

Tell me a Story –A way to Knowledge

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Abstract: A narrative or a story (and these terms are synonyms) is a fundamental way of understanding our environment and relationships in it and thus it is a key feature of sound research whatever methodological approach has been taken. The skills of story telling are important in both qualitative or interpretive and quantitative research. But it comes into its own in qualitative research where story telling especially as it appears in case studies and action research is of prime importance. In quantitative research a story or narrative is also required to contextualize the work. The argument developed in this paper balances the idea that numerical analysis underpins the most powerful research paradigms.

Keywords and phrases: Story telling, narrative, qualitative research, quantitative research, rhetoric, argument

Tell me a story, tell me a story

Tell me a story before I go to bed;

You promised me, you said you would,

You gotta give in 'cause I've been good,

Tell me a story before I go to bed.

http://www.poetrylibrary.org.uk/poetry/quote/txtreply.jsp?quote_id=2228

1. Introduction

This is a speculative paper which consists of some reflection on the nature of knowledge created by qualitative research in the business and management field of study and discusses the critical importance of story telling in the research process. The paper is written with the intention of stimulating discussion concerning the importance of the narrative in research. The argument presented here is developed to balance the idea that numerical analysis underpins the most powerful research paradigms. It is not the intention of this paper to attempt to denigrate the import of quantitative research. In fact numerical analysis is sometimes said to be required if we are to have 'true' scientific knowledge which is regarded as the highest form of knowing (Mays and Pope 1995). Numerical based research, sometimes referred to as the positivistic approach to research plays a very important role, if not a dominant role, in business and management studies research. This is more due to historical reasons than the inherent strength of this approach and this situation is changing. The dominance of numbers in research in general is well expressed in the words of Gould (1992):-

The mystique of science proclaims that numbers are the ultimate test of objectivity.

2. Quantitative or numerical research

But seeing numbers as the ultimate form of objectivity does not reflect the personal values of Gould concerning the appropriateness or the authority of quantitative analysis. Making his position on quantitative research clear Gould (1997) alerts his readers to the potential difficulties which can arise in the research process when he says:-

Our searches for numerical order lead as often to terminal nuttiness as to profound insight.

The need to find numerical order in the world around us is an old one and can be traced back to Pythagoras (Koestler 1959). In fact Koestler points out that to the Greeks the 'mathematisation' of experience meant enrichment of knowledge and certainly as far as the problems tackled by the early Greeks was concerned, this was mostly the case. There is little doubt that the technology, at least in the traditional sense of the word technology, on which our modern world is built, has been honed through 'mathematisation'. Needham (1988) goes so far as to say

'Modern [as opposed to mediaeval or ancient] science is the mathematization of hypotheses about nature combined with rigorous experimentation'

This view would be supported by the majority of the scientific community, especially those in

the physical and life sciences¹. But clearly this is not the whole story as numbers themselves have no intrinsic value. In fact numbers can be really misleading. And this is pointed out by Paulos (1998) as he discusses how some scholars try to hard to find numerical or logical trends or patterns in data when he describes the results of equidistant letter sequences (ELS²) research. Paulos cautions us against looking too hard to find patterns..

Despite its critics, mathematics and its companion statistics³ remain a very powerful tool set for the researcher. They have enriched our research and can lead to highly useful results. Methods of research that do not use mathematical or statistical techniques are sometimes seen as being soft or inferior, i.e. not being that powerful or reliable or even valid, and this can lead to heated or even acrimonious debate (Webber 2004). But on the other hand the mathematical and statistical approach to research clearly has its limitations which are unfortunately not always that obvious.

In fact there is a delicate relationship between quantitative research and other forms of research, of which qualitative research is probably the most popular and this relationship needs exploring. Our ability to understand the world and thus create knowledge was originally through verbal expression and this pre-dates our numerical facility by many millennia. Much of our knowledge has been created through non-numerical research strategies. It is interesting to note that it was only in the 15th century that modern mathematical notation came into use (Ball 2001). But even then many of the early scientists and researchers were predominantly descriptive. As science and research progressed so there was a need to tackle increasingly more complex issues which required expression in specialised language, some times referred to as the 'algebra' of logic and here mathematics played a key role. Exactly when statistics began to play a dominant role in the research of the physical, life and behavioural sciences is not clear. There was certainly much activity in the

second half of the 19th century by individuals such as Galton, Edgeworth, Pearson and Yule. But Salburg (2001) declares that:-

I would prefer to date the statistical revolution to the work of Karl Pearson⁴ in the 1890s.

Despite the strides made with numerical analysis it needs to be remembered that a material amount of what can be done with mathematics and statistics in research can also be done with verbal descriptions, explanations and argument (Paulos 1999).

As a language, mathematics communicates abstract and complex ideas in order to reduce the ambiguity which is inherent in natural languages⁵ and to provide us with an ability to more easily discern patterns among variables. For this reason it is often described as the language of science. Through its precision and economy of expression mathematics facilitates the definition and manipulation of abstract and complex ideas, which could not be easily accommodated in natural languages. Mathematics uses conventions to express relationships in symbols rather than words according to a strict code of logic. As alluded to above, in the physical and life sciences the power of mathematics to help solve problems and understand our environment is unquestionable. But as Paulos (1999) points out the code of logic on which mathematics and statistics is based is available to the qualitative researcher and although not using mathematical and statistical techniques qualitative research can derive sound conclusions through using similar logical procedures.

3. Complexity in management and business studies

However, considering research in the world of business and management studies the situation offers a number of special challenges. Although it is not true in all cases the complexity of much of the business and management world makes its formal description using mathematical tools such as

¹ There would be considerable less agreement among social scientists, although there would be some who would argue for this type of research.

² ELS are used to find hidden meanings in texts especially biblical texts. See

<http://cs.anu.edu.au/~bdm/dilugim/Nations/WRR2/> Some would argue that ELS try to push us beyond any reasonable interpretation of our cognitive ability.

³ Although there is no universal agreement on this point, statistics is sometimes described as applied mathematics.

⁴ Karl Pearson (1857-1936) spent most of his life as Professor of Applied Mathematics at University College London and famous for his Pearson Product-Moment Correlation Coefficient.

⁵ As well as being seen as a language, mathematics may be regarded as an intellectual universe in its own right. In this respect it goes beyond facilitating the communication and manipulation of ideas as it brings forth concepts for which there is no easily describable linguistic meaning. Concepts such as these often provide useful insights into the natural world as well as the social world as well as artifacts

symbolic notation or even standard logical rules quite difficult. When such methods are used we often have to simplify what we are doing or what we are working with. Although simple models can be useful, sometimes this is done to a point where a significant amount of the richness of the situation is lost and when that happens their utility has been diluted⁶. When this occurs researchers or scholars tend to argue that the main point of the mathematical representation or model is to communicate the general ideas which have been symbolically expressed in it rather than using the model for further analysis or optimization.

To attempt to describe or understand how an organisation's promotion policy actually works is often difficult to comprehend when reduced to a number of rules or even guidelines. Even describing something like the relationship between various levels of output and costs can be quite challenging in symbolic notation. When we do this we have to be even more careful than usual to define the variables closely and to explicitly state the assumptions underpinning them and to clarify the relationships between them. There is also the challenging issue of across what range of values these relationships are expected to be valid or robust. Of course variables also have to be defined in qualitative research but perhaps with some lesser degree of detail.

3.1 The narrative

The complexity of some situations can be more comprehensively described, understood and communicated using metaphors, similes and allegories and other verbal expressions. In short a story or a narrative (or indeed a picture) can sometimes deliver a much better and clearer message than any other form of communication⁷. This is of course how our pre-literate ancestors remembered who they were and what they had done and what they knew⁸. Even today in some societies the story

⁶ This is not to say that there will not be some value in describing some business relationships in mathematical notation and even constructing computer models of these relationships.

⁷ According to Hawkins (1993), "I was sure that nearly everyone was interested in how the universe operates, but most people cannot follow mathematical equations – I don't much care for equations myself. This is partly because it is difficult for me to write them down but mainly because I don't have an intuitive feeling for equations. Instead, I think in pictorial terms, and my aim in the book was to describe these mental images in words, with the help of familiar analogies and a few diagrams."

⁸ We can only speculate when stories were first told but cave drawings have been dated to around 30,000 years

ago. These are regarded as a pre-literate record of story telling. <http://news.bbc.co.uk/1/hi/sci/tech/2012385.stm>

is a celebrated vehicle of retaining and expressing its sense of itself or its cultural. In order to minimize any confusion it is necessary to point out that in this context the term story and narrative are used interchangeably. According to the dictionary included in the CD version of the Encyclopedia Britannica 2005, a synonym of story is 'anecdote, narration, narrative, tale'.

In terms of our current management culture, story telling has been taken up by Denning (2000) and others as a specific management tool and as a central platform of knowledge management. It is being rediscovered in this new context where it is being proposed as a corporate management stratagem or tool.

3.2 The story in business

For an example of the power of the use of a story in the business and management setting consider the following as an account of how entrepreneurship and perseverance may be described and understood by reference to a narrative about Chester F. Carlson⁹ and the dry paper copier.

"Chester F. Carlson having invented the dry paper copier in 1939 offered the rights to the process to every important office-equipment company in the USA, of which there were quite a number. 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 – at that time. It then took ten 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 complete the development of his concept. He also sold shares to employees.

⁹ The Chester F. Carlson is told on many websites one of which is <http://www.yesterdaysoffice.com/index.cfm?fuseaction=ShowArticle&articleid=26>

Eventually in 1959 the Haloid Company whose name was by then 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. Many of the individuals who had bought shares from Carlson become very wealthy and were known as the Rochester Millionaires.”

If you now make a list of the business learning points from this narrative it will become apparent just how little direct impact such a representation of the above event has relative to telling the story itself. Then if you wish you take the business learning points and re-state them using formal symbols in the form of a mathematical equation. You can indeed create some meaning for some people this way but it is clearly limited. This story, especially when told with a little bit of feeling and enthusiasm, is much more powerful than any formal treaties on the virtues of entrepreneurship and perseverance. The story telling approach seems to be a fundamental human way of sharing knowledge. This is so deeply rooted in human nature that it has been suggested it may be part of our genetic code. Denning (2001) said that *dogs sniff: humans tell stories*. Gould (1997) expresses a similar idea when he said:-

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

4. Other non-mathematical communications

Other examples of the power of non-mathematical communications may be seen in the visual arts. As mentioned above the visual representations have been used since earliest times in the form of cave drawings, which are believed to substantially pre-date any form of literacy. Diamond (1998) considers writing to be a phenomenon developed in the past 10,000 years whereas cave drawings are considerably older.

Of course, the visual arts are a combination of images which are in a sense symbols, but they

are generally not abstract symbols¹⁰. Take for example Vincent Van Gogh's painting created in Saint-Rémy in June, 1889 and called *Starry Night*.



<http://www.oakparkjournal.com/TheaterReviews/VanGogh-The-Starry-Night-188-Museum-Modern-Art-New-York1sm.jpg>

It is unlikely that any form of words or abstract symbols could be as effective in describing how Van Gogh saw a cloudless star lit night as well as the oils on this canvas. This extraordinary painting captures the painter's feelings about and his mood concerning the wonder of the heavens on a completely clear night in a totally unique and completely convincing way. It is obvious that the ideas expressed in this painting are not easily expressed in any other format or way. If any proof is needed then try to write a few sentences or even a long treatise to describe this painting. It is extremely difficult, certainly for the majority of people, to match in word form the message communicated by the artist – never mind trying to reduce this painting to some sort of formal mathematical notation¹¹.

5. The narrative and the research cycle

To return to the role of the narrative in science and research it is useful to note that research projects invariably begin with a discussion of a problem. A dialogue or a discourse often triggers the researcher's interest in a field of study or a topic to be researched. From this

¹⁰ Clearly there are exceptions to this, but the majority of art would be thought of as being composed of images which were different to the abstract symbols used in mathematics.

¹¹ It is interesting to speculate if Shakespeare could have written, say, a sonnet which could have had a similar impact as this painting.

discussion a research question is found which is invariably expressed verbally¹².

At the other end of the research cycle, no matter how mathematically based the work has been, when the results have been obtained and the findings are being reviewed or interpreted, we are once again heavily involved in discussion and a narrative takes over again. When the findings are expressed in numbers or in abstract symbols they generally have little meaning, except to the person who has developed them. The need for the narrative is well explained by Paulos (1999) who points out:-

Without an ambient story, background knowledge, and some indication of the providence of the statistics, it is impossible to evaluate their validity. Common sense and informal logic are as essential to the task as an understanding of the formal statistical notions.

Thus quantitative research is topped and tailed by narrative or a story. Looking at this situation diagrammatically in Figure 1 one can see that quantitative or numerical research represents only a relatively small part of the total research effort. Quantitative research is a sub-set of research in general and needs to be clearly understood as such. Thus it has no privileged claim to be a better form of research. Numbers do not represent a 'truer' or richer form of scientific knowledge.

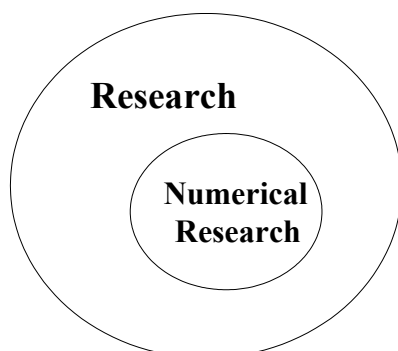


Figure 1: Numerical research as a subset of research in general

6. Argument or rhetoric

When it comes to research findings the most important issue is perhaps the strength of the argument the researcher poses to support his or her work. An older word for argument is rhetoric and this term is again gaining

¹² Of course there may be exceptions to this as in pure mathematics.

popularity in the field of business and management research. Rhetoric is defined by Sarton (1980) as:-

the art of expressive and persuasive speech.

Although the word speech is used in Sarton's definition, it is likely in today's research environment to be more important that the researcher writes expressively and persuasively. Even the highest quality research without an appropriately powerful rhetoric is unlikely to make a great impact on society. As Walsham (2002) pointed out:-

Van Maanen suggests that the researcher must try to persuade by 'presenting a coherent point of view told with grace, wit and felicity'.

It is easy to point out the importance of Rhetoric but it is not necessarily easy to define quality performance in this regard. Many researchers find it quite difficult to craft an expressive and persuasive argument. Many researchers would be completely lost when it came to trying to create a piece of text which possessed the qualities of 'grace, wit and felicity'.

Not everyone can be taught to write well and to write with a high degree of conviction and persuasiveness is probably a gift which not many people possess. Nonetheless there is no reason why researchers should not aim for this.

7. Different styles of story telling

There are of course a number of different styles of story telling and researchers may find that their ability to develop a sound argument is stronger in one style. Van der Blonk (2004) defines four basic styles of case study writing which he calls Chronology, Play, Biography and Voices. These styles are derived from two sets of axes which he proposes. Van der Blonk suggests that a case study may be written as a monologue or a 'multilogue'. Also may be written in considerable detail demonstrating the complexity of the situation¹³ or it may be reduced in volume showing only a summary of the events and discussions¹⁴.

If the case study is written as a monologue and the complexity is retained then Van der

¹³ This full account of a situation or an interview is sometimes referred to as a primary narrative.

¹⁴ This summarised or reduced account is sometimes referred to as a secondary narrative.

Blonk refers to this as a *Biography*. If the case study is written as a monologue and the complexity is reduced then he refers to this as a *Chronology*. This could also be referred to as a History or Historiography. On the other hand if the case study is written as a 'multilogue' and the complexity is reduced then he refers to this as a *Play* in the sense of a theatrical event. If the case study is written as a 'multilogue' and the complexity is kept then he refers to this as *Voices*. These different approaches are shown in Figure 2.

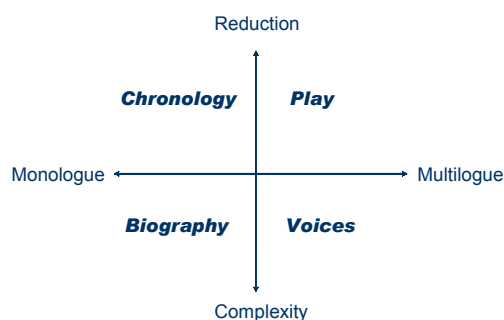


Figure 2: The Van der Blonk taxonomy of case study styles

8. Summary and conclusions

In summary symbolic forms of communications such as mathematics or statistics are powerful, but limited, even in the physical and life sciences. They are especially potent in describing the rather tightly defined variables and relationships in the physical world. This approach is very powerful when it come to manipulating data and when it is necessary to find trends or relationships among variables especially for the purposes of prediction. But in the end the findings of this type of research have to be interpreted and discussed and this is more effectively achieved by a narrative or story. When it comes to exploring the social sciences or business and management studies, these symbolic forms of communications are often inadequate. The use of mathematical or statistical approaches was commented on by Jung (1995) when he said:-

Science works with concepts of averages which are far too general to do justice to the subjective variety of an individual life.

However it needs to be admitted that this reflection of Jung's, valid as it may be, does not really forward the purposes of the social scientist. It would be counter productive for us to say that all individuals and organizations were so various and our understanding of them so subjective that no generalizations

were possible. What is necessary is to find a middle way between the 'concepts of averages' and the 'soft philosophical black hole' at the other end of the presumed spectrum.

Perhaps at the end of the day the primary issue is what techniques help us to better understand the world about us. In his book on quantum mechanics, Malin (2001) points out:-

I discovered that a conversational mode would be helpful. Therefore I introduced two fictional characters.

If this is what is required to create and disseminate knowledge then it is an acceptable method (Feyerabend 1990).

Of course this is not to say that we do not need abstract or mathematical and theoretical explanation in all forms of social science including business and management studies. But it is certainly important to support our abstract and theoretical thinking with powerful illustrative descriptions which are best delivered through stories.

It is for this reason that the story has a major role to play in the understanding the processes and findings of research. As narratives are cornerstones of understanding, it may therefore be said that stories themselves create knowledge.

Looking at this carefully we can see that the story is used not only to describe a phenomenon, but also to place it in its context and to explain the relevant adjacent or interconnecting issues and relationships. Perhaps as Malin (2001) implies the greater the complexity being dealt with the greater the need to use a story. In general the closer the story relates to actual events and their repercussions the more authentic it is and thus the more likely it is that it will have direct theoretical implications. In the extreme the story is the theory. This view is supported by Sutton and Staw, (1995) when they said

Theory is about the connections among phenomena, a story why acts, events, structure, and thoughts occur. Theory emphasis the nature of causal relationships, identifying what comes first as well as the timing of such events.

A good story travels well – its message resounds with many people (Denning 2000). It is enduring and thus it lasts a long time. And

furthermore it does not really need detailed numerical analysis.

Finally to make sense of the epigram at the start of this paper, story telling transcends many social divides including age and can actually be most enjoyable for both the teller and the listener especially when it is recounted with *grace, wit and felicity*.

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