

# Investigating the Extraordinary

developmental paper

Authors:

Viktor Dörfler  
Strathclyde University  
Glasgow, United Kingdom  
[viktor.dorfler@strath.ac.uk](mailto:viktor.dorfler@strath.ac.uk)

Marc Stierand  
Strathclyde University  
Glasgow, United Kingdom  
[marc.stierand@strath.ac.uk](mailto:marc.stierand@strath.ac.uk)

Track: Research Methodology

Word count: 1949 (excluding the references, the abstract, and the cover page)

# Investigating the Extraordinary

developmental paper

## **Abstract**

This paper is the first step towards establishing the investigation of the extraordinary as a valid method of research in the field of business research and hopefully beyond. We list several ways in which investigation of outliers is used; i.e. if we are interested specifically in rare phenomena represented by outliers; when trying to gain general knowledge by examining irregular instances that expose particular characteristics of the topic under scrutiny; and as a way of strengthening an argument by showing it to be valid for outliers as well. As the extraordinary are outliers themselves, the reasons for investigating outliers apply to extraordinary as well. After this we take several research projects that focus on the extraordinary under closer examination; this way finding additional reason for investigating the extraordinary beyond those reasons given for the outliers. This leads us to the world of Platonic ideas; in which the extraordinary is defined.

## Introduction

In several research projects we have experienced that we have learned the most from talking to extraordinary people in the discipline. Two projects are explicitly focused on the extraordinary (one on extraordinary chefs and the other on Nobel Laureates). We realised that, although we are convinced of the usefulness of researching the extraordinary, the sound methodological ground of it is still missing. This developmental paper is the first step of our pursuit to formalising the *investigation of the extraordinary*; with the aim of establishing it as a valid method of inquiry in the area of business research and, hopefully, also in all disciplines that are concerned with humans and groups of humans.

## Averages and outliers

In academic inquiries in the West, we are typically trying to achieve generalisable statements; i.e. truths that apply to the complete population of something. Even if this is not true for some radical branches of interpretivism, most of the Western science chases general truths. In business research we want truths that apply to all businesses, or at least to all businesses in a certain sector or of certain size, or to all people, or to all accountants, and so forth. What we are really interested in, may be, for instance, a set of characteristics of accounting knowledge. As we do not have access to accounting knowledge, we try to examine many accountants instead. If we are really good, we will also examine a number of non-accountants, trying to find the defining differences. Or we may be interested in how innovation happens in SMEs and, as we do not have a conception of innovation in SMEs (we actually even struggle trying to conceptualise innovation), thus we look at a number of SMEs examining what they do. What we want to achieve, is to have a representative sample, i.e. a subset of the members of population by observing which we can draw conclusions that apply to the whole population. But it is not this population that we are interested in, not the accountants and the SMEs, but the knowledge and the innovation of some sort (i.e. of accounting-sort and SMEs-sort). What we really need to remember is what we are originally interested in, because in the long process of making the research academically sound we often lose the sight of the original topic of interest.

The next step is how to choose such representative sample. There are various techniques for sampling but essentially the idea is to aim at some sort of average. Regardless of our particular concept of average, the average does not exist! We do not make dresses and shoes for the average person expecting that they fit anyone and everyone. So why would we expect the same from our ideas? If we are interested in accounting knowledge and innovation of SMEs, should we really examine the average accountant and the average SME? Average people and average SMEs do not exist. What would happen if we examined the (existing) outliers instead of the (non-existing) average?

One reason for this can be that often we are interested in things that are not average at all. As March et al. (1991) observed, the really important things in the life of an organisation are really rare. Mergers and acquisitions happen infrequently in the lives of most organisations, military organisations hardly ever fight battles, and airlines seldom record fatal accidents. Yet, they want to focus on these either to make good use of the rare opportunities or to avoid the catastrophes, seldom they may be. These events are by definition outliers and in such cases we are exactly interested in these outliers. Examining the average, if it would be possible, would take us nowhere. March et al. (ibid) suggest increasing the richness of our experience and to construct and examine what they call "*hypothetical histories*", i.e. to imagine alternative outliers.

But examining outliers is not only useful in cases when we are interested in the outliers themselves. Examining outliers proved extremely useful in some disciplines. For instance, the vast majority of our knowledge in psychology (dealing with mentally healthy people) is coming from psychiatry, i.e. from examining mental patients. Why is this so? It seems that the essence of the reasoning for this is that, having some mental faculties of the patient not functioning properly, the psychiatrists can naturally have available something that comes near to isolating that mental faculty; something that we try to achieve in psychological experiments. For example, Damasio (1994: 34-51) studied his patient, Eliot, who had no awareness of his emotions and, in spite of having full command of his analytical mind, he became incapable of working or even living together with other people. Damasio thus learned that without emotions our knowledge is of little use; e.g. when making decisions, Eliot was able to reason, endlessly listing pros and cons for the various alternatives but he could not reach a decision.

We have seen two different cases of investigating the outliers; in the first case the outliers themselves were of interest, in the second case we learned something general, something beyond the scope of the outlier. The first case is simple; we are actually investigating what we are interested in, only these happen to be outliers. In the second case, the outlier is different in the sense of not functioning properly, which makes certain peculiarities particularly exposed to examination. The problem that we have here concerns the validity of the knowledge obtained this way. March et al. explicitly state that no proper claims can be made about validity; i.e. we cannot conclusively argue for validity. But it seems that those organisations which follow the ideas described by March et al. are more successful. It would also be difficult to provide conclusive evidence on the role of emotions as observed by Damasio; even though virtually all psychologists agree that it is valid. This suggests that even if observing the outliers may be a good way of getting ideas it cannot account for validity. But is this any different for the 'average'? To answer this question and by doing so discover additional advantages of examining the outliers, we need to revisit, very briefly, the problem of induction.

The essence of the problem of induction is that no number of observation guarantees validity. A typical example is that regardless of how many white swans we have seen we cannot be sure that there are no black swans. Or red ones for that matter. In deduction we have the hypothesis first which we then try to verify, at least according to the traditional positivism, by comparing it to instances of reality. The valid knowledge would require us to examine all instances of reality, so to see all swans. Induction works backwards, from particular instances to a general statement, and is supposed to produce knowledge that is by definition valid. This would, however, again only be true if we have seen all the swans. So the problem of induction applies to both induction and deduction. Russell (1912, 1948), Popper (1968, 1979) and many others since then, solved the problem of induction by denying its power of proof. Popper tried to save deduction by introducing the conception of falsification in place of verification but that has, in turn, been refuted by Kuhn (1962) and Lakatos (1978) – but this is beyond the scope of the present paper. We could say that the problem of induction is actually caused by the outliers; i.e. if all would be average, the general rule would not depend on the variation of instances. Pólya (1957: 192-193), however, uses this same fact to recognise a further significance of outliers:

*“Extreme cases are particularly instructive. If a general statement is supposed to apply to all mammals it must apply even to such an unusual mammal as the whale... extreme cases are apt to be overlooked by the inventors of generalizations. If, however, we find that the general statement is verified even in the extreme case, the inductive evidence derived from this verification will be strong, just because the prospect of refutation was strong.”*

### **In the world of Platonic ideas**

The previous three cases already provide sufficient justification for examining the outliers and, within this, for the examination of the extraordinary. We however, argue that the importance of examining the extraordinary is more important than what role they may play as outliers. To understand this, we examine several research projects focused on the extraordinary.

Csikszentmihályi (1997) and Gardner (1993) were both interested in cognitive aspects of creativity. Csikszentmihályi and his collaborators interviewed 91 extraordinary creative people and Gardner and his group processed the whole lives of 7 extraordinary individuals who brought about the modern era by their creations. Gardner (1995) used the same approach to reveal the cognitive aspects of leadership; this time he examined the lives of 10 extraordinary leaders. He (Gardner, 1997) also used the same approach trying to understand the making of extraordinariness. With hindsight we also see that Maslow (1968, 1970) examined extraordinary people to uncover the essence of self-actualisation. What is the common in these studies? The authors define the extraordinary in different ways, although not in contradictory ways. For Csikszentmihályi and Gardner the extraordinary is the one who makes a difference in a domain, for Maslow the extraordinary means self-actualising people; the two can be connected through Csikszentmihályi's (2002) conception of the flow experience.

The common in these studies is that by examining the extraordinary the authors get conclusions about the topic of their research; i.e. validity beyond the extraordinary. This is similar to the case of e.g. obtaining psychological knowledge from psychiatry but there is an important difference. In that case, some disorder caused some mental characteristics more exposed to investigation; this way we gain knowledge about those particular characteristics. In the present case, however, we have complex phenomena, such as creativity or leadership, and by examining the extraordinary we get better understanding of the phenomena under scrutiny in its entirety. Polanyi's (1962) conception of personal knowledge can help us understand why this works. Polanyi suggests that the personal knowledge overcomes the objective-subjective dichotomy by focusing the interest on the phenomenon itself. A similar idea is outlined by Maslow (1966) as the Taoist conception of science.

The idea can the most easily be understood if we go back in time more than two millennia to the Agora and join the group of disciples around Socrates. In the world of Platonic ideas there are ideas that are the pure absolute categories that can only be approximated but never achieved in the real world. There are, however, some instances that come very near to the idea – this is the extraordinary. The extraordinary leaders come near to the idea of leadership, the extraordinary creatives come near to the idea of creativity, and the extraordinary accountant would come near to the idea of accounting knowledge. This is true in metaphoric sense but, starting from the viewpoint of flow, we can see that it is very nearly true in literal sense as well; because in flow the *“concentration is so intense that there is no attention left over to think about anything irrelevant, or to worry about problems”* (Csikszentmihályi, 2002: 71).

### **Discussion and further work**

This paper is an outline of what needs to be done in order to formalise the investigation of the extraordinary and establish it as a valid method. The further work includes more detailed review of the literature in which investigating the extraordinary was used, the problem of induction should be discussed in a more detailed way including a historical perspective and, finally, out experience in various research projects should be included to illustrate the points we make on a conceptual level.

## References

- CSÍKSZENTMIHÁLYI, M. (1997) *Creativity: Flow and the Psychology of Discovery and Invention*, New York, NY, HarperCollins.
- CSÍKSZENTMIHÁLYI, M. (2002) *Flow: The Psychology of Optimal Experience*, London, Rider.
- DAMASIO, A. R. (1994/2005) *Descartes' Error: Emotion, Reason, and the Human Brain*, New York, NY, Penguin Books.
- GARDNER, H. (1993) *Creating Minds: An Anatomy of Creativity Seen through the Lives of Freud, Einstein, Picasso, Stravinsky, Eliot, Graham, and Gandhi*, New York, NY, Basic Books.
- GARDNER, H. (1995) *Leading Minds: An Anatomy of Leadership*, London, Harper Collins Publishers.
- GARDNER, H. (1997) *Extraordinary Minds: Portraits of Exceptional Individuals and an Examination of Our Extraordinariness*, London, Phoenix.
- KUHN, T. S. (1962/1996) *The Structure of Scientific Revolutions*, Chicago, IL, The University of Chicago Press.
- LAKATOS, I. (1978/2001) *The Methodology of Scientific Research Programmes: Philosophical Papers Volume 1*, Cambridge, Cambridge University Press.
- MARCH, J. G., SPOULL, L. S. & TAMUZ, M. (1991) Learning from Samples of One or Fewer. *Organization Science*, 2(1), 1-13.
- MASLOW, A. H. (1966) *The Psychology of Science: A Reconnaissance*, New York, NY, Harper & Row.
- MASLOW, A. H. (1968) *Toward a Psychology of Being*, New York, NY, Van Nostrand Reinhold.
- MASLOW, A. H. (1970/1994) *Religions, Values, and Peak-Experiences*, New York, NY, Penguin.
- POLANYI, M. (1962/2002) *Personal Knowledge: Towards a Post-Critical Philosophy*, London, Routledge.
- PÓLYA, G. (1957/1990) *How to Solve It: A New Aspect of Mathematical Method*, London, Penguin Books.
- POPPER, K. R. (1968/2004) *The Logic of Scientific Discovery*, London, Routledge.
- POPPER, K. R. (1979) *Objective Knowledge: An Evolutionary Approach*, New York, NY, Oxford University Press.
- RUSSELL, B. A. (1912/1998) *The Problems of Philosophy*, New York, NY, Oxford University Press.
- RUSSELL, B. A. (1948/2003) *Human Knowledge: Its Scope and Limits*, London, Routledge.