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Participation action research- A key to improved knowledge of management

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Abstract

Only by actively taking part inside ongoing processes in organisations for most of the time and occasionally moving out of the system to view it from a distance, and also to compare it with other systems and processes, can the optimal situation arise for a deeper understanding of the complexity of management and teamwork. This view of study and research is the basic principle of Participation (PAR), demanding that researchers act simultaneously as researchers and entrepreneurs, project leaders or team members. PAR is an extension of Action Research, which has mainly been used in social studies during the second part of the 20th century. In this article it is shown (for the first time?) that action research has a strong scientific support in modern science from quantum physics and chaos/complexity theory while in many ways it contradicts the classical (Newtonian) view of how ‘good’ science should be performed. In this paper a model is shown of how PAR can be used to combine industrial work with university resources in a fruitful way so that scientific findings can also be useful findings for practitioners. Our tests have shown that PAR has revealed important information on change management, project management, innovation management, and the development of (new) user-friendly products.

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1. Introduction

Usable concepts and guidelines are ‘worth their weight in gold’ in business and in society in general if they can support the development of better situations and circumstances. However those researchers whose occupation is to investigate and to create ideas for new concepts and guidelines in management are often claimed to have low success rates in forming useful solutions and principles for practitioners.

There are many reasons for the often claimed low usability for practitioners of scientific reports and theories in management. One important reason is that the recommended solutions are often based on an ‘outside’ perspective viewed in discrete points of time and not drawn from continuous observations. Another reason is that the conclusions are often too simplified since the researchers tend to only measure single measurable

details and not e.g. soft issues that are difficult to measure. Regardless of that, such research strategy is in general accepted as good research as it conforms with the traditional research paradigm based on classical (Newtonian) mechanics.

In social sciences however another research method called Action Research has been in use since the 1950s. This as the Newtonian method did not give the required results in the social field. As will be further discussed in the article, Action Research has an ‘insider’ perspective which means that traditional objectivity becomes problematic. As objectivity in the Classical (Newtonian) view is important and as Action Research has not had support in any other paradigm from natural science, the method has had problems being accepted as a scientific method although, for practical reasons, it has been shown to be an important research method.

During the 1990s the progress of the last century’s research in the natural sciences, such as quantum physics, chaos theory, complexity theory, self organisation, etc. started to impact on the view of how good research should be done. As the mathematics is complicated and

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as the results are very different from what we have all learnt is right seen in a large perspective and for stable situations, the term quantum physics unfortunately often immediately cuts out most people who regard it as something they will not be able to understand. Unfortunately, very few scientists in physics have bothered to explain their findings in pedagogic daily terms for those lacking the mathematical background.

One example of this is the often claimed very strange situation that matter simultaneously acts as particles and waves. However this is like a speedboat acting as an object/particle/point which sends waves in the water that can interact with waves from other objects. In fact it is very strange to imagine a moving speedboat that does not create waves, which is what we still regard as normal, due to classical thinking in which matter only can act as particles or waves—thus either/or and not both/and. A manager who rushes through the office acts as a particle and sends waves that are interpreted by his staff due to their interpretations of what they see—i.e. the body language of the manager. One bad interpretation of these ‘waves’ may be the origin of unwanted actions that can be amplified to form a chaos situation—examples from quantum physics being a discontinuous situation, a self-organising situation, an indeterminate situation, and a small effect situation. Unfortunately it is also an example of an irreversible process as it cannot be undone.

The Quantum paradigm is of great importance for research on management and especially innovation management and change management. Fortunately a number of non-mathematical books on the topic have recently been published (see e.g. Barbour, 1999; Görnitz, 1999; Wheatley, 1999; Kaku, 1998; Zohar, 1997). The authors all have a background in physics, as has the author (originally having a Ph.D. in physics). From studies of state-of-the-art quantum physics and chaos/complexity theories, the author has produced Table 1.

The consequences of the Quantum paradigm are rather shocking for scientists and managers who seek a rational world due to the Classical (Newtonian) paradigm. In fact, the new science turns much management orthodoxy completely on its head. Some examples from Stacey (1992) are:

- Analysis loses its primacy
- Contingency (cause and effect) loses its meaning
- Long-term planning becomes impossible
- Visions become illusions
- Consensus and strong cultures become dangerous
- Statistical relationships become dubious

This paper discusses, to some degree, the shortcomings of classical research methods. Action Research will be treated in more detail. At the end of the paper a special performance of Action Research that we call

Participation Action Research (PAR) is described, which is useful for investigations of the mysteries of management and especially innovation management and change management.

2. Classical research shortcomings

The basic paradigm in classical research into organisations and development processes emanates from Sir Isaac Newton and his classical mechanics which he first presented in 1672. Due to this paradigm there is a well-known standpoint thus far accepted by many researchers, that researchers should not influence the research object nor any part of the research environment if so-called ‘good research’ is to be performed. However, according to the Quantum paradigm the researcher always influences the studied object through the tools used, no matter what tools or methods are used.

The Newtonian way of thinking is a non-holistic view where totality can be broken down into pieces that could be studied separately and reassembled afterwards to form the initial totality. However, this may be possible if human beings are not involved and if unplanned situations (so-called chaos situations) never occur in the development process—which they have a tendency to do in real life. The Classical (Newtonian) view of performing research therefore is too simplified, especially for complex situations when interdependencies exist between parts and/or when human beings are involved in the process.

Another important problem with the classical way of thinking is that objectivity should be strived for while objectivity is difficult according to quantum thinking. Thus the whole concept of ‘good research’ is questionable according to modern physics i.e. quantum physics and chaos/complexity theories.

The interest of researchers (and managers) to make better and better predictions drives them to ‘fine tune’ details, which also drives them away from reliability seen in a classical perspective. As quantum physics tells us (Heisenberg’s Uncertainty Principle); when we focus on one aspect of a situation, we abstract that aspect out from the whole, and we lose its associated possibilities. Becoming entrenched in details means that we may end up in chaos situations as unpredictable small changes at the microscopic level can be of extreme value for the future. This is called the ‘Butterfly theory’ as the flaps of a butterfly in one part of the world can, in fact, be the origin of a storm some months later in another part of the world.

In particular, the demands in classical thinking on repeatability are difficult, not least because the time factor is not a constant in real life. Thus totally reversible processes can only occur when time is suppressed—which is impossible, for example, in management. The

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