolve a research problem that a candidate would try to resolve. The paper has been divided into five sections apart from the introduction and conclusion. The first introduces literature, the second deals with the context, the third looks into the contents, the fourth explores the process of conducting a research project and the fifth envisions the potential outcomes.

2. Literature review

Wood-Harper (1995), for example, said in a doctoral seminar, 'the best piece of research work always address a real life issues and the best thesis is the one which resolves a practical problem'. Production of a problem solving thesis or report is the ultimate objective of any research activity. Endacott (2005) argues that the purpose of such a report is to establish academic credibility of the candidate. The literature on the subject focuses upon general material on research methods, research projects and dissertation. Many contemporary writers on qualitative research or general research such as Kumar (2005), Silverman (2002) Robson (2002) Denzin and Lincoln (1994) Madsen (1992) Birley and Moreland (1999) Sharp et al (2002) ignore the context i.e. 'researcher's background' in establishing the selection of the research topic. General material on the topic deals with the scattered components of a research proposal at random. Writers assume that the researcher will assemble all these components to produce the required documents. However, those who come from natural sciences; to do qualitative research are ill equipped to understand the language of the new (research) discipline. And the material available for preparing a research proposal presents limited empirical evidence (e.g. Endacott, 2005; Baker, 2000; Cadman, 2002; Fessey, 1997; and Haggard, 1996). Therefore this paper is based on the case study and provides the empirical evidence to support the proposed contents. Thus bridging the gap between the literature and student's requirements.

3. The context

Context is the situation or circumstances within which the researcher reaches about the research project. It helps the researcher to identify the topic of research from his/her own knowledge and experience.

3.1 The researcher's professional background

The professional background includes education, training, work experience and cultural perspective. The purpose of investigating professional background is to identify any clue for the potential research topic. Many dimensions can be researched to discover a researchable subject. Academic history: researchers in social sciences come from diverse backgrounds such as computing, mathematics, economics, management science, political science and sociology, are a few of them. They may like one or more of them; an ideal researcher focuses upon one of them. In many cases further fine-tuning is required. Employment: sometimes current or previous jobs / assignments give clue to select a topic. They can work on one of these projects in their doctoral research projects. Project or dissertation: many have completed postgraduate degrees and worked on a master dissertation / project as a partial requirement of the programme concerned. Personal choice: personal choice about a topic also determines the way forward. Some like quantitative subjects other qualitative topics. Cultural perspective: social and cultural background of the researcher provides clue for the potential research. These four perspectives make up their individual research background. They play a significant role in the research project. For instance, a graduate from a business school can work on an economic topic more comfortably than a chemistry graduate. Iqbal's (2003) migration from a quantitative perspective to a qualitative direction was due to teaching of a non-quantitative subject as against usual quantitative courses such as accounting, finance and operation research. He had utilised an opportunity to move from quantitative perspective to qualitative. It implies that the researcher links his academic and professional history with the research topic. What made it possible to focus on or chose a particular subject of research? Bryman (2001) calls it personal experiences to stimulus for research. He quoted many examples of such drivers: Zukin's interest in loft living was due to her living in a loft; Bryman's interest in Disney parks triggered from a visit to the Disney world. Both examples suggest a human tendency; a social interaction with an object creates nearness to it emotionally and practically. A dissertation in a Master degree can be converted to a doctoral topic.

4. The contents

It includes a number of themes and main body of the proposal.

4.1 Research question (RQ) / statement of the problem

Baker (2000) argues that "the first step (in the development of the proposal) is to define the issue or problem to be addressed in clear and precise terms so that there can be no ambiguity about what is to be attempted". Cadman (2002) suggests key characteristics of a RQ, "concise, focused... as it acts as a road map for the rest of the proposal". Ghauri (1995) and his colleagues say RQ "indicates gaps in the scope or the certainty of our knowledge" Given that a variety of aspects can be incorporated or extracted from RQ. For instance, a student of business administration selected the following research question for his doctoral thesis.

How can performance of middle managers be improved in a medium size manufacturing organisations in England?

Baker (2000) argues that some keywords should emerge from defining the problem or issue. The above RQ indicates a range of dimensions as highlighted in the question. The performance describes the specific topic the researcher wants to explore since many other aspects can be researched including training, development, role in change, turnover, remuneration, decision making pattern, management style, qualities, resistance etc. Secondly, middle managers specify that the researcher rules out senior and operational management and concentrates on middle management only. Thus it provides the focus of research, a helpful strategy to launch a manageable project since the broad topics are difficult to research and pose many problems when generalising. Thirdly, medium size narrows down the number of organisations to be included in the study sample. Here small and large size organisations have been excluded from the population. Similarly, the manufacturing organisation excludes the service organisations and trade organisation from the study. The word England geographically limits the scope of the proposed study. The RQ may determine the research methodology and the data collection strategy. Consider the RQ researched by a researcher in his doctoral research:

What is the role of methodology (focus of the study) in implementing a radical change initiative (the topic) and what other factors can be helpful in introducing process based change in a large organisation (the research methodology i.e. the case study) in order to enhance competitiveness through improvement in operational efficiency? Italics added.

The focus and the topic have been discussed in the above paragraphs. The research methodology needs more explanation. The RQ indicates case study as the proposed research methodology (RM), which in turn limits the data collection strategy. Yin refers (1994) in-depth interviews, artefacts, document analysis, participation and observations (therefore other data collection strategies are ruled out). The data collection strategy leads towards an appropriate data analysis technique (s). Yin (1994) suggests pattern-matching, explanation-building, and time-series analysis. Interviews are transcribed to gain insight about the organisational culture, strategies, policies etc.; time-series are used to analyse surveys. The documents and observations corroborate the interviews and provide additional information to illustrate key findings. The analysis of interviews and qualitative data is more or less a subjective decision since the outcome tends towards describing and understanding rather than producing quantitative results. Thus the data analysis shapes the pattern of conclusion and overall outcome. Sometimes the RQ points out the philosophical assumption underpinning the research. Consider the following RQ:

What is the learning (outcome of the research and philosophical assumption) from a radical change initiative (the topic) in a medium size manufacturing organisation (the case study venue) and how it can be reused to introduce similar changes in other organisations (applicability)? Italics added.

The RQ is about a case study of radical change in a medium size organisation, it demonstrates all the implied parameters as has been discussed above. In addition it points out the philosophical assumption underpinning the research, how the researcher views the world. Two views are well distinguished in the literature: positivistic and interpretive (Orlikowski and Baroudi, 1991). Some researchers question the classification (Burrell and Morgan, 1979; Gage, 1985; Shulman, 1981) however the purpose of such division is to plan an inquiry. The former assumes that reality is given (Hirschheim, 1992) while later believe it is socially constructed (Walsham, 1993). The *learning* is a core interpretive research topic (Schwandt, 1994), the professional reader or examiner would judge the RQ as such and examine the research proposal in a qualitative perspective. (See below for more details about philosophical assumptions). Babbie (2007) believes that RQ can be explorative, descriptive or explanative. Explorative RQ address a new topic or when the researcher looks into a topic from a new dimension / interest. For instance, Business Process Redesign (BPR) emerged in the early 1990s; managers were curious to know pros and cons of it so that they can introduce it in their organisations. The RQ to conduct such studies may be: How did a certain organisation implement BPR and what were the outcomes of the programme? Descriptive RQ address scientific description to know accurately about a phenomenon. Babbie (p. 89) notes that scientific observation is careful and deliberate. A descriptive RQ looks like: What are the critical success factors for BPR initiatives? What is the percentage of successful BPR projects in service organisations or in the UK? Explanatory RQ explains various dimensions of a phenomenon. According to Babbie (p. 90) identifying variables that explain a fact or event. Why BPR projects fail? Why senior managers' buy-in is essential for a BPR project?

In short, the research question defines the proposal, guides arguments, provokes the interest of the readers and directs the inquiry (UC Berkeley, 2001). A RQ must be original, interesting, feasible to research, enable to produce important results, triggers further research, hypothesis can be formulated and tested based on it, (Wyatt and Guly, 2002) placed in the context of focused and current research area. Formulation requires creativity, ability to think clearly and understanding of problem (Wong, 2002). A good RQ is generative and 'aligned with disciplinary research design principles' (Fincher and Adams, 2004). On the other side of the coin a large number of proposals fail due to absence of a research question (Haggard, 1996) or inappropriate attention to it.

4.2 Research objectives (RO)

Research objective (s) provide focus, reduces the possibility to collect unnecessary data, organise the study in parts or phases (Corlien et al, 2003) and develops a relationship between findings and practical applications (Online sources 2) The purpose of RO is to define the achievements of the research both to the discipline and the organisation / object being investigated. For a case study as indicated above, there should be some visible achievements from the research such as understanding a change initiative, learning gained from the change, its possible application in the future and the theoretical contribution in the discipline concerned. Broadly speaking main objective of a research project is an addition in the existing knowledge, Philip and Pugh (1994) call it originality which according to them is 'making a synthesis that hasn't been made before; using already known material but with a new interpretation, bringing new evidence to bear on

an old issue. The originality can be broken down and supported by the specific objectives of the study, the visible deliverables. Iqbal (2003) set three objectives for his project:

- To understand a radical change initiative within an organisation from design through to implementation.
- To learn from the experience of the company in order to use this for the introduction of a similar change in the future.
- To contribute to the theoretical knowledge or the theory of the discipline concerned.

The first objective is to understand or to examine the radical change initiative undertaken within the organisation. It includes what was done, why the initiative was undertaken, when it was initiated and completed (if it is), and what were the results. The researcher would produce an account of the change programme encompassing these elements. Mason suggests a number of goals for MIS research, for instance, gaining understanding, yielding new products, constructing better systems, contributing to science and gaining tenure (Mason, 1984). Higher Education Funding Council for England (HEFCE) endorses understanding as a key objective for assessment of Higher Education Institutions (Sharp et al, 2002). From a philosophical perspective "qualitative research methods are designed to help researchers understand people and the social and cultural contexts within which they live." (Mayers, 1999). In addition, Bryman characterises qualitative research as "understanding actions and meanings in their social context" (Bryman, 1988 quoted by Silverman, 1993). However, understanding is not the only objective.

The second objective implies that what lesson was learned from the programme, for example, information technology was a key enabler for the implementation of process-based change. And how these lessons learned can be applicable to introduce similar change initiative in other organisations, the practical outcome of the research, which has never been produced in the past. In this way the ROs are indicating and guiding towards the achievements of the project. Learning is the result of understanding or gaining knowledge of a phenomenon. It involves making sense of the information at hand (Guba, 1990), because understanding leads to learning and learning leads to change. The final objective is giving a big message i.e. what the study is contributing towards the area of subject involved. Pettigrew et al 's (1989) theoretical model or theory had been the basis of this research; the present study is enhancing the model by extending it, a true addition to knowledge. A traffic management department defines its research objective as:

The objective of this research project is to evaluate the safety and effectiveness of different signal displays and phasing for Protected/Permissive Left-Turn (PPLT) control. (NCHRP, 2007)

The researcher should never lose the sight of evaluation of safety and effectiveness of traffic signals. Everything should be written subordinated to the RO, which must be clearly stated (Sharpe et al, 2002). Greenfield (2002) argues that the aim of a research project defines the scope of the study. The researcher and the reader should convince that the study is well worth

4.3 Importance of the study

A brand new RQ and its objectives can further be elaborated to justify both RQ and associated objectives under the banner of importance of the project. The researcher wanted to explore a brand new research problem but why?. What are the key aspects for which the problem is important to the audience or to the world? Importance of the research is an attempt to justify the selection of the topic and creates a link between research problem and objectives. Jerdee and Rosen (2003) state that importance of the topic is one of the five criteria for evaluation of a research proposal. A piece of quotation from Iqbal's (2003) work sheds light on the rationale of his study:

The main concern of this research is the question of the effectiveness/role of a radical change methodology, a subject that has so far received little attention from scholars and practitioners. Previous research has revolved around the importance of re-engineering as a management tool, its success stories, its enablers (e.g. human, material, change strategy and software) and the need for a methodology to make the change happen. For example, Van Meel et al (1994) found that re-engineering methods, new organisational forms, organisational design and information systems design, were the main areas of research.

There are two aspects worthy of explanation in the quotation: the subject has received little attention in the literature and the evidence of the claim has been provided from the existing literature. The researcher claims that insufficient work has been done on the topic; it implies more research is required to fill the gap. The claim can be made after an extensive literature review on the subject. Endacott (2005) argues that the strongest argument in favour of a topic is to create a gap; the gap that is to be bridged with the study the researcher is going to undertake. This would enhance the possibility of acceptance of the proposal since the claim of the gap in knowledge or organisational practices are based on the solid grounds i.e. work already done by someone. Haggard (1996) suggests that there should be three main contentions: specific bearing

upon the subject, long-term potentials or gains and 'the existence of a professional channel that can use the results'. Thus the literature review is required to identify any gap in the knowledge, which can be bridged through the fresh research. A successful researcher claims a gap in the existing knowledge with evidence.

4.4 Philosophical assumptions

Scientific methods are the fundamental way to generate knowledge through research. It is essential to look at research methods to conceptualise how a research project can be completed and how the objectives of research can be attained with a certain method. These methods have been classified in various ways; some scholars divide them into quantitative and qualitative areas. The qualitative method emphasises description of natural or social events where the researcher tries to develop understanding concerning a social situation, role, group or interaction. According to Stiles (1999) it "shifts the goal of quality control from the objective truth of statements to understanding by people" and Tetnowski (2001) takes it further "Qualitative research seeks to understand the procedural affairs of the targeted social phenomenon; the focus is on how things happen rather than the fact that they happen". Lucke et al., (1987) elaborate the role of researcher and argue that qualitative inquiry uses text or recorded words as a primary source of data. In this way it is 'analytic or interpretive in that the investigator must discern and then articulate often subtle regularities within the data'.

The researcher presents a rich description of context (for instance an organisation) and seeks norms and values in that social setting. He concentrates on inductive analysis rather than deductive analysis and explores what people do or say and then forms his opinion. For Lucke et al (1987) therefore, by this process he creates a theory to explain the data captured in a specific setting. Bryman, (1996) found, "Qualitative research has become a more prominent style of research within the social sciences and within organisation studies in recent years.". Mayer (1997) describes the advantage of qualitative research, it is to 'understand people and social and cultural context within which they live'. Ethnography, case studies, evaluation, historical research, market research etc are eminent qualitative methods (Birley and Moeland, 1998). On the contrary, the quantitative research deals with natural phenomenon, objective analysis and numerical outcomes. The replication is easy to obtain and the researcher places desired constraints on the outcome of a research activity. The researcher attempts to completely control conditions of the study by manipulating, changing or holding constant external influences in which a very limited set of outcome variables are measured (Patton, 1990). The researcher objectively reports reality... thus he projects hard facts, fixed outcomes, which are based on value-free analysis (Silverman, 2000). Social surveys, experiments, official statistics, structured observation and content analysis are common quantitative methods (ibid., p. 3). The advantages claimed by a qualitative approach are transformed to disadvantages under a quantitative paradigm. It does not mean they are mutually exclusive and rivals for scientific inquiry but rather that the researchers can combine them. However, the classification facilitates the research process since some researchers can use the quantitative method more effectively and others the qualitative route. Iqbal (2003) argues the rationale for selection of a qualitative way:

The researcher believes that interpretive paradigm is the suitable alternative to address the research question and to achieve research objective. The reason for developing this assumption is to identify the direction of the study and to select data collection and analysis strategy. By direction the researcher means the grand technique to be adopted to address the research question and to accomplish research objective(s).

The philosophical assumption is linked with research question as has been discussed above and is defining the research objective and outcome. An interpretive assumption leads to define qualitative objectives such as understanding or learning. Iqbal's (2003) all three objectives are of qualitative nature. Objectives in turn shape the outcome of the research. For instance, Walsham (1993) believes that the outcome of an interpretive inquiry will be 'understanding' of the phenomenon rather than figures and percentages. Stiles (1999) thinks that qualitative research transferred 'from the objective truth of statements to understanding by people'. The second consideration is to identify research method. Case studies, action research and field experiments are considered qualitative methods (Braa and Vidgen, 1995) whereas surveys are regarded as quantitative approaches (Galliers, 1992). The later is linked with quantitative RQ and corresponding RO. Qualitative approaches emphasis to seeking patterns and themes in the interviews and documents for analysis. While quantitative methods apply graphs, charts, tables and percentages as analytical tools. But the decision of either strategy is related with the philosophical assumption the researcher makes prior to initiation of a research project or anywhere during the research journey.

4.5 Scope of research

It is useful to determine the boundaries of the project to delineate it from similar projects already undertaken or to be conducted in the future. A well thought research project demarcates its scope in term of time period involved, personnel consulted or to be consulted, departments, functions, sites, geographical areas, a particular initiative and so on. Iqbal (2003) limits the scope of his case study by indicating four different aspects of the phenomenon. He states, the research is limited to the study of radical change initiatives within a single organisation, certain general areas remain as the framework and the backdrop:

- The history of the organisation in change perspective;
- The predecessor to radical change or the history of change as a strategy within the company;
- Aspects of the change such as the context of change, the content of change, the process of change, and the external participants in the change;

Two aspects of scope are worthy of consideration: organisation and the change initiative. The research has been limited to the organisation concerned. The purpose is to identify the cultural aspects of the organisation and how it responds to any change initiative. Related to this is the previous change initiative (s) and their outcomes. It helps to evaluate the readiness of the organisation for the new change programme. Various aspects of change are limiting it from the other change programmes in place. Existing employees of BAC have been included in the interviewing process, although the study excludes past and future employees of the organisation. The researcher has drawn these boundaries in order to keep the study within permissible limits, but overlaps can be expected and may communicate something of importance. In summary the company history, previous change initiatives within the organisation, various dimensions of change, methodology, its effectiveness and present employees of the organisation are the key limits.

EPA defines the scope of a project as "in determining the scope of research to be addressed in this strategy, ORD limited itself to waste streams and related environmental problems that are of significant priority to the Agency, particularly OSWER and the Regions.

Two elements are determining the scope: waste stream and related environmental problems and geographical boundaries. The former is the functional responsibility of Environment Protection Agency (EPA) since it manages the waste. And the later is its jurisdiction of functionality. The scope delineates the data required from the data that is not required, thus saves time. For example, EPA's project needs data about waste stream and the related environmental problems. And OSWER and the region are the geographical limits for collection of data. GOA (1991) believes that "linking scope and time in the study design is important because the scope is determined by the difficulty of the topic". It implies the scope also links topic and its complexity with other components of the research.

5. The process

It encompasses research method and the conceptual framework within which the method will be applied.

5.1 Research method

The knowledge can be created through inductive and deductive methods. Brixey et al (2006) 'argue that qualitative data are typically analysed by either a deductive or an inductive method'. Kesten and Pnueli (2005) argue "in the deductive method we present a small set of proof rules and show that this set is sound and relatively complete for verifying universal and existential basic assertional properties over reactive systems." Deductive approach is applied in natural sciences; the researcher conducts one or more experiments about a certain phenomenon and produces an objective outcome. Identical procedures are followed to arrive at alike results, which can be replicated under given assumptions. The inductive approach on the other extreme of the pendulum draws on the hit and trail strategy. Many social situations/instances are observed, recorded or documented to extract a summary of what has been perceived. The purpose of the approach is to take out the findings from the frequent, dominant or significant themes (Thomas, 2003). He developed a general inductive approach (GIA) and purpose of this approach is to develop or establish clear links between the research objectives and the summary. The role, experience and knowledge of the researcher determines the nature of outcome.

The primary purpose of the inductive approach is to allow research findings to emerge from the frequent, dominant or significant themes inherent in raw data, without the restraints imposed by structured methodologies. Key themes are often obscured, reframed or left invisible because of the preconceptions in the data collection and data analysis procedures imposed by deductive data analysis such as those used in

experimental and hypothesis testing research. The following are some of the purposes underlying the development of the general inductive approach. These purposes are similar to other qualitative analysis approaches.

- To condense extensive and varied raw text data into a brief, summary format.
- To establish clear links between the research objectives and the summary findings derived from the raw data and to ensure these links are both transparent (able to be demonstrated to others) and defensible (justifiable given the objectives of the research).
- To develop of model or theory about the underlying structure of experiences or processes which are evident in the text (raw data).

RQ leads towards the research method (RM), for instance the researcher who wants to investigate the first RQ cited above i.e. 'Performance of middle managers ...' can assess the performance of the middle managers through a case study or a survey. The choice depends upon and related with the available resources, time period and requirements of a funding body or examination committee. Personal choice and contextual circumstances also play a role in the selection of the RM. The aims of research also guide the researcher towards choice of a research method. The researcher puts forward the arguments about why other available methods are not suitable for the research and the chosen one is appropriate. Iqbal (2003) argues in favour of the case study method and rules out other available methods for studying an organisation. He says,

There are three methods available to conduct a study in an organisation (Braa and Vidgen, 1995): action research, field experiment and case study... Action research is aimed at building features through intervention via a planned change initiative over a long period of time. It is restricted to a single entity, the outcomes are difficult to generalise, the researcher cannot control the variables and interpretation depends upon individual researchers. Secondly, the objective of the research is creating understanding rather than intervention. Despite its academic shortcomings, time limitation does not allow the researcher to be involved in an intervention for a relatively longer period of time than a case study. The aim of a field experiment is to test hypothesis within a relatively short time period. It is characterised with greater realism. However, it is difficult to find an organisation on which to experiment and even harder to achieve replication. The aim of the research is to create understanding of a phenomenon; hence it is not possible to conduct a field experiment to achieve the objective of the project. In these circumstances, the case study seems a convenient way to gain understanding of a contemporary phenomenon within its real-life context and within a time constraint. Furthermore, the boundaries of the contemporary phenomenon and its context were not clearly evident at the outset of the study, the argument Yin (1994) puts forward in support of a case study. The case study approach concentrates on using historical data to interpret in an unspecified time span, although performance over a three to five year period is considered sufficient in order to arrive at a reasonable conclusion.

Additional arguments can be brought from the literature in support of the selected method to justify the choice, which should establish relationship between the principal objectives of research with the method. If a quantitative outcome is required such as how many percent of middle managers support a radical change initiative then a survey may be more suitable than a case study. The data collection and analysis strategy is also helpful at this stage. The data can be collected from a variety of sources such as interviews, documents, surveys and observations. Huberman and Miles (1984) and Denzin and Lincoln (2000) provide the classic sources for data collection and analysis tools and techniques.

5.2 The conceptual framework

The conceptual framework is the most difficult but not impossible part of proposal. It defines the relationship between the theoretical foundations of the research with what the researcher wants to do. The researcher provides rationale for the theoretical model chosen and the area of research. For instance, theory T is being applied to evaluate phenomenon A, the resulting combination will be TA. To create such combination the researcher has to seek answers of the following questions:

- What is the broad subject involved?
- What is the theoretical support from the existing repository of knowledge for the subject matter?
- How are they linked with each other?
- How will the researcher apply them to conduct the present study?

In social sciences, researchers deal with human issues such as social issues, work related problems, collective problem of society, economic activity and many more. These issues have been classified into small areas to facilitate understanding and improving situation for the individual and collective welfare. The researcher's task is to identify the principal relation of the topic with the known body of knowledge. For

instance Iqbal (2003) has selected Business Process Reengineering (BPR), which is related with Business and management. Thus the relationship looks like: Social Sciences- Business and management -BPR (a form of change). The theoretical foundation (or development of a theory) of the subject provides a link between the subject and the existing knowledge. It enables the researchers to develop a relation between their areas of concentration to the work already done. Yin (2003) states that the purpose of development of a theory "is to have a sufficient blueprint for your study". He views theory synonymous with understanding to determine "what is being studied" (ibid, p. 27). One should not confuse with theory building with theory testing; the real objective at this stage is linking the subject matter with an existing theory. Iqbal (2003) has applied Pettigrew et al's (1989) strategic change theory to evaluate a process-based change initiative in a British organisation. He describes,

Pettigrew et al (1989) suggest a research model to examine a strategic change initiative in an organisation through which management can assess changing economic, business and political conditions and implement new strategies in order to improve the firm's competitive performance. The model contains three interrelated but distinctive parts: context, content and process.

Business Process Reengineering (BPR), has been defined by Kettinger et al., (1997) as "a form of organisational change characterised by the strategic transformation of inter-related organisational subsystems producing a varied level of impact". is implemented through various methodologies such as Soft System Methodology (SSM) and others. Nevertheless it has not been introduced through Pettigrew et al's above model, the present research will fill the gap and implement BPR through Pettigrew et al's (1989) framework.

There are many aspects worthy of consideration in the quotation. Pettigrew et al's (1989) framework is a strategic change approach applicable to the study in BPR perspective. The combination of BPR with Pettigrew et al's (1989) model forms the conceptual framework. The BPR would be looked at through the components of Pettigrew et al's (1989) model, which contains three phases: context, content and process. A further relationship can be developed between the chosen area and the Conceptual Framework (CF) to elaborate the CF. It may show the evolution of the chosen area, its related techniques and theories and the way your study fits into the topic. Iqbal (2003) developed such relationship in the figure 1. TQM is the predecessor of BPR and share many characteristics with it. For instance both focus on a common unit for improvement in performance i.e. processes. BPR is more successful in those organisations where TQM was experienced or was in progress since BPR is considered a progression from TQM. MIT's research programme for the role of IT in the 1990s spells out the nature of IT- enabled change; Venkatraman (1991) identified five stages: localised exploitation (LE), internal integration (II), business process redesign/reengineering (BPR), business network redesign (BNR) and business scope redefinition (BSR). The extended model implies that BPR (a successor of TQM) is examined through the lenses of Pettigrew et al's (1989) contextual framework whereas BPR is a part of five stages of IT- enabled strategic change. The extended model explains the relationship between chosen area and the theoretical framework underpinning the research.

6. The product

Fundamental purpose of any research project is to address a problem in the real world that has been identified in the RQ. In this section she/he imagines how far that problem has been resolved as an outcome of the project. The researcher's job is to find out:

- What is the theoretical contribution in the discipline concerned?
- What is the practical role in solving the problem?
- How it enhances the personal and professional development of the researcher?

Any addition to these aspects makes a research worthwhile for the researcher, the discipline and the practitioners. Iqbal (2003) says, theoretically, the project enables the client of the research to understand the process of business re-engineering and the methodology employed, in an organisational, technical and social perspective. Practically the research proposes a modified framework for a radical change implementation. Personally the research will positively contribute to the learning of the researcher and the career prospects will expand. The outcome may include a new theory, artefact, software or major developments in any of these dimensions. Many researchers feel difficulty to imagine what will the actual deliverable. Well it is not meant at this stage that a well understood structure will be defined, rather the potential supervisor or any such committee should be convinced that the research is worthwhile and will ultimately create/modify some thing of importance. This would satisfy them to accept the project so that the candidate can begin his / her research. Things always change and every element of the research proposal is subject to this situation. The final draft of the thesis or research report will be different from the one envisioned at the commencement of the project. However, the proposed outcome highlights some aspects of

it, which is enough at this stage. Finally, a structure of the thesis would be an advantage at this stage of the study that earns additional score and increases the prospects of approval.

7. Conclusion

There was lack of a research proposal for social science researchers based on some empirical evidence in the literature; this paper is an attempt to fulfil the gap. Nine aspects of a problem solving research proposal have been discussed and grouped into four sections: the context, the content, the process and the product. These elements provide a coherent picture of a document judged either by academics to give green signal for the continuation of the study especially in doctoral programmes or funding bodies to offer financial assistance. However, the audience of this type of proposal (the material discussed here) is more academic than practitioners. The addressees of the case study referred to is also academia. The paper can be used independently to compile a research proposal for a social science discipline or can function as a complementary document to other disciplines.

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The Ethical Impact of Business and Organisational Research: the Forgotten Methodological Issue?

Margaret Lindorff

Monash University, Victoria, Australia.

Margaret.Lindorff@buseco.monash.edu.au

Abstract: In recent years, relatively little business or organisational research has focused on personal welfare detached from economic or organisational performance. Similarly, the mainstream management literature has tended to overlook the social effects of undertaking academic research, in particular those that relate to the researchers' ethical obligations to participants. This paper discusses some of the ethical issues associated with research on business and in organisations, using as its framework the ethical principles of justice, beneficence, and respect for persons.

Keywords: Research ethics, justice, beneficence, respect for persons, informed consent

1. Introduction

It is expected that most consultants and academics undertaking business and organisation research would view themselves as professionals with standards for proper and ethical conduct, and accept that such standards distinguish them from non-professional groups (Gellerman, Frankel and Ladenson, 1990). Many would also believe that their research should promote the welfare of individuals and the performance of organisations, and would agree with Kakabadse, Kakabadse and Kouzmin (2002, p. 105) that their research "advances and shapes organisational objectives, culture, individuals and societies as it provides new insights that inform premises upon which decisions and judgements are based". This view of academics and internal and external consultants undertaking business research is of people who are trying to make the world a better place for those within it. The research changes organisations for the better, and this positively influences the lives of all who work in them. But is this the case? Is research the shaping force, with the positive values of researchers influencing directions research will take, and thus providing benefits to individuals, organisations and society? Or are organisational or other objectives shaping research, and has this softened the focus on the research's effects on individuals and society, in particular the study's participants? Are these individuals "advanced" by the research? And how do researchers manage the issues and tensions associated with trying to concurrently "advance ... organisational objectives, culture, individuals and society" (Kakabadse, Kakabadse, and Kouzmin, 2002, p. 105)? Is it possible to concurrently advance individual and organisational objectives, or are these objectives sometimes inherently contradictory? And how well do researchers recognise these tensions, and how do they manage them?

Jones (2004) touches upon these questions and suggests that differing researcher values and attitudes create four different and contradictory motivations for conducting research in organisations, and that each of these creates a different relationship between researcher, organisation, participants, and society. She calls these motivations consultancy, instrumental academic, co-consultancy, and academic research pro bono publico. The consultancy approach, she argues, is focussed on achieving a brief, and relies on objectivity tempered with impression management, in which relationships are transactional and the "human subjects studied are liable to contribute only as a collection of objects of interest" (p. 114). In contrast, the instrumental academic research orientation involves interest in the subject matter, but the primary focus is on academic recognition. She argues that academic research of this kind is "willingly tailored" to the requirements of sponsors or editors, and human participants are seen to contribute only as a means to an end. Although she suggests the co-consultancy approach hopes to provide some improvement to the organisation, it may not always be to participants, and any effects are not known until the change process has been completed. Finally, her view is that only traditional academic research pro bono publico, which looks to serve the public good and generate knowledge that benefits society, involves "deep concern for those participating in and informing the research" (p. 116). Simply put, she argues that the effect of the research on participants largely depends upon the type of research undertaken, and this is based upon the "professional ambitions and/or comfort zones" (p. 116) of the researcher. If research is driven by a desire to meet goals of the sponsoring or collaborating organisation or academic achievement, then it is difficult to provide benefits to participants.

An alternative way of viewing the relationship between participants, research, and researchers is to return to the view of researchers as professionals with standards for ethical conduct. The effect on participants is then seen not merely as a consequence of the values of the researcher, but as an interaction with

independent requirements and specific moral principles. This parallels the way the relationship between researchers, research participants, and society in medical research is framed as an ethical issue that overrides such considerations as the “professional ambitions and comfort zones” of the researcher. This paper will therefore use ethical principles to review some of the issues facing academics and consultants conducting research in business and organisations. In particular, it will relate these principles to issues associated with research participation. Unfortunately, a reading of the business and organisational research journals provides little guidance on ethical responsibilities toward research participants, which should be considered when formulating, and undertaking organisational research. Although the general business and research literature, particularly texts and other monographs, provides a commentary on ethical issues such as misrepresentation, and advises specific actions such as those leading to informed consent, seldom are there detailed discussions of the ethical principles that guide interaction with research participants. This journal is too new for an analysis of space given to such issues in a business research methods publication, but the articles published in the past six years in the journal *Organisational Research Methods* can be taken as an example. A search of the 120 authored articles in that journal from January 1999 to January 2006 brought up 31 articles, which contained the words “ethics”, or “ethical” somewhere in the text. Deletion of book reviews, citations of journals with ethics in the title, reference to “protestant work ethic”, the ethical behaviour of business or managers, and ethics as an interest of the authors left 7 articles, which referred to research ethics. Two references were less than a sentence in length; two were a paragraph. Two articles (Simsek and Veiga, 2001; Stanton and Rogelberg, 2001) devoted just over 2 pages to the ethical implications of online research, and Wray-Bliss (2002) devoted several pages to the ethics of the critical interpretive approach of labour process theory.

The absence of such discussion in journals devoted to business and organisational research methods is interesting, and it certainly contrasts with the space given to such issues in the medical and psychology research methods literature. However, it can be argued that the nature of human participants requires the effect of the research on participants and other persons be given the same consideration in business and management research as is accorded to those affected by medical and other research. Issues surrounding this consideration are discussed below.

2. Ethical principles in research involving humans

The first issue is which ethical principles are relevant to business and management research. In many Western countries formal ethical guidelines have been developed for medical and nonmedical research involving humans. These include the United States Belmont Report (1988), Australia’s National Statement on Research Involving Humans (NHMRC, 1999), Canada’s Code of Ethical Conduct for Research Involving Humans (Tri-Council of the MRC, NSERC, and SSHRC, 1997), and Great Britain’s Research Ethics Framework (ESRC) and publications of the Medical Research Council. These attempt to ensure participant rights are respected, and describe researcher responsibilities. At the core of these are three ethical principles that the Belmont Report specifies are “particularly relevant to the ethic of research involving human subjects”. These principles of justice, beneficence and respect for persons are described in the next section of this paper, and applied to the framing and collection of data in organisational and management research.

2.1 Justice

The first principle, justice, is developed from the writing of Aristotle (1982, p. 257), who noted that justice is “that which is lawful and that which is equal and fair”. The principle of justice requires the burdens and benefits of research to be equally and fairly distributed such that particular groups not bear the burden of research participation while other groups receive the benefits. Arguments for such fairness in research have been made by the United States Belmont Report (1988), for example, which states the “principle of justice is that equals ought to be treated equally”, and follows this with a statement that “the selection of research subjects needs to be scrutinised in order to determine whether some classes are being systematically selected simply because of their easy availability, their compromised position, or their manipulability”. The principle of justice may be applied to employees, and requires they are not exploited because of membership in any organisation under study. They should not be required to bear the burdens of research in terms of time, energy, or disclosure of personal information while other groups, such as employers and researchers, reap the benefits.

Historically, the American Academy of Management was built upon a philosophy of management in which the public interest was paramount, although recognition was also given to the “legitimate interests of capital and labour” (Editor’s preface, *Journal of the Academy of Management*, 1958, cited in Walsh, Weber and

Margolis, 2003, p. 859). Consistent with this would be a research output that focuses upon the welfare of organisational members and the public interest, and are not merely used because of their “easy availability or their compromised position”. However, an analysis of articles published in the *Journal of the Academy of Management*, the *Academy of Management Journal*, and the *Academy of Management Review* between 1958 and 2000 by Walsh, Weber and Margolis (2003) found only 227 of the 1738 articles studied human welfare without examining performance, 115 studied both welfare and performance, 383 studied performance with no reference to welfare, and 996 studied neither performance or welfare. They also found interest in welfare was declining: in 1999 only 19% of articles included reference to some aspect of welfare, down from the 35% of articles in 1978. Not only did citation analysis show studies of performance received more citations than studies of welfare, but fewer than 2% of the studies considered the effect of organisational practices outside the boundaries of the firm. Furthermore, their analysis demonstrated that most research involved some form of economic framing, or paid little attention to the firm’s role in society. Very little research focused on personal welfare detached from economic or organisational performance. At a simple level this does not appear just, and appears to suggest that the benefits of research may go to organisations, whilst the burden is borne by employees and other individual participants.

Furthermore, unlike medical research it cannot be argued that, in general, organisational or management research is designed to lead to specific, immediate, or large benefits to humankind, or to the prevention of serious harm. Researchers and their employing organisations, research participants and their employing organisations, and society all have a stake in research outcomes, and these stakes are based upon different, and potentially competing, interests (Germeroth, 1994). Similarly, the subject areas chosen for business and management research reflect the interests of its stakeholders, and the areas chosen for any research project may potentially reflect the power differences of particular stakeholders. Researchers generally have an interest in seeking and transmitting new knowledge, and in advancing their careers. If they are academic researchers, their employing organisations have an interest in attracting research income and increasing research output. Business and government organisations are interested in improving performance. Potential participants may be most interested in issues related to their welfare at the individual, group, or organisational level. The interests of society are complex and multidimensional. However, given the absence of a demonstrated direct benefit to humankind, on a macro level there seems little societal obligation to undertake, or participate in, such research. Moreover, researchers’ knowledge seeking can only be undertaken with the co-operation and support of employing organisations. More than half the studies reported in the *Journal of Applied Psychology* between 1992 and 1997 used research survey participants from a single organisation (Ostroff and Harrison, 1999). Similarly, an analysis of the research published in the top three American management journals (*Academy of Management Journal*, *Administrative Science Quarterly* and *Journal of Management*) between 1985-87 and 1995-97 found not only did field studies predominate over other methods such as surveys and experiments, but there was an increase in the number of field studies over the period (Scandura and Williams, 2000).

As a consequence of this need for organisational support, it may be difficult to ensure fairness and justice. The relationships between researchers, participants, and organisations present special challenge if those with lesser power – usually the employees who are the participants in the research – are not to be exploited for the gain of the organisation or researcher. An example of such exploitation is a requirement for employees to provide information, time or energy to a research project they would not otherwise wish to be involved in. This is especially so when the relationships are a result of a formal collaboration between universities and industry or the result of a consultancy agreement. Universities have a financial and public relations interest in obtaining sponsored or collaborative research. They see industry as a source of research funds, and actively encourage collaboration by rewarding researchers for industry-funded or collaborative grants. A positive view is that new problems are identified, researchers are intellectually stimulated, publications are increased, and student education is enhanced – and earnings are generated for university research. A negative view is that such relationships narrow the range of research to topics supported by particular organisations, and researchers lose their independence, focussing on short-term or commercially profitable products that promote specific interests of industry rather than the interests of individuals or society (Rule and Shamoo, 2001; Rynes, Bartunek and Daft, 2001). Researchers’ interest in undertaking the research and accurately transmitting the findings may conflict with other interests such as the desire of the sponsoring or co-operating organisation not to have negative findings published (Rule and Shamoo, 2001). Negative findings may also be suppressed within the organisation, or ignored by key organisational stakeholders. Additionally, pressure may be placed upon researchers to interpret material in a particular manner. This possibility is heightened in those situations where contractual agreements require the organisation to “sign off” on any publication coming out of the collaboration.

It appears, then, that academic researchers can find themselves with an unrecognised conflict of interest. Such conflict occurs when two or more of the interests held by, or entrusted to, a single person are considered incompatible or breach prescribed practice. It occurs when a person's "judgement regarding the primary interest (such as a ... [participant's] welfare or the validity of research) tends to be unduly influenced by a secondary interest, such as financial gain" (Thompson, 1993, p. 573). Such conflicts clearly include investigators holding collaborative or consulting agreements with the firms sponsoring the research, employment of one or more of the researchers by the organisation under study, or the researcher's professional interest in ensuring a strong research publication record. In each case investigators may formulate and undertake research that has been shaped by organisational objectives rather than participant welfare. In such cases it may be difficult to ensure that employees do not only bear the burdens of research, but also achieve some benefits. Some conflicts, such as those resting on collaborative financial agreements, are normally recognised and disclosed to participants, although, again, the topic has failed to receive the same space in the management literature as it has in medical journals. However, the effect of other conflicts, such as the pressure exerted on universities to undertake funded research, and the subsequent pressure placed on investigators to obtain grants and undertake sponsored and collaborative research, are seldom recognised or discussed as ethical issues. In contrast, the effect of research sponsorship on the shaping of research is frequently discussed in the medical literature, and prominence is given to the potential bias in research topics or programs.

There thus appear to be issues of justice in the chosen topics and methodology of much business and management research. Each reflect a situation in which the research appears to relate to upholding the economic interests of business rather than the public interest at individual, group, or societal level, and supports the view of recent commentators who have suggested that management research is neglecting issues of public interest and public policy (e.g., von Glinow, 2005; Rynes and Shapiro, 2005), and should be reframed to ensure participants benefit from the research process (e.g., Wray-Bliss, 2002). Taken further, the inequality inherent in much research is consistent with a view that conventional organisational research may subordinate social life at work to technological rationality, implicitly serve the accumulation of wealth by investors, promote careerism in managers, contribute to excessive surveillance and control by viewing work in terms of certain values or interests, support managers with ideas for managerial control as the norm, implicitly encourage submission to workplace power sources, and minimise the position of stakeholders other than capital and managers (Alvesson and Deetz 1996). It is puzzling that the issues of justice and bias in research topic selection are not raised more frequently in the management research literature.

2.2 Beneficence

The second ethical principle, beneficence, requires that researchers should make efforts to secure the well being of participants. It rests on a utilitarian framework which views research as acceptable if it creates benefits and does not cause harm, or minimises risks of harm or discomfort and maximises possible benefits and the well being of participants. In Australia, the National Statement on Research Involving Humans specifies where "research is undertaken solely to contribute to knowledge, the absence of intended benefits to a participant should justly be balanced by the absence of all but minimal risk" (NHMRC, 1999, p 12). Similar statements occur in the guidelines of many other western countries. Serious attention to the principle of beneficence requires that researchers assess the probability and magnitude of benefits and the many potential dimensions of harm, and ensure robust procedures that anticipate and confront possible harms. As organisational and management research is normally designed to benefit stakeholders other than the participants, usually the researcher or organisation(s), the absence of specific benefit to participants requires that all but minimal risk should be absent. However, although there is seldom a risk of physical harm, as Levine (1986) points out in a discussion of clinical research, research participation also carries the risk of psychological risk such as stress; social risk such as ostracism; economic risk such as loss of promotion or career opportunity; and occasionally legal risk. There are also times when responses raise other issues, such as when participants comment upon inappropriate or illegal organisational practices or individual behaviour, express worries, or seek advice.

Moreover, the most common organisational research project is based upon a one-shot, cross-sectional design. Within this, participants are viewed only as sources of information or data, rather than as stakeholders. The involvement of the researcher usually ends with data collection, and participants receive no explicit consideration or follow-up. The researcher's commitment is normally seen to be production of a research publication, or conclusion of the consulting or research contract. The consequences for individual employees or groups of employees of participation in the research or publication of research findings are seldom explicitly considered, and provision is normally not made to resolve any issues raised by participants during the research process (Wright and Wright, 1999). In contrast, the effect of research on participants is

frequently discussed in the medical literature, and follow-up of participants is the norm, with prominence given to the effect of the research upon participants. Moreover, studies of work stress, for example, may show the health of a participant requires intervention. Ensuring beneficence would seem to require the researcher to act on this information in order to minimise harm to that participant. However, this seldom appears to be done, and there is rarely any commitment to follow up the research by undertaking any changes the research suggests are beneficial, or addressing the needs of participants. Similarly, the rights of people not directly involved in a research project are seldom explicitly considered, and may be overlooked. These people also require beneficence, as they may be affected by a study's publication or findings. For example, qualitative research may find, and report, information relating to an identifiable person's behaviour. Even if pseudonyms are used, it will not protect the third party if the participant – or their organisation – and thus the third party, can be identified. Not only is there the risk of legal proceedings for defamation, but also publication of this information does not demonstrate recognition of the rights of the third party.

2.3 Respect for persons

The third core ethical principle, respect for persons, is demonstrated by viewing individuals as autonomous agents, and protecting those with diminished autonomy. This principle rests on the deontological framework, which operates from the foundation, that individuals have rights – such as for autonomy and privacy – and these cannot be violated without causing harm. Developed from the ethical theory of Immanuel Kant (1969), who argued “Act so that you treat humanity, whether in your own person or in that of another, always as an end and never as a means only” (p. 44), this respect for persons principle rests on the foundation that these independent moral rights that all people possess are independent of any potential benefit to the individual or those around them. An example of the application of this principle to organisational and management research is the section of the Academy of Management's Code of Ethical Conduct (2002) which states “Research should show respect for the rights of individuals and organisations” (p. 291) and “It is the duty of Academy members to preserve and protect the privacy, dignity, well-being and freedom of research participants. This duty requires ... informed consent from all participants... Informed consent means explaining to potential participants the purposes and nature of the research so they can freely choose whether or not to become involved. Such explanations include warning of possible harm and providing explicit opportunities to refuse or participate and to terminate participation at any time. Because students and employees are particularly subject to possible coercion, even when unintended, special care must be taken in obtaining their informed consent...” (p. 292). Despite this, there has been little discussion in the business research literature on the nature of this “special care”, and upon how researchers can ensure voluntariness and informed consent. Many work situations lack the contractual individualism necessary for informed consent because organisations may have strongly supported a research project, or because the organisation's culture requires acquiescence to desires expressed by management. In addition, research in some countries involves participation by people for whom human rights issues such as autonomy and informed consent are irrelevant to social and cultural norms (Macklin, 1999). They thus have had no concept of any rights they may have over participation in research, even when they are told that participation is voluntary. Moreover, increasing use of open-ended qualitative research means that it is often impossible for participants to give informed consent to the use of their contribution, as they do not know in advance what themes may emerge, or how their words will be interpreted (Richardson and Godfrey, 2003). Participants may also introduce topics they did not intend to introduce, or the supportive climate of an interview may lead them to reveal details they did not intend to reveal. Yet, again, there has been little discussion of such issues.

3. Ethical issues in business research methodology

The above discussion has discussed the three core ethical principles generally given to apply to research involving humans, and touched upon several ethical issues that should be explicitly addressed. One is the shaping of management and organisational research by funding opportunities and the requirements of sponsoring or participating organisations. Not only does this bias project selection and favour projects that are short-term or commercially viable, but the lack of researcher independence may be associated with a potential conflict of interest if a program developer or presenter is also acting as evaluator or researcher. These factors increase the possibility that the research will not be specifically designed to benefit participants, or may involve some social or emotional risks. This possibility is increased if the research and its intended outcomes are less than transparent to potential participants, and can involve stress or ostracism, breach of privacy, or restriction of promotion or career opportunity. A related issue is how to ensure that employees do not bear the burden of research, and that their welfare is considered in the research design phase. One way is to ensure voluntariness and informed consent. This shows respect for individual participants and their right to autonomy, and allows them to opt out if they believe there may be negative

consequences of participation. However, this requires some transfer of control to the potential participant from the researcher and participating organisation (Alderson and Morrow, 2006). There may be objections to this from the sponsoring or participating organisation, and researchers may fear a diminution of their sample size, and resultant lack of validity. There are also issues in ensuring voluntariness when the research is associated with an activity that is required as part of the employee's work role, such as an evaluation of an organisational change process. Similarly, it can be hard to ensure informed consent when the researcher is unable to predict the effect release or publication of the research findings will have within the organisation. The short-term nature of most organisational research, and absence of follow-up, also raises issues of beneficence, and makes it hard for researchers to address the needs of participants. Yet the research process is a human activity built upon relationships (Hallowell, Lawton and Gregory, 2005), and as such is a moral activity built upon opposing interests and options. The ethics of these relationships should be considered.

4. How has this occurred?

The above discussion suggests that there are issues related to justice, beneficence, and respect for persons involved in the methodology of business and organisation research, and there is not always be direct consideration of these in the literature. This may be because the implicit values of some researchers may emphasise high research output or the interests of sponsoring or participating organisations, rather than societal or participant health (Jones, 2004). Furthermore, it seems that participants have become "the proverbial 'invisible' men and women of organisational research" (Wright and Wright, 1999, p. 1110). How has this occurred? One explanation may be that management researchers hope that research that benefits business or organisations will benefit society. Friedman's (1962) shareholder theory of corporate responsibility argues that organisations have a moral obligation to maximise shareholder wealth. Any research that leads to such profit maximisation could therefore be argued to be in the best interests of society. For example, Vermeulen (2005, p. 981) argues "in defence of research that attempts to help companies make more money.... Fuelling the economy by aiding companies to increase their profits is a potent way to contribute to society and human well-being". Other management researchers may hold such a view. Alternatively (or additionally), researchers may believe the absence of physical harm from data collection means that all management research is ethical, and there is no risk of any negative consequence. Another possibility is that researcher training in management is different from that which occurs in medical or other research disciplines, and does not sensitise researchers in our field to the potential for bias in selection of topics for funded research, or for the consequences of research for participants to include either benefit or harm. Researchers are trained in ethical behaviour relating to the correct attribution of sources, and honesty in dealing with others, but not in other areas. Individual researchers – whose focus is on the research itself and achieving a publication record - may therefore sometimes not be aware of broader ethical issues involved in the framing and conduct of their research. Alternatively, for some reason, such as pressure to publish, management researchers may have become desensitised to the effects upon participants of their research.

Additionally, even if researchers are aware of ethical issues and consider research outcomes as within their responsibility, harm is difficult to predict (Richardson and Godfrey, 2003). It requires judgement about individual sensibilities, an understanding of the current situation, and knowledge of future conditions. Researchers seldom have the resources to gather the data necessary to predict all possible outcomes. Moreover, people differ in their assessment of harm in a given situation. For example, Sparks and Hunt (1998) found that experienced marketing researchers recognised more of the ethical issues embedded in research scenarios than did students. Even so, almost a quarter of the researchers did not identify any of the ethical issues in cases described to them. Similarly, Ilgen and Bell (2001) reported that Human Resource professionals, who typically are responsible for providing consent to undertake research in organisations, were less sensitive to issues surrounding consent and potential risk to participants than were members of Human Ethics Institutional Review Boards. The Human Resource professionals also believed employees were more likely to react negatively to the organisation if given the full information necessary to allow informed consent. Thus the traditional organisational gatekeepers may not always act in the interests of research participants or other employees. This means that the interests of participants are not best served by moving responsibility for the consequences of the research from the researcher to the sponsoring or participating organisation. In addition, given the pressure to publish, spending time on ethical issues such as participant autonomy or the effect of bias on research topic selection could be seen as bothersome, adding only unnecessary complexity to the research process. This is particularly likely to be the view when researchers believe that organisation and management research is "no risk" to participants.

5. Conclusion

As Jones (2004) suggests, researcher values may lead to research, which does not always serve the public good or involve deep concern for participants. The above review suggests that research may also not always fulfil the ethical requirements of justice, beneficence, and respect for persons. Moreover, there is some evidence that the emphasis in research is now upon ensuring rigor, rather than relevance (Vermeulen, 2005), and that practitioners do not normally turn to academic literature in seeking resolution for problems (Rynes, Bartunek and Daft, 2001). There thus seems a need for researchers to reflect upon their own values, and to become as engaged in the ethics of the research as they are in its other components. Such consideration is important, for at least two reasons. The first is that the nature of human participants requires they are given the same rights in business and organisational research as are accorded to human participants in other research. The ethical requirements for research are based upon the nature of the human participants, not upon the research discipline. One cannot therefore argue that as business research is “different” to other research then different requirements should apply. The second reason care should be taken with ethical issues is that it runs the risk of being exploitative. It is normally initiated by the researcher or the employing organisation, not by participants, and is frequently not designed to directly benefit participants, improve their welfare, or reward them for their contribution. It is thus often inherently burdensome. Researchers should therefore take the same care with issues related to voluntariness, informed consent, and bias in topic selection as we hope that medical researchers take when undertaking research funded by drug companies. I accept that the above may be an unduly “black” view of organisational and management research, and researchers. I am sure there are many researchers who struggle to find support for academic pro bono publico and other research programs that are designed to benefit their participants and society, and ensure participant rights are upheld. However, I also believe that we do need to engage in robust dialogue about the relationship between research funding and potential bias in our research topics, issues of voluntariness and informed consent, the consequences of research participation, and the values we hold and how these are reflected in the research we undertake.

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Strategies for Teaching Research Ethics in Business, Management and Organisational Studies

Linda Naimi

Organisational Leadership, Purdue University, USA

lnaimi@purdue.edu

Abstract: Ethics education has become increasingly important in the wake of recent corporate scandals and reported scientific misconduct. The pressure to succeed has spurred the emergence of a 'cheating culture' (Callahan, 2004). Callahan suggests that ethics – i.e., integrity, honesty and fairness – is losing ground to a market-driven economy and culture that rewards self-interest, self-gratification, and amoral behaviour. As educators, we are committed to providing students with the preparation, mentoring and guidance they need to address ethical issues that arise in their academic, professional and personal lives. We need to serve as positive role models to encourage ethical conduct. Nowhere is this more critical than in the area of research, particularly human subject research. To ensure integrity in research, students and faculty must demonstrate that they understand the ethical and legal ramifications of their work prior to initiating any research. In addition to legal requirements, universities now use a variety of creative approaches designed to promote integrity in personal and professional conduct. This paper discusses effective strategies for teaching research ethics to undergraduate and graduate students in business, management and organisational studies. Strategies include online interactive training modules, case studies, role-playing, action research, critical inquiry, simulations, the Socratic Method, interest triggers, and research analysis. This paper also includes a brief look at LANGURE, an NSF funded national initiative involving over one hundred faculty and students at eight land grant and historically black universities in the United States. LANGURE is developing a model curriculum in research ethics for doctoral candidates in the physical, social and life sciences, and engineering.

Keywords: Research, ethics, business, management, organisation, case studies

1. Introduction

Ethics education has become increasingly important in recent years, given press coverage of corporate scandals, political corruption, and scientific misconduct (Kolp and Rea, 2006; Callahan, 2005; Hellman, 2001; Mallor et al, 2005). A number of observers have decried what they see as a deepening erosion of core values (Callahan, 2004; Slovic, 1999; Cowe and Williams, 2000; Guinn, 2005; McGee, 2002). Unethical behaviour is on the rise in all sectors of society. Employee misconduct in America costs companies more than \$400 billion dollars a year. In 2003, nearly two-thirds of corporations surveyed reported suffering huge losses from employee fraud and misconduct, and the situation is worsening (Richardson, 2005-2005: 41). On college campuses worldwide, instances of student misconduct, such as cheating, plagiarism, dishonesty, falsification of data and fraud are on the rise. According to the Centre for Academic Integrity at Duke University, 75% of all college students confess to cheating at least once (Kleiner and Lord, 1999). This finding confirms earlier studies by Baird, Stern and Havlicek, that nearly 85 percent of college students cheat (Lupton, Chapman and Weiss, 2001; Callahan, 2004:219). A study of business students in 2001 found that 'students who engaged in dishonest behaviour in their college classes were more likely to engage in dishonest behaviour on the job' (Callahan, 2004: 219). Business students reportedly were far more likely to engage in unethical conduct than others, based in part on their belief that 'you have to do whatever it takes to get ahead' (Goodpaster, 2006). The Centre for Academic Integrity at Duke University conducted a series of research studies from 1990 through 2002. Researchers found that on most campuses, over 75% of students admit to some form of cheating (CAI, 2003). In a 1999 survey of 2,100 students on 21 campuses, about one-third of those surveyed admitted to serious test cheating and half admitted to cheating on written assignments and research. However, surveys conducted between 1990 and 1999, involving over 12,000 students on 48 different campuses, demonstrated that academic honour codes effectively reduced cheating by one-third to one-half. Today, that may no longer hold true. In a 2003 study conducted by ABC news, 92% of high school students admitted to lying to their parents and teachers on a regular basis. Of those polled, the majority believed that lying was 'okay as long as you were not caught' (ABC News report, 2003).

Internet plagiarism is also a problem at all educational institutions, given the ease with which students can download research papers and submit them as their own work. In 1999, 10% of the students admitted to Internet plagiarism. In 2001, that number had risen to more than 41%. Interestingly, 68% of the students indicated in their comments that they did not consider Internet plagiarism a serious violation. Surprisingly, more than one-third of faculty surveyed said they did not take action against students who cheated in their classes because it was too widespread. This is of concern, because it not only compromises academic integrity, it also shapes attitudes and habits students take with them into the workplace (Callahan, 2004;

McGee, 2002; Goodpaster et al, 2006). Federal regulations, university policies, and codes of conduct have been less effective than expected in stemming the tide of unethical conduct. A recent survey found that ethics programs in tended to rely too heavily on asking individuals to do the right thing and disregarded the impact of organisational culture on people's behaviour (Callahan, 2004). Having a code of conduct in and of itself does not appear to be a sufficient deterrent of unethical behaviour. To be more effective we need to 'integrate ethical values into daily routines' and enforce penalties for non-compliance (Callahan, 2004: 282).

The pressure to succeed at all costs has created a 'cheating culture' (Callahan, 2005) that threatens to undermine academia as well as the social and economic fabric of society. Instances of unethical conduct fill the daily news to the point where many now are largely unmoved by stories of misconduct and wrongdoing (Morant, 2005). However, the media also suffers from misconduct. According to a recent survey, sixty-three percent of journalists believe there has been a steady decline of ethics and values in their profession (Gardner et al, 2001: 128). All of these have served to erode public trust and foster a culture where anything goes as long as one avoids detection. In a recent poll at a Midwestern university, 55% of college students in management and business studies reported that ethics is 'whatever a person thinks is right' and that 'personal ethics is more important than society's moral values' (Naimi, 2005). This finding is troubling. It suggests that we – as individuals and as societies - have lost our moral compass. If students view ethics as merely 'personal' and 'situational', as Maxwell (2005) contends, how can educators stress the importance of ethics and reinforce ethical standards in academia? How can we teach ethics in research if we fail to incorporate ethics education in the curriculum and practice it in our daily lives? Who are our role models today? Is virtue a thing of the past? As educators, we recognise that students need preparation, mentoring and positive role models to help them in recognising ethical issues, and analysing and reasoning carefully about them. They need mentors and guides to help them make responsible decisions in the face of difficult dilemmas. Nowhere is this more critical than in the area of research, particularly human subject research. To ensure integrity in research, students and faculty must demonstrate that they understand the ethical and legal ramifications of their work prior to initiating any research. In addition to legal requirements, universities have employed a variety of creative approaches designed to promote integrity in personal and professional conduct. This paper begins with a discussion of the cheating culture and the cause for concern about the decline in ethical conduct and "right thinking" in society today. A discussion of various strategies for teaching research ethics to undergraduate and graduate students in business, management and organisational studies follows. Strategies include online interactive training modules, online legal research, case studies, role-playing, action research, critical inquiry, and simulations. It ends with a discussion of LANGURE, a national initiative involving more than 100 faculty and students at 8 land grant and historically black universities in the United States. This NSF-funded project involves developing a model curriculum in research ethics for doctoral candidates in the physical, social and life sciences, and engineering. Its approach is adaptable for use in teaching research ethics in business and management programs.

1.1 Learning theories

We begin with a discussion of learning theories that are most relevant to teaching ethical reasoning. Bloom's Taxonomies classify levels of learning and intelligence according to cognitive, affective and psychomotor domains. The cognitive and affective domains are particularly important in ethical reasoning. The six cognitive levels are knowledge, comprehension, application, analysis, synthesis and evaluation. The affective domain levels as emotions, attitudes, appreciation, and values (Bloom and Krathwohl, 1956). Disconnects between the affective and cognitive aspects of the mind can lead to judgment errors and irrational behaviour. Thus, an intelligent person can make bad decisions when there are significant differences between his thinking and emotions (Goleman, 1995). This differential development has led to the emergence of the theory of multiple intelligences (Gardner, 1983). Social learning uses a variety of interactive tools, including role-playing, mentoring, debates, discussions, and role modelling (Rossett, 2004). Action research, also known as action learning theory, engages students in solving real life problems in organisations (Revans, 1980). Experiential learning takes students through four stages of learning: concrete, reflective observation, abstract conceptualisation and experimentation (Kolb, 1984). Felder and Soloman (2003) identify eight contrasting pairs of learning styles: Active and reflective learning, sensing and intuitive learning, visual and verbal learning, sequential and global learning. Learning activities may be organised from the simple to complex, in modules and cumulative. Providing a range of learning experiences in the classroom can enhance the teaching of ethics in research and in organisational studies. It is important to consider differences in students' learning styles, experience, abilities, and interests when teaching ethics (Van Patten, Chao, and Reigeluth, 1986).

2. Ethics

Before we can teach research ethics, we need to increase our own understanding and judgment, promote best practices in the conduct of research and scientific investigation, and establish an organisational culture focused on what it means to be an ethical person. Ethics is not about answers. It is about asking questions. Ethics is about awareness, understanding, monitoring and consequences. The researcher is responsible for developing procedures and controls to ensure that all participants in a study are treated ethically. Students need to know what will happen if they engage in unethical conduct. Ethical issues in research include:

- Informed consent,
- Voluntary participation,
- Confidentiality,
- Anonymity,
- Conflict of interests
- Data security
- Capacity
- Protected groups,
- Social responsibility, and
- Humane treatment of subjects.

There are five basic ethical approaches or theories used today to guide ethical decision-making. These are utilitarianism, common good, Kant's categorical imperative, rights, justice and virtue. When faced with moral challenges or ethical dilemmas, one can choose to employ one or more of these approaches to resolve the problem.

2.1 Teleological theories

Utilitarianism was advanced by 19th century scholars John Stuart Mill and Jeremy Bentham to assist in determining which course of action is more moral. When applying a utilitarian approach to resolving an ethical dilemma, one seeks to achieve the greatest good and the least harm for the greatest number of people. Proponents of the common good approach, such as Plato, Socrates, Cicero, and Confucius viewed society as a community whose members share similar values and goals. The approach is toward the greater social good to be derived from a fair and just distribution of resources and benefits. When using a common good approach, one seeks to establish or maintain conditions that are beneficial to all members of a given community or society in furtherance of society's goals. If it benefits society, all members will benefit, though not equally.

2.2 Deontological theories

Eighteenth century scholar, Immanuel Kant, proposed his categorical imperative, sometimes referred to as the Golden Rule approach. Kant was interested in the rightness of an act or a decision, not in the ultimate consequences. According to Kant, a person of good will and strong character will make an ethical decision, regardless of the outcome. Kant's approach was to identify whether or not there was a universal right or law to guide one's course of action. One seeks to do what is right and to treat others as one would wish to be treated. The rights approach proposed by John Locke and Thomas Hobbes, among others, in which one seeks to make a decision based upon certain fundamental human, civil or social rights. Under the rights theory, one seeks to identify the rights at stake, and exercise rights that do not infringe on or violate the rights of others. The justice approach is concerned with issues of fairness, equality and impartiality. Harvard philosopher John Rawls proposed a theory of distributive justice in which the goal is to determine a fair method for distributing goods or services, as if we were under a 'veil of ignorance' that prevented us from knowing our social status (Hartman, 2005:7; Mallor, 2006:79). Accordingly, when using the justice approach to ethical decision-making, one seeks to make a decision that is fair to all parties, does not show favouritism, and serves the greater good. Equal treatment under the law is a worthy goal, but, according to Rawls, sometimes it is necessary to treat "equals equally and unequals unequally" to achieve justice (Hartman: 2005:7; DeGeorge, 2006). Virtue theory, promulgated by Socrates, Plato and Aristotle, is concerned with cultivating desirable traits. A virtuous person demonstrates prudence and wisdom in all his decisions and, as a result, lives a wholesome and fruitful life. (Mintz, 1996:830). Another approach in teaching research ethics is to integrate or embed ethics and research topics into the curriculum, so students are continually exposed to ethical issues and research design concepts throughout the program of study. This method establishes the relevance of research and ethics in business and management education. For example, a marketing

course may involve discussions of key concepts followed by examples of false or misleading advertising (ethics) and consumer polls (research). The student begins to see the importance of research in marketing products and services to consumers and gains a better understanding of the ethical issues involved in marketing.

3. Teaching research ethics in organisational studies

In 1999, the U.S. Congress passed Title 45, Part 46 of the Code of Federal Regulations to regulate the conduct of all persons and organisations engaged in human subject research (HSR). Referred to as 'The Common Rule', Subpart 46 requires researchers to obtain approval from an Institutional Review Board (IRB) before conducting any research involving human subjects. This involves a three-step process.

Step 1- HSR Certification. Faculty and students are required to take an online course that tests their knowledge and understanding of the regulations, policies and procedures for human subject research. One of the most widely used online courses is the Collaborative IRB Training Initiative (<http://www.citiprogram.org>). A certificate of eligibility is issued upon completion. Step 2 – IRB Approval. Research proposals are submitted to the IRB for prior approval. The IRB may conduct expedited or full reviews. Step 3 – Guidance and Supervision. A faculty advisor, senior researcher or principal investigator supervises junior researchers to ensure compliance.

3.1 Critical inquiry and online legal research

Under this teaching strategy, students conduct searches of relevant cases and laws via the Internet, scanning information in news and media publications, online journals, online libraries, and databases. For example, the rise and fall of the Titans - Enron, WorldCom, Tyco, and Arthur Andersen – shocked the public and sent ripples of fear through the stock markets and financial centres around the world. In 2002, the US Congress responded by passing the Sarbanes-Oxley Act calling for transparency and accuracy in financial reporting, full disclosure, and accountability of the CEO and chief financial officer (CFO) to major stakeholders. For the first time, corporate leaders could be convicted of improper financial conduct and misleading the public. Concern about corporate misconduct prompted the United Nations and other countries to implement tougher measures and standards to encourage ethical conduct, transparency, and corporate social responsibility. Students will seek to answer the following questions: What are the ethical issues? Who are the responsible parties? How did they violate their fiduciary responsibilities and the public trust? What are the consequences of their actions? Students will discuss their findings and perspectives in class and submit papers on their findings. Other areas of legal research for business, management and organisational student include:

- The Foreign Corrupt Practices Act
- European Multi-Stakeholder Forum on corporate social responsibility
- The OECD's Principles of Corporate Governance
- The Code of Conduct for Lawyers in the European Community
- Caux International Code of Ethics and Roundtable Principles of Business
- International Labor Organisation's Declaration of Fundamental Principles and Rights at Work
- United Nations Declaration of Human Rights
- International Federation of Accountants Code of Ethics, and
- United Nations Global Compact (Mallor, 2004; Hartman, 2005; Jack, 2001; Maskus and Reichman, 2004).

3.2 Distance Learning

Distance learning (DL) offers flexible, easy-to-use learning opportunities for bringing together students, instructors, industry professionals and researchers from remote sites. Web-based distance learning is also known as Networked Open Learning (NOL) (Banks et al., 1998; McConnel, 1999). Figure 1 depicts the model used for the implementation of the networked virtual classroom that includes databases, learning materials, information, student portfolios, assessment, mentoring and tutoring online.

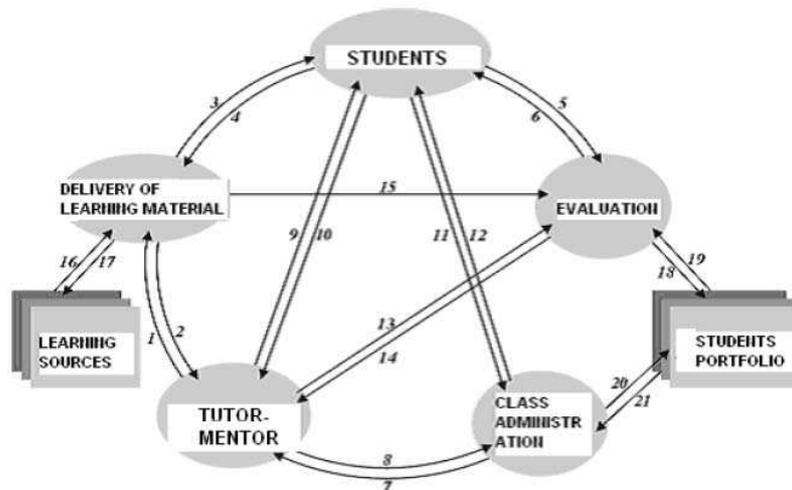


Figure 1: Virtual networked course (Paraskevasi et al, 2003:147)

The ODL approach permits instructors and students to share information, collaborate on solving problems and issues from various remote sites, and encourages both self-paced and guided learning. Students review each others work which is posted on the web in secured folders. Student work is submitted to online authentication services. Two leading organisations are Turn it in (<http://www.turnitin.com>) and Ithenticate (<http://www.ithenticate.com>). The papers are analysed for passages that may have been copied verbatim from other copyrighted sources. Student work is also subject to peer review, which serves as a further deterrent to plagiarism. Ithenticate is a web-based tool, which does not require the user to download specific software in order to use its services. TURN IT IN integrates with Blackboard and WebCT online learning systems, enhancing its value to instructors who teach online and distance education courses.

3.3 Simulations and role playing

Simulations and role-playing provide students with opportunities to explore decision-making and problem solving in realistic settings. Students develop skill and proficiency in identifying ethical and legal issues, analysing problem situations, determining courses of action and making decisions (Sammons, 2003). Simulations enable students to apply theory and concepts to realistic situations and to learn from their mistakes as well as from the good decisions they make. Simulations are widely used in business and organisational studies, science and technology, engineering, healthcare, education, manufacturing and sports (Rossett, 2004). Simulations in research ethics tests students understanding of what constitute unacceptable practices and demonstrate the effect that poor judgment or unethical conduct can have on one's career and reputation. Management Simulations, BusSims and other online companies offer numerous scenarios for engaging in role-playing, mock businesses and ethical dilemmas. Trochim's online computer simulations for research design (<http://www.socialresearchmethods.net/simul/simul.htm>) is a valuable resource.

3.4 Case studies

The use of case studies constitutes a fertile area for teaching business ethics, business law, leadership and management skills, and research ethics. By analysing current and historic cases in context, students gain a better understanding of the issues, conflicts and problems that arise in organisational settings. Students analyse cases from different perspectives, such as outside observer, consultant, state or federal official, consumer, employee, manager, or auditor. Discussions and debates encourage additional background research as students strive to understand what when wrong, when, why and how it could have been avoided. Current events are a wonderful source for case studies and provide ideas on possible research topics to both undergraduate and graduate students. In using case study, the instructor guides the students through a thorough reading of the case, and then begins to slowly dissect it. Goodpasteur et al (2006) suggest a 5-D strategy for analysing the ethical issues in case studies: Describe the situation, Discern the issues, Discuss options, Decide what to do, and Defend your decision. To analyse the legal issues, one could follow the same 5-D approach or employ the IRAC method – identify issues, cite rules of law, analyse actions, and draw conclusions (Naimi, 2005). Learning from others' mistakes and successes offers powerful lessons in life.

3.5 Action research

Action research involves identifying a particular problem in an organisation. Eden and Huxham (1996) state that 'action research involves the researcher in working with members of an organisation over a matter which is of genuine concern to them and in which there is an intent by the organisation members to take action based on the intervention'. Action researchers seek timely practical solutions to current problems and seek to add to the knowledge base on what works and what doesn't (Eden and Huxham, 1996). Conventional research methods may not work in some organisational or social settings. Action research offers an alternative strategy for studying a problem within an organisation and developing recommendations for resolving it (Greenwood and Levin, 2000). According to Baskerville and Wood-Harper (1996) and Robson (2002), action research actively involves the researcher, the knowledge gained in the study is immediately applied to the problem, and the process links theory and practice in a practical manner.

4. Langure

LANGURE is the first inter-disciplinary, inter-institutional initiative to create a national network of eight land grant universities (LGUs) and historically black colleges and universities (HBCUs) teaching research ethics to doctoral candidates in engineering and the physical, social and life sciences. LANGURE is developing a ground-breaking doctoral-level course in research ethics consisting of 14 total hours: 10 hours of a common core for all students, plus 4 more discipline-specific hours, hours taught from a menu of 15 modules LANGURE will develop. The eight partnering institutions include: University of Hawaii, Iowa State University, North Carolina State University, North Carolina AandT University, Purdue University, Wisconsin University North Carolina Central University, and Fayetteville State University. The Core is comprised of ten modules:

- Introduction to Research Ethics
- Responsible Authorship and Peer Review
- The Mentoring of Graduate Students
- Animal Subjects in Research
- Professional Responsibility and Codes of Conduct
- Human Participants in Research
- Rightdoing and Misconduct in Research
- Intellectual Property – Copyright
- Responsible Use of Statistical Methods
- Science and the Media: Ethical Issues

In each interactive module, students read a screen of text and then complete a quiz. When a student completes a module, it certifies that the student has read and understood the material. The course introduces core issues and principles in research ethics, issues and principles that do not vary from discipline to discipline. The interdisciplinary approach introduces students to differing perspectives. Students participate in small group discussions on issues related to mentoring, intellectual property, plagiarism, falsification and fabrication of data, university-industry relations, and conflicts of interest and commitment.

5. Conclusion

Clearly, students need preparation, mentoring and guidance in addressing ethical issues that arise in their academic, professional and personal lives. Nowhere is this more critical than in the area of research, particularly human subject research. To ensure integrity in research, students and faculty need to understand the ethical and legal ramifications of their work prior to initiating any research. There are a variety of creative approaches available to student and instructor to promote integrity in their academic, professional and private lives.

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