Research Strategies – Beyond the Differences

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The work of the scientist whether he or she is from the physical or natural scientific community or from the social science community is not materially different. The processes are much the same. The outcome required which is to add something of value to the body of theoretical knowledge is exactly the same. This paper uses the dialectic to highlight the core activities of the scientist.

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When reflecting on what is often said by those who write about research in Business and Management Studies one is left with the feeling that there is sometimes an incomplete understanding in our community of what constitutes research processes. In some senses this is true in other fields of study, although the apparent self-confidence of the researcher in the physical sciences or life sciences could lead one to believe there is no need to question, whatsoever their scientific method.

The confidence of the physical scientist and the life scientist is of course based on three hundred years or so of sustained success using *sound scientific practice* (Gibbons et al 1994). The achievements of this approach to knowledge or science is obvious to all by simply considering the life we lead in the early years of the twenty first century. These three hundred years or so has lead to the institutionalisation of the practice of research to a point where research methods are seldom taught to new comers to these disciplines. Students of the physical sciences and the life sciences pick up research skills in the "lab" as they develop other knowledge and skills.

But social science is *"no Johnny come lately"* either. Social science which is off course that major branch of knowledge or field of study to which Business and Management Studies belongs, has a history which can be seem as commencing somewhere between one hundred and one hundred and fifty year ago. So it is not as through social science is a start-up activity, which only began recently. And even if we were to decide that the roots of Business and Management Studies do not belong in the traditions of the nineteenth century social sciences (Remenyi et al 1998) but with Elton Mayo at the General Electric Hawthorn Plant in 1927 (Rosenthal and Rosnow 1991) we still have just about seventy years of work and understanding to call upon. But what might be said is that the results of the work conducted in the social sciences, unlike the physical sciences or life sciences have not lead to dramatically or sensational results of which we are all aware. Social science has no equivalent to a man on the moon or to a heart transplant. And in the case of Business and Management Studies we have very little indeed to point to which could capture the imagination of the man or the woman in the street.

This does not mean that our research work in social science or Business and Management Studies is less scientific or for that matter is in anyway inferior to the research work conducted in physical sciences or life sciences. In some respects it may actually be better. Certainly there are many who would argue that the challenges facing the social scientist are more daunting than those facing the other research culture.

To understand this it is important to start at the beginning of the research process. The first step is to establish that knowledge is not handed down to us by some super-human source such as an oracle or a god but that it is developed by the application of the human intellect (Butterfield 1957). If this is the case, as I do believe it is, then the first step in the research process is a human thought. This thought will no doubt have been stimulated by some observation. It is sometimes said that the roots of all science may be attributed to an early desire to look at the heavens and to marvel at the panoply of stars. From this sense of marvel may have come the thought of *"What are these things and how do all these moving objects work?"* Of course, on the subject of how a human thought drives the research process we have a number of classical anecdotes, such as the stories of Archimedes in his bath, Galileo at mass watching the incense burner swinging to and fro and Newton in his apple garden.

Whether we are considering the physical sciences, the life sciences or the social

sciences the research process begins with an interesting thought about the world around us. Without this there is no research. The interesting thought or research question is the common starting point of all research work in all fields of study. From this point research is always concerned with the emergence of theory whereby concepts and notions develop through the application of ideas, the observation of evidence and the evaluation of results. It is worth always keeping in mind that the final result of research is to add something of value to the body of theoretical knowledge.

Having established this interesting thought that in the field of Business and Management Studies might be for example, "Why do investments in Information Systems appear to show such small yields?" the next step is to make some statements about this phenomenon. In terms of the current academic tradition we are discouraged from making spontaneous or impromptu statements, probably due to a concern or fear of repetition or redundancy.

So with this research question or interesting thought in mind we read the literature to see what other have said about this subject. With this contextual knowledge we may then in a position to make a comprehensive statement about the subject we are researching. In the language of Socrates and Hegel (Foster 1963; Sabine 1964; Plamenatz 1966), we now have a thesis. A thesis or a theory is a major step forward in the research process but it is only a first step. The thesis needs to be put to the test (Feynman 1995).

There are many ways of putting a thesis to the test. In ancient times we might have asked the oracle to cut open the entrails of a frog or a lizard and looked for a sign. Today we are more circumspect as to how we use the lives of animal in science. In the physical sciences and the life sciences the putting to test of the thesis or theory is frequently a question of following well tried and tested routines in the laboratory using scientific artifacts or equipment such as a test tube, a pipette or maybe a mass spectrometers or microscopes or some such devices. It is often the case that there is no discussion as to the approach, which the physical or life scientist will chose for the research, as scientific precedent will be the overriding issue.

But the science is not in the instruments or the analytical techniques employed. They are but tools. In fact the science is not even in the results obtained by these instruments and techniques. The science is in the way the results are understood and interpreted.

The range of tools available in the Business and Management Studies field is of course quite different to those described above where there is often an apparent latitude in the tools used by the researcher. As students of human and organisational behavior it is seldom appropriate for the social scientists to reach out for standard tools or equipments. In fact part of the challenge of social science is for the researcher to be able to conceptualise the tools required for the job, which may be setting up arrangements for observing management at work, becoming involved with individuals as part of action research (Coghlan and Brannick 2001) or simply a series of questions, to pursue the inquiry (Myers and Avison 2002).

The apparent latitude in the choice of the research strategies, techniques and tools is perhaps one of the greatest challenges, which the Business and Management Studies faces. The word apparent is critical here in that on close examination it is often the case that only one of the apparent research alternatives would in fact be appropriate for a particular inquiry. It is often the case that it just would not make sense for a researcher to use quantitative tools to explore certain types of questions. For example it might be quite inappropriate for a researcher interested in personal attitudes towards leadership issues to use a blunt instrument such as a questionnaire. In a similar way it might not be sensible to use interpretivist techniques to understand the relationship between corporate debt and profit margins. Thus the initial interesting thought and the subsequent research question is all-important in directing the course of the research process. But once again the science is not in the strategy, technique or tool. Whatever the research strategy, technique and tool which is chosen we are still only talking about the way that we will collect and perhaps analyse evidence which will eventually take us to the real science.

Of course, it is important it know the alternative research strategies available and what they mean or imply. In Business and Management Studies we have two major high-level stratagems. Firstly we can take a theoretical or an empirical approach to our research. If we take the empirical approach we again have two major, high-level choices that of the quantitative or the qualitative research

designs. But whichever of these process paths we take we are only doing one thing – we are putting to the test our theory or thesis. This testing of the thesis will almost certainly lead to new insights and to the raising of new issues. These will throw new light on the original interesting thought. Some of these may support the original idea and some may well contradict it. In the language of Socrates and Hegel, these new modified thoughts are the antithesis.

At this stage in the research process there is no difference between the circumstances faced by the physical or life scientist and the social scientist.

Sometimes the thesis and antithesis will collide head-on in heated argument leading to the abandonment of the original thesis and the creation of a completely new one. But this is not the usually case. What most frequently occurs is that the antithesis will suggest that the thesis could be strengthened by the applications of certain additional constraints or additional variables. In this way a dialogue or discourse emerges to closely examine the implications of the thesis and how some form of change may affect these. An important characteristic of this is that theory emerges slowly through this discourse. Despite the folklore associated with Archimedes, Galileo and Newton knowledge creation is seldom the result of a flash of genius. Other times there may not be any material difference at all but rather the antithesis will be a refinement of the thesis. The original interesting thought is simply modified. But whatever the details of any particular reaction between thesis and antithesis this process may be seen as what Socrates and Hegel refer to as the synthesis.

This in effect is the real science. It is what we have at the heart of the research process. It is the dialectic. It really doesn't matter how we get to this point. We can be theorists or empiricists. We can be positivists or interpretivists. We can come to this with a hybrid approach, which draws on various aspects of both these traditions. What matters are the three steps – the thesis that has to be put to the test and thus bring into existence the antithesis and then the final combination of these two arguments in a new synthesis.

Of course, the above is a very high level description of the research process. Coming up with an interesting thought or idea for research is no mean task. To be academically sound this interesting idea has to be positioned in the body of academic thinking, known as the literature and this can be a substantial and challenging task in its own right. The interesting idea has to be capable of leading to a research question or perhaps a series of questions, which lend themselves to rigorous testing.

Then the choice of the testing approach is a major research concern. If a theoretical research strategy is chosen, then the test of the ideas and the research question is by means of discourse. This was the method of Socrates who would take his ideas to the market place in Athens and argue his point of view again and again with the people in the street. In academic research this is done on a rather more exclusive basis whereby the researcher is expected to present his or her ideas at seminars and conferences so that they are exposed to highly critical audiences. The researcher would also be expected to present his or her thinking to learned journals where the work would be peer reviewed by highly critical authorities. Clearly there are plenty of opportunities here for antitheses to be thrown up and ideas to be developed.

If an empirical approach is taken the detail of the research work will be different but it will require the same intellectual processes. Much is often made as to whether the researcher decides to take a quantitative or positivistic approach to the research or alternatively takes a qualitative or interpretivist approach. In fact when examined closely the difference between these two approaches reveal themselves to be much less significant than they may first appear. In both cases primary evidence is collected and is analysed. The results of this analysis are then interpreted. It is then decided if and to what extent the evidence supports the original thesis. In effect a judgment is made. This is the approach used by both the quantitative and the qualitative researcher. Of course, one works primarily with numbers and while the other works mostly with words or images. But the research process is the same. Once again, whichever route is taken there are opportunities here for antitheses to be revealed.

If it is possible to put ones finger on the essence of science or research it would have to be the dialectic. It is the dialectic, which is the crucible in which theories are made to stand up to scrutiny. If the idea or theory is sound it will survive the ordeal. If the theory is flaky it will simply collapse under the pressure of this approach. This is equally true for the

physical sciences, the life sciences and the social sciences.

But this is not the full story of the work required of the researcher. We still have to put this all together – the interesting idea, the contextualising of it though the literature review, the choice of the testing approach, the results of the test, the interpretation of the results, and the subsequent challenge to the thesis by the antithesis and the eventual synthesis, into a completing and convincing argument. Furthermore, this compelling and convincing argument has to be written in such a way that someone may wish to read it. This certainly tests the metal of the researcher.

We therefore posit that it is not difficult to see that the work of the scientist whether he or she be from the physical or natural scientific community or from the social science community is not really materially different. The processes are much the same. The outcome required which is to add something of value to the body of theoretical knowledge is exactly the same. The differences mostly relate to the initial interesting question. And by my reckoning social scientists have a very challenging pool of questions indeed.

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