Quantitative versus qualitative research in its epistemologically ontological tensions, its implications and future trends in management branch of social science under the dogma of the Western business schools

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Introduction

Management studies gained a significant place among the modern branches of social science; there are more MBA degree holders globally than any other masters' (Koenig & Lofstad, 2004) and for many institutions the management schools became "cash generators" sponsoring other disciplines of the social research (Bonoma, 1985).

It is the prevailing dogma of the Western business schools (Bonoma, 1985; Foo, 2009) which due to the historical reasons (Starkey, Hatchuel, & Tempest, 2004; Wren, 2005) prefer quantitative positivist research over the field work of the ethnographers (Gray & Bebbington, 2000).

Hegemony of statistics fuelled research however raises several questions and debates. What is the epistemologically-ontological benefit of quantitative studies? What was the reason for the current situation? Is the dominance of positivism to prevail in the future or are there any trends which may steer the trend towards more equally distributed research?

The aim of this paper is to provide a critical discussion of epistemologically-ontological tensions in management studies and suggest future

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trends and development, while answering previously suggested questions.

1. Social Science

King et al., (King, Keohane, & Verba, 1994) define social science as a "publicly known set of procedures designed to make and evaluate descriptive and causal inferences...all conclusions are uncertain and subject to revision or refutation". Weber (Weber, 1946) focuses on the main character of the social science which is the contribution to the cumulative knowledge; subjected to the public discussion. He also provides an example of the painter's work which doesn't contribute to the cumulative knowledge and could therefore be considered only as art. Weber's argument got also supported by Keohane (Keohane, 2009) who claimed that the peer review process, enabled by the public character of the results, is the only way how social science creates its wisdom. Weber however considered academics to be only suitable for educated discussion, which according to Keohane can be only achieved by the revision of the both: "the methods of assessment of the causal interference and its results". Keohane (Keohane, 2009) also pint points that "procedures to evaluate social inference…based on methods which are also subject of evaluation". "Puzzling, conceptualizing describing and making casual interferences" are stages how social scientist create knowledge by reducing uncertainty, he explains. Not following the formal methodologies, research standards and concepts one can easily fall in the trap of fallacy and deceive her readers.

2. Management studies in perspective of the social science

Although Management science is an unique discipline with a large variety of fields such as: Human Resource Management, General Management, Business Administration, Logistics, Strategy, Organisational Behaviour, Accounting, Marketing, Finance and others, it is not positioned in a vacuum, on contrary it sets its self to intelectual tradition of above discribed social science (Bryman & Bell, Business Research Methods, 2011).

Some scholars (Starkey, Hatchuel, & Tempest, 2004) argues that management science, for its purely academic character, nevertheless

rising number of practice focused managerial literature indicates opposite trend (Reay, Berta, & Kohn, 2009). On the other hand Burell (Burrell & Morgan, 1979) feels that it is not the purpose of management science to supply practical needs of the business, as this coudl only be the analogy to abuse of social science, such as politology, philosophy, ect for political purposes (Horkheimer & Adorno, 1972). Gibbons, et al. (Gibbons, Limoges, Nowotny, & Schwartzman, 1994) further suggests that management studies create knowledge in a "hybrid way" which is a combination of a wisdom commutation introduced by Weber and "…trans-disciplinary mode…in which the production of knowledge is less confined to academic institutions…and is driven by practitioners using their knowledge tackling the problem".

3. Ontology & Epistemology

Ontology and Epistemology was defined by Burrell & Morgan (Burrell & Morgan, 1979) as a "nature of reality and a nature of a knowlege respectively". Gray (Gray & Bebbington, 2000) notes "unashamedly positivist" paradigm prevails in management studies over qualitative research (Patten, 2002). Hart (Hart, 1998) reasons dominance of positivism by explaining how easy it is to get familiar with statistics and also suggests that results could be achieved quicker. Numerical explanation is by some expected to be "reliable, valid and thus…are encouraged" in management science, elaborates Keohane (Keohane, 2009) on the topic.

Let us to focus on Positivism first; positivist logic, for instance, uses reliable quantitative methods to prove existence or essence of something (Wittgenstein, nedatováno), it may however miss some other important aspects, such as Piaget and Inhelder (Piaget & Inhelder, 1976) demonstrated: the complexity of human language. Positivism also so called "natural epistemology" as it uses precise, mostly statistical way how to describe the word. It combines both inductive and deductive way how to assess the information and most commonly draws a conclusion confirming/ rejecting relation between theory and practice. Strength of positivism consists in the generalibility of the findings, which according to Pugh (Pugh, 1983) is the major task of the researcher. Positivism is based on an assumption that "it is possible to collect observation in a manner that is not influenced by pre-existing theories" (Bryman & Bell, Business Research Methods, 2011). Example of well accepted positivist research is Hofstede (Hofstede & Hofstede, 2005)5 dimensional cultural framework. Hofstede, via questionnaire, addressed 160,000 respondents and drawn generally applicable cultural schema based on 5 major dimensions: Individualism, Power Distance, Uncertainty Avoidance, Masculinist and Long Term Orientation. Although this research is by some questioned (Schwartz, 1992), it is still the mostly exercised and accepted cultural model in management research (Soares, Farhangmehr, & Shoham, 2007).

Laing (Laing, 1967) points out some fallacies related to the positivist research: "The error fundamentally is the failure to realize that there is an ontological discontinuity between human beings and it-beings…Persons are distinguished from things in that persons experience the world, whereas things behave in the world". He also identified following major issues related to application of a positivist approach: 1) humans actions need to be understood rather than only explained, 2) subjective comprehensions which is needed to understand humans is unknown to natural science, 3) human actions are based on values, beliefs, motives and attitudes which vary with each individual, 4) human actions derives from meanings which cannot be described by math.

Interpretivist, on the other hand, could be considered as an antagonism to positivism. It also more suits to Webers definition of Verstehen as it describes causal interference, which according to Wright (Wright, 1971) provides understanding of the relationship rather than positivist explanation. Social science, he explains, is about "empathic understanding of human behaviour". Example of such behavior could be a study of Knight (Knight, 1995) who observed cultural differences in between American and Japanese customers based on individual blunders of international firms. He claims that this could only be achieved by observation of a social actions and understanding of their real meaning, steamed from the various cultural backgrounds. Schutz (Schutz, 1962) strongly influenced by Weber wrote: "…word of nature explored by natural scientist does not mean anything to molecules and atoms…but the observational field of the social scientist-social

reality-has a specific meaning and relevance structure for being living…in order to be founded upon the thought object constructed by the common-sence thinking of people living their daily life..".

There is a discourse in academicals literature regarding the research methods as much as there is a debate on epistemological assumptions (Adams, 2007), nevertheless some suggests that long lasting dispute over relevancy of quantitative and qualitative methods is obsolete (Layder, 1993). However there is a general agreement in a solid distinction in between these two categories (Adams, 2007; Bryman & Bell, Business Research Methods, 2011; Burrell & Morgan, 1979; Ghauri & Grønhaug, 2002). Typical for managerial studies is that, though there are many other epistemological approaches in social science aside the positivism and interpretivist, it is the management research field which, under the hegemony of numerical approaches (Gill & Johnson, 2002), tends to differentiate only in between what Gray calls "unshamfully positivist approach" and "ethnographic approaches". This not only limits the view of world but it leaves out realism, instrumentalism, functionalism, structuralism, phenomenology and or post-structuralism (Burrell & Morgan, 1979; King, Keohane, & Verba, 1994).

What are advantages and disadvantages of each approach?

Table 1: Synthetic Analyses of Natural vs Ethnographic Approaches

	Natural Science/ Positivist Approach	Ethnographic/ Interpretivist Approach
Question	What, how much	Why, how
Data type	Numbers	Words
Method	Quantitative	Qualitative
Findings	Explanation	Understanding
Ontology	Positivism	Interpretivist
Epistemology	Objectivism	Subjectivism

Source: Synthesis of (Bryman & Bell, 2011; Maylor & Blackmon, 2005; Schutz, 1962; Wright, 1971)

As it could be observed from the analytical summary (Tab. 1), there is no clear answer on question whether natural science approach is the most suitable for the management studies. On contrary several limitations and vivid critique of such epistemology was pointed out. It is the nature of the research questions, data type and sought findings which suggest relevancy of selected methods. It was, also, shown on several examples that both major approaches provide equally competent research outcomes from the general perspective of the social science and therefore it is on the decision of each researcher which approach to select as a choice of preference.

4. Quantitative dogma of the Western business schools

Management science has its roots in the US, when at the end of the 19th century Harvard University and University of Chicago started 1st and 2nd business schools in the history (Wren, 2005). Early approaches reflected the need of US industrial sector and focused rather on "elaborative mechanism" than on leadership and "soft disciplines". The entire focus of the education was to observe, measure and improve efficiency and resource utilisation of the production (Wren, 2005); for which numerical methods suits the best (Stevenson, 2008). It took 40 years until the first no-numerical research was conducted in by Pennock (Pennock, 1929). It however never got significant distinction till Gouldner's study in 1954 (Gouldner, 1954). Such a late start provided qualitative research time to establish a solid base which prevails till now. Such resistance to change is further fuelled by need of the Western organisations to move swiftly in volatile business environment (Porter, What is Strategy?, 1996) forcing managers to rely heavily on quantitative data such as financial statements, business forecasts, and managerial reports (Porter, Competitive Strategy: Techniques

for Analysing Industries and Competitors, 1998; Vossen, 2007). ASEANs on the other hand base their decisions on relationships, intuition and advice of the senior or experienced colleagues (Matoušek, 2009). Same author shows example on how a leading European car-maker failed in Taiwan by underestimating the power of Guan-Xi, which could have been noticed by field work survey (Maylor & Blackmon, 2005).

Critiques of ethnographic approach find pitfalls mainly in: 1) Internal validity, 2) External validity, 3) Population validity, 4) Ecological validity and 5) Reliability. (Gill & Johnson, 2002). Major argument for supporters of an approach of natural scientist is the validity and reliability of the research.

Although statistics based, positivist dogma continues on the Western business schools dominated by United States of America (Bonoma, 1985), it is the East which indicates deflection from the main-stream and may be a counter-weight to prevailing epistemology of preference: positivist (Foo, 2009). Confucian Asia seems to be culturally pre-set for approaches based on field work. Confucian countries consisting out of Japan, China, South Korea, Taiwan and Singapore, Northouse (Northouse, 2010) explains, due to language and societal structure tends to be "reading between the lines" and constantly looking for the underlying meanings. It is this cultural characteristic which, for example, let Chinese business executive to fully understand and adopt interpretivism based work such as Sun Tzu: The Art of Work (Chen, 1994; Foo, 2009; Lee, Chng, & Wee, 1994) while the Western scholars and the business World sees this work as to much primitive to be reflecting real contemporary issues (de Man, 1996; McCormick, 2001); they also believe that only parts of the Art of War could be translated in to actual management practice (MacDonald & Neupert, 2005; Rarick, 2007; de Man, 1996). Foo (Foo, 2009) draws an analogy in between Western Tree of Knowledge and Eastern "holistic and rhizomic approach to learning and change". He concludes: "One problem for the Westerner to come to grip with the working of the Chinese mind is that many of the ideas are often largely transmitted, sharpened in their meanings, deepened in their multi-faceted shares of meanings, applications and contextual relevance through oral process of conversational learning, exchanges and small group, informal dialogues. In other words,

ideas often emerge out of conversations in daily life".

Nonaka (Nonaka, 1991) identified a rising need for more empirical qualitative research reflecting behaviour of the executives. He further explains that such a sample is not proper for a questionnaire research due to the uniqueness of the behaviour within the organisational cultural settings; which as noted by Tedlock (Tedlock, 1991) is the case for which participant observation is the best methods. Such method could identify complete set of managerial roles, their tacit knowledge, also known as "habitus" (Bourdieu, 1990) and strategies (Lant, Milliken, & Batra, 1992).

5. Future Trends

There is also a general agreement in the literature of increasing importance of a research focusing on the Greater China (Matoušek, 2009; Foo, 2009; Toyota in China: Full Speed Ahead, 2006; Zou, Andrus, & Norvell, 1997) conducted by local researchers (Hofstede & Hofstede, 2005; Foo, 2009) who were brought up in Eastern culture which calls for ethnographic approach (Starkey, Hatchuel, & Tempest, 2004; Foo, 2009).

Asian region is the most dynamic place in terms of population and economic growth, social development and focus on education (Inglis, 2011). China as, currently perceived, as the most influential player in the region is expected to keep its momentum of development (OECD, 2011), stimulating all neighbouring countries.

Therefore it could be suggested that with the current economical stagnation of the Western world (Parks, 2011) it is Asia which will contra-balance well embedded quantitative dogma of currently dominant business schools.

Conclusion

Goal of this paper was to provide a critical discussion of epistemologically-ontological tensions in management studies and suggest future trends and development. Broader perspective of social science was presented in the first part of the essay. Critical discussion over natural science and ethnographic research was carried out with explanation analysing historical development of managerial science and its today's applications and its needs to the research outcomes.

Management science from the very begging of its existence focused on numerically supported efficiency improvements and it took 40 years until first ethnographic studies were conducted. Although there is a vivid debate whether management studies shall be used in Weber's way and be only creating cumulative knowledge presented and challenged purely in academia or it shall create suggestions for real reactionaries; it is the quantitative, positivist approach to science which is still dominant. It was also shown that qualitative research is equally important and shall not be overlooked under the dogma of the Western universities.

The dogma of the western business schools however seems to be finally challenged by the rising influence of Pacific Asia, where scientists and research institutions are culturally pre-set to be asking for field work, observation based, culture sensitive ethnographic research, which addresses issues and uncover real meaning which would not be discovered by positivist researcher.

What is by some characterised as the century of China will bring the new wind into sails of ethnographic researchers in the management science.

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