THE CREATION OF KNOWLEDGE THROUGH CASE STUDY RESEARCH

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> Once, when asked by someone whether they could see his laboratory, Einstein took a fountain pen from his pocket and said, "There it is!". On another occasion, he commented that his most important piece of scientific equipment was his wastepaper basket where he threw much of his paper work containing mathematical computations.
> Ashall F, *Remarkable Discoveries*, p62, Cambridge University Press, Cambridge, 1994

Introduction

This is a speculative paper that reviews the three different ways in which the term case study is used in business and management studies and suggests that there is scope for considering the story-telling nature of a case study to be a knowledge-generating strategy in its own right.

The term "case study" is amongst the most abused in the lexicon of the business and management studies researcher. It almost seems that, if a researcher cannot declare him or herself to be conducting action research, a laboratory experiment, a survey or an ethnographic study or something similar, then the term case study is wheeled out as the most convenient way of categorizing the research method or tactic. Indeed, in some ways, in qualitative research the case study all too frequently becomes the default research methodology. However, in reality, the term case study is not an all-purpose catchall name for "other" research methods. Case study

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research refers to quite a particular approach to research, one that is not only underpinned by a specific philosophical orientation, but also by a set of qualifying guidelines.

The Multiple Uses of the Term "Case Study"

It is probably the fact that there are three distinctly different contexts in which the term case study is used to describe three quite different academic activities that leads to so much confusion and it is necessary to start by clearing up this ambiguity.

In the first place, aside from research, case studies can be used as a *pedagogical* device in the classroom, to explore and understand the way in which different business situations and circumstances can evolve over time. This is the context in which academics and students most frequently first encounter the term case study. It should be borne in mind that such case studies may not be real-life, but can be artificial structures, constructed with some specific pedagogic purpose in mind. Depth can also vary enormously. Some teaching case studies are little more than (for example) descriptions of a series of developments in a company. Students are then asked to discuss how the actors in the case behaved, what their motivations might have been, what they might have done differently and so on. Other case studies are highly complex affairs, which may have large databases of available information, role-playing, fact-finding, and the ability to evolve in different ways depending on choices that the students make. In the teaching case study universe, there are therefore many mansions.

Within the research world, there are two circumstances in which the term case study may be used. The first of these is where the case study is used as a *framework* to collect and document evidence about a phenomenon and where the researcher is not particularly interested in the specific circumstances of the case in question. For example, a researcher may be interested in the industrial relations implications of the introduction of robotics and may choose to pursue this interest by looking at robotics in a number of companies. Here, the focus of interest is not the companies, but industrial relations and robotics. The researcher may be looking for a model or generalisations, but is not concerned to link this back into the culture, management or history of company A or company B. This is a common form of case study research. Used in this way, the case study may be quantitative or qualitative in nature.

Thirdly, the term case study may be used as a *research objective* in its own right. In this instance, the researcher is interested in the case *per se*. This interest may focus on a single organisation (a form of research energetically defended by Mintzberg (1979)) or it may be comparative. The latter can, in turn, be subdivided into in-depth research where a small number of cases are studied and compared in detail, or broad research where the researcher looks at many cases at a more superficial level. The former will almost inevitably be qualitative in nature, whilst the latter may be qualitative or quantitative and even a combination of both.

This paper addresses all three of these uses of case studies.

Case Studies as a Pedagogical Device

Although case studies have been an integral component of teaching in philosophy[1], law[2] and medicine[3] for many years, they are relatively new in other fields of learning. In business and management studies, the Harvard Business School pioneered the case study at the turn of the century and since then it has steadily grown in popularity. The case study approach to teaching–learning is, in the view of Christensen and Hansen (1987), a pedagogy supporting a fundamental business educational objective, which is to train people for professional business practice. By presenting situations that are often complex and even contradictory, the case study goes directly to the core of the skills required to cope with real-life situations in modern business. The case study is an excellent management development device, as it encourages the blending of action and knowledge. Furthermore, the case study elicits a dynamic classroom discussion or debating process, which, if correctly guided, leads to a learning process in which the participants discover new insights for themselves. This is considerably more efficacious than the teacher

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[1]   Plato describes the 4th century BC philosopher Protagoras' mode of teaching as telling stories and asking questions.

[2]   According to the *Columbia Encyclopedia*, Sixth Edition, 2001, Christopher Langdell, Dean of the Law School at Harvard, introduced the case study method of teaching law as early as the 1870s. "In his view, the principles of law are best learned by inductive study of the actual legal situations (the cases) in which they occur."

[3]   In medicine, a case would be simply an occurrence of a particular disease, injury or problem from which the medical student or practitioner would be able to learn.

telling the student. This process of discovery, where individuals learn for themselves, is widely regarded as the most effective approach to learning, as it tends to be more generally enlightening and also has a longer lasting effect on behaviour[4]. However, using case studies in this way does not usually attract a claim that knowledge has been created in the same sense as it is created as a result of a research process. Of course, it is possible that a student or group will come up with some entirely new insight from a well-worn case study, but this is unlikely.

Case Studies to Collect and Document Evidence

Moving to the second way in which the term case study is used in business and management studies, the term case study has been used to describe an approach for the collection and documentation of evidence. This is where the term case study is most vulnerable to abuse, as the parameters or boundaries around what may be properly described as a case study are not well-defined.

The following are 10 characteristics of a case study as an evidence collection and documentation device. A high quality case should demonstrate all of these characteristics:

- A case study is a story

- A case study draws on multiple sources of evidence

- A case study's evidence needs to be based on triangulation of these sources of evidence

- A case study seeks to provide meaning in context

- A case study shows both an in-depth understanding of the central issue(s) being explored and a broad understanding of related issues and context

- A case study has a clear-cut focus on either an organisation, a situation or a context

- A case study must be reasonably bounded. It should not stretch over too wide a canvas, either temporal or spatial

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[4] Harvard MBAs are taught almost entirely by case study. There are virtually no lectures. Furthermore, the faculty seldom offer any solution to the case studies, but leave it up to the students to reflect on what they believe is the most appropriate course of action that should have been taken by the organization being studied.

- A case study should not require the researcher to become too immersed in the object of the research

- A case study may draw on either quantitative or qualitative tools or both for either evidence collection and/or analysis, but it will not be exclusively quantitative

- A case study needs to have a thoroughly articulated protocol.

Case Study Research Defined

Of course, not all case study research is conducted to a high quality and therefore, while some of these characteristics may be absent, the work may still be regarded as a case study – but perhaps one that has not been rigorously researched. The above checklist implies that a case study should describe a complex business or management phenomenon in a holistic way. It should allow a more meaningful exploration of the phenomenon in its context than either a cross-sectional or a simple longitudinal study would. The case study will provide a multi-dimensional perspective that may be used to create a shared view of the situation being studied. In fact, in terms of a research perspective, a case study is best described as an empirical inquiry that *investigates a contemporary phenomenon within its real life context*, when *the boundaries between phenomenon and context are not clearly evident*, and in which *multiple sources of evidence are used* (Yin, 1981,1989,1993).

Quantitative and qualitative research

It is important to note that, in this sense, the case study is part of the research process. In fact, the case study may be little more than a powerful evidence collection framework. Having collected the evidence, the researcher is faced with the decision of how to analyze the evidence and then how to synthesize the results of the analysis to produce a contribution to the body of theoretical knowledge.

Even in case study research, most researchers schooled in mathematical and statistical techniques instinctively reach for their quantitative toolbox, a course of action that will direct them towards a variety of numerical procedures. The philosophical underpinning here is positivism. This is relatively independent of whether the evidence collected was in nature qualitative or quantitative. Techniques such as content analysis may be used to transform what is essentially qualitative evidence into some sort of quantitative

evidence. This is clearly not a particularly satisfactory approach[5], but nonetheless it provides a numeric representation of evidence with which many researchers are more comfortable, and for this reason amongst others, it is not infrequently used[6]. Those researchers who favour the qualitative school of research will employ interpretative techniques such as hermeneutic or linguistic analysis in order to understand the evidence they have collected and will then use this in their research process to interpret the situation[7,8]. Whether the objective of the research is to test conjectures or to help create new theory, the research process will normally end in the researcher postulating in some way, new theoretical knowledge.

Having done this, the researcher will then hold up for view or review by his or her academic colleagues and peers the new ideas or theories produced. In fact, this process leads to knowledge being produced in much the same way as the magician pulls a rabbit out of a hat. This analogy to the magician is based on the fact that the

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[5]   There is considerable difference in the views of researchers as to the value of content analysis. Those with an inclination to positivistic research will see it as much more valuable than those who are interpretivistically inclined.

[6]   The extent to which content analysis is seen as satisfactory is a function of the strength of one's acceptance of a positivistic view of research. If one believes that counting is at the heart of research, then content analysis is a perfectly satisfactory way of handling qualitative evidence as it provides the researcher with a framework for structuring and analyzing the data. If one is an interpretativist, then the evidence as it stands may well be good enough and counting occurrences of ideas and concepts may simply be a distraction.

[7]   The fact that the case study as an evidence collection tactic may be employed as part of either a quantitative or a qualitative research agenda sometimes leads to some confusion, which is primarily because case study research once had a poor press, being considered soft research.

[8]   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 at first appear. In both cases, primary evidence is collected and is analysed. The results of this analysis are then interpreted. It is then decided whether, and to what extent, the evidence supports the original thesis of the research. This is the same process used by both the quantitative and the qualitative researcher. Of course, one works primarily with numbers while the other works mostly with words or images. But the process is similar.

researcher attempts to stay in control of the whole research process and the research variables. Between them, these comprise the research question, the formulation of a theoretical conjecture, the collection of evidence, the testing of the conjecture and the reporting of the findings which will, in the field of business and management studies at least, lead to useful management guidelines. The researcher presents his or her interpretation of findings to the community in essentially the same way as the rabbit is held up by the ears. If this interpretation results in findings that are interesting and the research is credible, then the community will applaud. If the findings are irrelevant, or if they are seen to be motherhoods, or if the approach was not adequately thorough, then the community will not be impressed. There will be no applause and the findings will be ignored.

Thus the researcher starts with a question, puts his or her hand in the hat, which in this case is the research process and comes up with an answer. It is worthy of note that the rabbit so produced is (hopefully, from the researcher's perspective) a rather tame one that will not bite or scratch. Once the rabbit is out of the hat, there will be no surprises. The animal has been subjected to a process of being concealed and placed in a position ready for a controlled presentation to the audience. In a similar way, the explicit knowledge created by the researcher has been compiled for a controlled presentation using a well-agreed methodology. There will hopefully be no surprises and, if the researcher, like the good magician, is well rehearsed, all possible objections and questions will have been anticipated.

But when case study research as a story-telling device is used a different set of parameters and a different philosophical paradigm come into play.

A Story to Learn By

Before examining the case study as a story, it is perhaps necessary to reflect on the way in which experiences and knowledge may be described and the limitations under which such work has to be conducted. In the first place, it is important to appreciate that the complexity of much of the world is beyond formal description using tools such as symbolic notation or even standard logical rules (Davenport and Prussak, 1998; Snowdon, 2002). Language is limited, elusive and open to numerous interpretations. When we use such methods, we often have to simplify what we are doing or what we are

working with to a point where much of its richness and consequent utility has been diluted. Thus, to attempt to describe or understand how an organization's promotion policy actually works or how leadership is used to encourage innovation is often not intelligent, or at worst positively misleading, when reduced to a number of simple guidelines.

The complexity of at least some situations can be more comprehensively described, understood and communicated using metaphors, similes and allegories and other artistic type constructions. One example of this approach is how innovation, entrepreneurship, perseverance and success may be described and understood by reference to the story of Chester F. Carlson (http://library.thinkquest.org) and the dry paper copier.

> Chester F. Carlson, an inventor and entrepreneur of limited means, having discovered the dry paper copier in 1939, offered the rights to the process to every important office-equipment company in the USA. Despite the clear advantage this new process had over the old wet process, he was turned down by every one of them. However, in 1947, he managed to sell the rights of his revolutionary process to a small firm called the Haloid Company that made photographic paper. Unfortunately, they did not have the resources to develop the dry paper copier on their own. It then took 10 years for them to improve the product, with Carlson having to canvass door-to-door in Rochester to sell shares to raise the money he required to develop his concept. He also sold shares to employees. Eventually, in 1959, the Haloid Company, whose name by then had changed to Xerox (which is the Greek word for dry) developed the 914 plain paper copier. The 914 was an instant success, and has been called the most successful commercial product in history. Xerox was hailed the greatest big-business success of the 1960s. As well as Carlson himself, many of the individuals who had bought shares from Carlson became very wealthy and were known as the Rochester Millionaires.

The findings from studying Chester F. Carlson and the Xerox Corporation may perhaps be formally stated in terms of learning points as follows:

1. Invention alone is not good enough
2. Established businesses are sometimes blind to good ideas
3. Small business may well take a chance on a new idea

4. Invention needs adequate finance and other support
5. Entrepreneurs need to be persistent
6. When banks say "No", don't despair, there are other ways of finding money
7. Entrepreneurs may have to go door-to-door with a begging bowl to collect money
8. When the product starts to move, success can come quickly
9. With the right product and the right funding, success can be considerable
10. Entrepreneurs can make themselves and others rich.

By contrasting the story of Chester F. Carlson and the Xerox Corporation and the 10 learning points derived from it, it is clear that the story itself is a more powerful way of presenting the knowledge to be learnt from this story or case. It is correct to say that formal representation of the events such as the 10 points listed have limited impact when compared to the story[9].

It is also the case that different individuals will be aware of different learning points having heard or read the story. This is a result of the fact that each individual will come to the story with a different background, collection of experiences and set of values (Walsham 2001).

As a general rule, the less abstract and the more illustrative the description of complexity, the greater the audience that will be receptive and therefore reached. It is for this reason that the story has a major role to play in the description and understanding of our field of study. As description and understanding are corner stones of knowledge, it may therefore be said that stories in themselves play an important role in the creation of knowledge.

Of course, the learning points are especially potent in describing rather tightly defined variables and relationships in the physical sciences. But when it comes to the social sciences and business and

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[9]   It is, however, arguable that that the most powerful learning impact is obtained when the explicit statement of the learning points are combined with the original story. Thus, the researcher presents both his field findings and his theoretical/formal findings. Apart from anything else, this combination is more convincing. A reader, presented with the Xerox case, but without the learning points, may miss one of two of the issues. A reader presented with the learning points and not the story, will retain much less and may not be as willing to accept the points.

management studies specifically, they can be less powerful than the story.

The Case Study as a Story

As mentioned in an earlier section of this paper, a case study is first of all a story. This is perhaps the first, and it could be argued the most important, characteristic of any piece of work, that would like to be considered a case study. If the research method being used does not revolve around establishing a story then it should not be considered a case study. Thus the result of a case study has to be written or told as a story[10,11]. Stories have from time immemorial been the repository of knowledge and the main vehicle for transmitting knowledge as well as acculturating the young from one generation to another throughout the entire world. According to Gould (1997):

> Humans are story-telling creatures pre-eminently. We organise
> the world as a set of tales.

And Denning (2001a) pointed out how deeply story-telling was ingrained in human nature by explaining:

> Dogs sniff; people tell stories.

In the 21st century, as in all other times, story-telling is clearly the principal way our society induces its children into its culture. Aesop's[12] The Hare and Tortoise, Hans Christian Andersen's The Ugly

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[10]   A story is an account or a rendition of an event or a series of events in such a way that it has meaning to the listener or reader. According to the *Meriam-Webster's Collegiate Dictionary*, 1997, an account is a statement or exposition of reasons, causes, or motives and a rendition is an interpretation or translation of events.

[11]   Ultimately all research will be reduced to a story of some sort or another. Numbers such as means or standard deviations do not talk. Only words can really convey the meanings of the numbers in any useful way. When words are put into a context, we have what is tantamount to, if not actually, a story.

[12]   Aesop is the supposed author of Greek fables dating back to the 6th century BC. These are the oldest known fables in the Western world. However, his actual identity has never been established and it is believed that the name Aesop's Fables may simply be a convenience for a collection of folktales of that period.

Duckling, and Charles Perrault's "Cendrillon", Cinderella[13], are essentially lessons in fundamental community values and, as such, their storylines are knowledge. According to Denning (2001b), one of the leading proponents of story-telling in business today, this is no accident, as he points out:

> The abstract way of thinking leaves us as perpetual spectators, self-conscious and external – voyeurs who observe the world as through an impermeable glass screen. The universe of verifiable truths to which this type of thinking aspires can produce generalizations that are useful but they also turn out to be inert.

But in what way can stories, especially as represented by the case study, be regarded as research? The telling of a story requires the presentation of the facts or the evidence, in such a way that it is intelligible and of course engaging, to the listener or the reader. This requires the writer/story teller to process the evidence and structure it in such a way that a convincing proposition is established. The listener or reader is then offered an explanation of how the issues are resolved. In effect, this is a direct equivalent to the research process.

The initial proposition of the story involves the definition of the ideas, variables or concepts and the relationships between them. Then the story presents the situation in which some event will take place that may be seen as the equivalent in the research process of the theoretical conjecture. If the conjecture is correct, the researcher will be able to demonstrate, *via* the story or case study, how the conjecture is enacted in real life.

The way the propositions and situations develop in the story and the way they are challenged are similar to the testing of the propositions or the hypotheses; the resolution of the challenges described in the story is equivalent to producing the findings.

Thus, the telling of a story has a similar structure to that of the research process. It is for this reason that story-telling may be regarded, at least in some cases, as the creation of knowledge. It

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[13] The familiar English version is a translation of Charles Perrault's *"Cendrillon",* a European folktale, published in *Contes de ma mere l'oye* 1697, the theme of which appears in numerous stories from all over the world with more than 500 versions of the story found in Europe alone. One of the oldest known accounts of the theme is a Chinese version from the 9th century.

could be seen as the equivalent of a parable, based on reality but following the key sections of the research process. Often a parable is presented with a question at the end. It is in fact testing the reader's conclusion of the story against their perception of argument and experience. A story or parable is therefore a way of encapsulating a large amount of experience of a substantial number of people in an insightful way, which could be seen as having a parallel in a sample-based survey to obtaining a type of generalisability and theoretical testing and development.

It is also to be borne in mind that the end product of nearly all business research, whether it is theoretical, empirical, positivistic or interpretivist is a story. We cannot get away from the fact that, as Gould (1997) pointed out, we organize the world as a set of stories.

However, there are obviously problems related to placing too much confidence in the story as a receptacle of knowledge. This is well expressed by Proust (1987), when he said:

> In reality, every reader is, while he is reading, the reader of his own self. The writer's work is merely a kind of optical instrument, which he offers to the reader to enable him to discern what, without this book, he would perhaps never have experienced in himself. And the recognition by the reader in his own self of what the book says is the proof of its veracity.

A similar idea was also expressed by Eagleton (1983) in a somewhat more succinct way, when he pointed out:

> The true writer is the reader.

Once this notion has been accepted, we have made a major move towards the understanding of interpretive research.

For positivists, this is the Achilles' heel of interpretive research. How do you establish objective validity in a world where perception is reality? But clearly this limitation applies to the findings of any research, whatever its form or methodology. Interpretivists argue that the "objectivity" of positivist social research is an illusion. Perhaps the important point here is that this approach or philosophical orientation clearly suggests that the researcher is not the magician who pulls the whole living rabbit out of the hat. If this analogy is to be used, then with this philosophical stance, the researcher is a magician who offers his hat to his audience and asks them to feel around inside it to see what they can find. Maybe a rabbit, but maybe something else? In

this case, if the audience finds a rabbit, it is unlikely to be tamed. It may well bite and scratch. The animal has not been subjected to the same sort of taming process. It will not have been concealed and placed in a position ready for a controlled presentation to the audience. This knowledge will not be explicit in quite the same way as before as it will not have been so carefully compiled for presentation[14]. This type of research process draws more on the tacit knowledge of the audience and, of course, each member of the audience has their own personal experiences. There may well be surprises – for the audience and even for the researcher. Of course, it is sometimes argued that it is not possible to have strictly explicit knowledge. Polanyi (1966) points out that:

> The ideal of a strictly explicit knowledge is indeed self contradictory, deprived of their tacit coefficients, all spoken words, all formulae, all maps and graphs are strictly meaningless. An exact mathematical theory means nothing unless we recognize an inexact non-mathematical knowledge on which it bears and a person whose judgment upholds its bearing.

Finally, interpretation of evidence relies not just on tacit knowledge, but on the audience's skill. Anybody who has read the great crime novelists, including Conan Doyle and G.K. Chesterton, will be familiar with scenes where the great detective offers his sidekick or the plodding local policeman an opportunity to draw conclusions from the evidence. After Watson or Valentin draws his elaborate and carefully-woven conclusion, Holmes or Brown smiles indulgently and gives the correct (and of course totally different) interpretation of events. The researcher needs to be like the great detective, not only capable of finding the evidence, but of being able to put the correct, or at least the most comprehensive and plausible, construction on what he finds.

Stories Need to be Well-Delivered

Stories may be rendered well or badly. The ancient Greeks, realising the importance of convincing an audience, devoted enormous

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[14]   It could be that the researcher pulls out an animal that he pronounces to be a rabbit. The audience, on the other hand, may perceive that this is a hare and question the researcher. In this case, the audience may start to have doubts about the researcher's ability with zoological taxonomy.

amounts of energy to the sciences of rhetoric and oratory. A well-rendered story clearly explains its meaning in such a way that the listener or reader understands the message. The story needs to make sense, or put another way, it needs to resonate with the listener or reader. If there is no resonance, then the story and the research has failed. A clear example of this is in physics. The quantum mechanic theorists had to face considerable difficulties, as their new ideas did not easily resonate well with the established thinking. In this respect, the establishment view was well summarised by Einstein (1926), when he said:

> Quantum mechanics is certainly imposing. But an inner voice tells me that it is not yet the real thing. The theory says a lot, but does not really bring us any closer to the secret of the "old one". I, at any rate, am convinced that He is not playing at dice.[15]

The better the rendition of the story, the less the ambiguity in the meaning of the story and thus the more resonance it will have for the listener or reader. However, the story will always be told from the point of view of the story-teller or writer and thus there may be different stories told about the same event or series of events. Thus, the story as described here is quintessentially a phenomenological research tool.

From an academic point of view, the arguments presented here may be necessary, but perhaps they are not sufficient, to claim that a story is a knowledge creation activity *per se*. The concluding part of the argument, which will fully make the case, is that at the heart of the research process is a creative act of understanding and interpretation that transcends the normal boundaries of academe. Perhaps the essential point is that there is a commonality that is shared by the creation of knowledge in all fields of studies. This is the essence of the argument presented by Rosenthal and Rosnow (1991), when they said:

> Although it would be wrong to claim that art and poetry are the same as science, scientists and philosophers have long been aware of the basic unity of the creative act as found in the arts and poetry and that in the sciences (e.g., Garfield, 1989a,

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15 This has not changed. Some of the findings of contemporary physics are so counterintuitive that many people simply refuse to believe them, despite the evidence of their validity.

1989b; Nisbet 1976). Twenty-five hundred years ago, Plato likened the creative work of the astronomer to that of the painter. Just as art and poetry are grounded in aesthetics (i.e., a sense of the beautiful) scientists are conscious of the beauty and the poetry of their theoretical conceptualisations and empirical relationships.

In business and management, if the story or the case study is useful and contributes to an understanding of the world and/or explains interesting phenomena, then the case study or story's value will be acknowledged and it will become an integral part of society's knowledge-base. On the other hand, if the story or the case study offers little or no contribution to society's understanding or its ability to explain, then it will not be regarded as knowledge. In other words, case studies or stories that are useful contribute to knowledge while those that are not useful do not. The question that now arises is *to what extent has a useful case study or story to be true?* Although it is rather unlikely that a hare ever ran a race against a tortoise, Aesop's fable clearly contains universal knowledge or insights. The fact that a brash over confidence and steady perseverance have been anthropomorphized into a hare and a tortoise does not detract from the validity of the values portrayed in the story. In terms of knowledge content (and of moral message), the story is useful. However, as an approach to research and the methodological options available, this little story about the race could not really be regarded as empirical, but rather a theoretical treatise.

Summary and Conclusions

The knowledge creation and conveyance issues surrounding case studies are poorly understood. In fact, it is true to say that the term "case study" is frequently abused and for many inexperienced researchers it has in some ways become, incorrectly, the default research methodology.

    The three ways in which the term case study is used in the field of business and management studies are quite different. As a teaching or learning device, the case study is relatively straightforward where the emphasis is on facilitating classroom discussion and, consequently, learning.

    As an evidence collection strategy, a case study is really nothing more than an umbrella term, which may be used to focus the fact that

a collection of different research tactics are being applied to one situation or one organization. The actual nature of the research is determined by the individual research tactics used within the case study. Here, the researcher retains control over the entire research process and attempts to deliver a highly structured package of explicit knowledge.

However the case study as a story-telling knowledge-generation strategy is quite different and is certainly a more challenging issue. The researcher who embarks on this approach will present a story that may well have a greater impact on the reader and on which, to some extent, the reader will impose his or her own interpretation. Perhaps here we can obtain a glimpse of the creativity that is ultimately essential to all forms of knowledge creation that is the objective of our research efforts.

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