อีกมุมหนึ่งของแนวคิดราวฐานของวิธีวิทยาการวิจัยระบบสารสนเทศ: มุมมองจากแนวคิด Singerian

Dongcheol Heo*

บทคัดย่อ

นับตั้งแต่ Weber (2004) ได้กล่าวถึงการแบ่งแยกกันที่ไม่ถูกต้องระหว่างกระบวนทัศน์ (paradigm) แบบปฏิฐานนิยม (positivism) และแบบนัยนิยม (interpretivism) ในวิธีวิทยาการวิจัยระบบสารสนเทศ คำได้แนวข้อของเขาได้ก่อให้เกิดการโต้ตอบเพียงเล็กน้อยเท่านั้น งานวิจัยนี้กล่าวถึงว่าข้อจำกัดของกระบวนทัศน์ทั้งสองนี้อาจถูกเอาชนะได้ด้วยกิจกรรมการวิจัยจากมิติด้านจิตวิทยาและด้านกลยุทธ์ และได้เสนอแนวคิดของ Singerian ในการสังเคราะห์กระบวนทัศน์ทั้งสองเป็นทางเลือกใหม่ ด้วยการอธิบายสร้างความเข้าใจใหม่ต่อวิธีการวิจัยนี้ งานวิจัยชิ้นนี้ไม่เพียงแต่ช่วยให้เกิดความเข้าใจที่ดีด้านกลยุทธ์ต่าง ๆ ที่อาจนำมาใช้ในการศึกษาด้านระบบสารสนเทศและการจัดการอื่น ๆ แต่ยังช่วยให้การออกแบบกระบวนการวิจัยวิชาเหล่านี้ทำได้อย่างชัดเจนยิ่งขึ้นด้วย

คำสำคัญ: วิธีวิทยาการวิจัยระบบสารสนเทศ, ปฏิฐานนิยม, นัยนิยม, แนวคิด Singerian

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Beyond the Ideology of IS Research Methodology: 
Towards a Singerian Approach

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ABSTRACT

Since Weber (2004) raised the provocative issue of the fallacious divide between positivism 
and interpretivism in IS research methodologies, his argument has generated only a few responses. 
This paper discusses how the limitations of these two established research paradigms may be 
overcome from the perspective of research approach, consisting of psychological and strategic 
dimensions of the research activities. Based on this, we propose a Singerian approach in synthesizing 
the two different research paradigms, as an alternative to engaging with the continuing philosophical 
problems. By elaborating on a new understanding of a research approach, this paper contributes 
not only to a balanced understanding of different research strategies that may be applied in IS 
and other management studies, but also lends itself to a realistic and better designing of research 
process of them.

Keywords: IS research methodology, Positivism, Interpretivism, Research philosophy, Singerian 
approach.
Introduction

A debate concerning the suitability of both positivism and interpretivism has existed for a number of decades, not only in management but also in other social sciences. Information Systems (IS), as a new offshoot of management, has also begun to consider issues pertaining to the production and quality of research outputs (Lee, 1991, 1999). In the Editor’s Comments of the Management Information Systems Quarterly (MISQ) of 2004, Weber placed this issue at the center of IS researchers’ agenda by arguing the following three points: (1) The combative rhetoric between positivism and interpretivism is no longer productive because the difference between them is almost nonexistent in real research situations; (2) The difference between positivist and interpretivist research, if any, lies more with the researchers’ choices of research methods, rather than at the meta-theoretical level; (3) Overcoming the current rhetoric is a requirement for discovering underlying forms of unity that may exist between the two research paradigms.

Even though numerous attempts have been made to find better alternatives and syntheses of the current dichotomous relationship between the research paradigms, including critical approach, mixed methods, and pragmatic approach (for details, see (Johnson & Onwuegbuzie, 2004; Onwuegbuzie & Leech, 2005; Venkatesh, Brown, & Bala, 2013)), it seems that Weber’s call has not been seriously taken up. In this paper, we further develop his line of argument by integrating two research paradigms. We do so by analyzing both positivism and interpretivism, which leads us to conclude that the traditional research paradigms are frequently articulated as ideologies, and limited mostly to a philosophical dimension. Based on this finding, we propose a Singerian approach in overcoming the current rhetoric concerning research, primarily because we believe this new research approach provides an effective means of synthetically understanding the larger issue at play. In summary, the following points will be investigated in the rest of the paper:

(1) The perceived distance between positivism and interpretivism has continually changed over time; differences are frequently overemphasized, especially contemporarily. The present climate is the result of the fact that the two research paradigms have
constantly evolved. New scientific findings, the development of knowledge in the natural sciences, and advances in the philosophy of science have had a greater influence over positivism than interpretivism. As a consequence, the division between the two has become blurry. So long as the differences are derived from traditional philosophical assumptions, they may remain incompatible.

(2) Finding differences between positivist and interpretivist research from only an individual perspective, as Weber argues, does not give full credence to the research paradigms as a whole. The real differences between the two paradigms are found, rather, in their resulting research strategies. These are deeply rooted in the typical mental images and worldviews, justified by the philosophical nature of research paradigms, which are cherished by researchers.

(3) Nevertheless, the real difference between the two paradigms is actually narrower in many more research situations than researchers frequently postulate because the current rhetoric has been articulated as a form of ideology, and these ideologies do not reflect the real activities and situations analyzed by the contemporary researcher. In overcoming these limitations, a more comprehensive understanding of contemporary research activities, which captures the essence of both positivist and interpretivist research and synthesizes the strengths of both, is argued for. We discuss a Singerian research paradigm as one promising pathway to achieving this goal. The rest of this article will discuss each proposition.

**Evolution of Positivism and Interpretivism**

The first claim in Weber’s argument is that no meaningful meta–theoretical difference between positivist and interpretivist research paradigms exists (Weber, 2004). We agree with him on this. However, we also believe that it is because the contemporary research situation has been changed. In other words, the two paradigms have continuously evolved through the selective incorporation of new knowledge, which has been used to complement each paradigm through their respective self–correcting mechanisms. In particular, two different kinds of learning have played central roles in this regard: learning from the outside and learning from the opposite side.
First and foremost, new scientific findings (especially in the physical sciences) have provided the fuel for the development of the positivist paradigm. For example, the introduction of Heisenberg’s Uncertainty Principle provided the momentum for the admittance that it is never possible to understand a phenomenon as it is. The recognition of a phenomenon, rather, is always derived from indirect evidence produced by the phenomenon (Putnam, 1987). Similarly, studies in the philosophy of science have revealed that scientific activities and processes are not fully governed by objective and rational motives. Social and political motivations play a critical role in the creation and consolidation of scientific knowledge (Knorr-Cetina & Mulkay, 1983; Kuhn, 2012; Latour & Woolgar, 1986; Onwuegbuzie & Leech, 2005).

Moreover, although both paradigms seem at odds with one another, they have also developed with one another, while adjusting themselves at the same time. Recent positivist thought has made conscious compromises with interpretivism. As a consequence, positivists have come to admit that the scientific concepts describing phenomena are also always social constructions, while the phenomena themselves might be independent of human perception (Johnson & Onwuegbuzie, 2004). Furthermore, they have also accepted the idea that there is no fixed or single criterion for evaluating research, because these criteria are themselves historically and socially created and developed by different research communities (Onwuegbuzie & Leech, 2005; Ricciardi, 2010). Similarly, interpretivists have made various efforts to incorporate the features of positivist thought into interpretivist research activities. For example, the introduction of concepts such as “life worlds” (from hermeneutics) (Schutz, 1972) and the concept of “structuration” (from structuration theory) (Giddens, 1984) on the one hand, and the development of grounded theory (Glaser & Strauss, 1967) and verifiable case study methods (Yin, 2008) on the other, have made subtle changes to interpretivist researchers’ positions and ideas. Thus, instead of simply supporting the idea of multiple, subjective interpretations (with no particular, objective reality) as being the essence of reality, interpretivism has begun to admit that even socially constructed realities can be more objective “in nature”. This remains important, as even the concept of “inter-subjectivity” can produce predictable, generalizable propositions that reflect the reality of people,
communities, organizations and even the greater social entities to a certain extent. Similarly, interpretivists have changed their attitudes toward the essence of knowledge, from a position that there is no way we can obtain objective understandings of reality to the concept that there exists knowledge of a certain reality that can be generalized enough to explain other situations (Klein & Myers, 1999; Orlikowski, 1993).

Development of both research paradigms has contributed to blurring the division between them. Indeed, it seems evident that positivism, as a research methodology, has undergone greater change than interpretivism. As a consequence, differentiating interpretivism from positivism (or vice-versa) has now become a much more challenging task. In this vein, Weber correctly argued that there is either a very shallow or no significant meta-theoretical difference between them. However, it should also be pointed out that it is not because the two paradigms were the same from the beginning, but because they have been developed together. In this sense, the two paradigms have been slowly moving closer towards each other. The approximation of both research paradigms has been attributed to changes in our understanding of reality and knowledge. In this process the more extreme positions were forced to become more realistic and flexible (Alvesson & Sköldberg, 2009). Consequently, there is no longer a meaningful difference between positivist and interpretivist research at the philosophical level.

Research Philosophy and Research Strategy

If both research paradigms are becoming similar, then why do many of us still believe that it is easy to define what positivist (or interpretivist) research is, and that they can be easily differentiated from one another? The second of Weber's argument’s concerns the difference between positivism and interpretivism, and why the difference has often been believed to be clear while it really is not (Weber, 2004). For him, the reason for this misunderstanding is derived from the fact that the alleged ontological and epistemological differences between the two paradigms are spurious. For example, in terms of ontology, the purpose of both positivist and interpretivist research is to enhance our shared understanding of the world. Moreover, both paradigms acknowledge their strengths and weaknesses, or what possible biases may be relevant. Similarly, in terms of epistemology, both argue that there is no way in which we can fully
recognize an objective reality that is detached from the human mind, and (as a consequence) the knowledge they claim to make is always socially constructed. As a result, so long as the differences in the ontological and epistemological assumptions are not valid, the differences must originate from the respective methodological lenses. As a consequence, the differences are no longer fundamental or logical; it is rather perceptual and practical.

Weber also insists that a certain set of research methods is preferred by those who are considered as positivists including experiments, surveys, and simulations. By contrast, interpretivist researchers are inclined to use another set of research methods such as case studies, phenomenographic studies, and ethnographical studies. Thus, rather than repeating the rhetoric of the two, he argues that it is more productive to pursue reasons for researchers to choose different set of research methods.

Furthermore, this difference is not logical, since there is no reason why a specific method needs to be fixed to a single paradigm. Indeed, the reason different researchers use different methods can mostly be attributed to “the types of training provided to researchers, social pressures associated with advisors and colleagues, and preferences for obtaining certain types of insights during the conduct of research (p. x)”. As a result, for Weber, the differences are dispersed.

Is Weber’s argument correct? In proposing a response, we first feel the need to raise one important question. What does it really mean to refer to positivism (or interpretivism) in the context of research? The literature on scientific research has understood both positivism and interpretivism as individual research paradigms (Guba & Lincoln, 1994; Mingers, 2001) or research philosophies (Klein & Myers, 1999). In most cases, however, both terms have also been seen as interchangeable, precisely because “a paradigm is a construct that specifies a general set of philosophical assumptions (p. 242) (Mingers, 2001)“. As a research paradigm (or philosophy), both positivism and interpretivism consist of ontological and epistemological claims, sometimes including a specific methodology, in their arsenal. Thus, when we consider research paradigms from a philosophical perspective, one paradigm is distinguished from another in terms of its understanding of the object of research, the essence of the inquiry towards this object and, perhaps, the particular ways in which the inquiry might proceed.
However, when Kuhn defined the concept of a paradigm, he understood it to be a set of general assumptions concerning the theories, laws, and techniques that members of a particular scientific community share (Kuhn, 2012). Here, however, general assumptions are not limited solely to philosophical ones because the nature of the prevalent assumptions of the community is very broad and multi-dimensional. As a result, the assumptions may be philosophical, psychological, economical, ethical, religious, or even very practical. Weber (Weber, 2004) agrees with this line of thought. He further justifies his understanding of Heelan’s (Heelan, 1998) and Kuhn’s (Kuhn, 2012) concern with researchers always living in an ever-changing life world, resulting in theories and temporalities that are always accompanied by changing practices.

Based on this understanding, research paradigm becomes a set of assumptions researchers have when they think or act as researchers. On one hand, this claim is psychological because it concerns the mental image they may have toward research activities. On the other hand, the understanding is also very strategic (and yet practical) because it concerns the practical assumptions on the research when a researcher actually plans, designs, and implements their own research projects, or in evaluating others’. In this regard, understanding a particular research paradigm is an examining of how one particular mental habits dominated by his/her worldview governs the researcher’s actual life as a researcher.

While the established understanding of research paradigm can be interpreted as a research philosophy, this new understanding for paradigm may be termed a research approach. We believe this to be the true meaning of a research paradigm, precisely because research philosophy only concerns a researcher’s thoughts on the essence of inquiry, while research approach, consisting of psychological and strategic dimensions, is more concerned with how to create knowledge and organize inquiries. While the research paradigm as a philosophy is mostly concerned with ontological and epistemological issues, methodological issues are frequently treated as the byproduct of these two concerns. On the contrary, the research paradigm as an approach pays more attention to the procedure of inquiry (“How does the inquiry develop the research process?”), inquiring modes (“What are the intellectual skills used for the inquiry?”),
and methodologies/criteria ("Which methods needs to be used and what are the rational, logical reasons for their use?"). Therefore, while the former is static in nature, the latter is more dynamic. Table 1 summarizes the differences between these two.

**Table 1. Research philosophy and approach**

<table>
<thead>
<tr>
<th>Paradigm</th>
<th>Philosophy</th>
<th>Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus</td>
<td>Essence of inquiry</td>
<td>Way of inquiry</td>
</tr>
<tr>
<td>Components</td>
<td>Ontology</td>
<td>Inquiring procedure</td>
</tr>
<tr>
<td></td>
<td>Epistemology</td>
<td>Inquiring mode</td>
</tr>
<tr>
<td></td>
<td>Methodology</td>
<td>Methodology</td>
</tr>
<tr>
<td>Positions</td>
<td>Positivism/ Interpretivism/ Critical approach</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Positivism/ Interpretivism/ Critical approach</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Or</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Leibnizian/ Lockean/ Kantian/ Hegelian/ Singerian</td>
</tr>
<tr>
<td>Nature</td>
<td>Static</td>
<td>Dynamic</td>
</tr>
</tbody>
</table>

Using the same rhetoric, positivism and interpretivism can be translated as either research philosophies or research approaches. However, when a research paradigm is understood as a research approach, both positivism and interpretivism have very different meanings. For example, positivism, in this new understanding, becomes a research strategy that depends on deductive, logical inferences (Established theory → Hypotheses generation → Testing), measurement, comparison and selection (testing null and alternative hypotheses), and agreement–seeking (validity and reliability). Assuming the utility of previously well-established theories and research, positivism begins with the generation of hypotheses, followed by the measuring and testing of the hypotheses, and ends with the confirmation or disproving of the laws derived from the hypotheses. On the other hand, interpretivism becomes referring to a research strategy guided by inductive logic (meanings → sense–making → generalization), observation, constant feedbacks between the processes, and consensus seeking (credibility and transferability). Assuming the existence of the phenomena, interpretivism begins
with observing and identifying the meaning of phenomena, followed by attempting to understand sense–making processes, and ends by generating rich descriptions of the phenomena (which may create limited generalizations). Table 2 illustrates this.

Table 2. Research approaches: positivism vs. interpretivism

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Positivism</th>
<th>Interpretivism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Given</td>
<td>Previous theories &amp; research</td>
<td>(Social) Phenomena</td>
</tr>
<tr>
<td>Beginning</td>
<td>Generate workable hypotheses</td>
<td>Identify meanings</td>
</tr>
<tr>
<td>Process</td>
<td>Test hypotheses</td>
<td>Sense making</td>
</tr>
<tr>
<td>Goal</td>
<td>Confirming or disproving the laws</td>
<td>Generate rich description; Limited generalization</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Inquiring Modes</th>
<th>Positivism</th>
<th>Interpretivism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deductive logic (partly by inductive logic)</td>
<td>Inductive Logic</td>
<td></td>
</tr>
<tr>
<td>Measurements</td>
<td>Observation</td>
<td></td>
</tr>
<tr>
<td>Comparison &amp; selection</td>
<td>Comparison &amp; generalization or synthesis</td>
<td></td>
</tr>
<tr>
<td>Agreement–seeking</td>
<td>Feedbacks</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consensus–seeking</td>
<td></td>
</tr>
</tbody>
</table>

The research approach as a research strategy is founded on its psychological dimension rather than philosophical one. The psychological aspect of research approach views research projects as a chain of connected intentions and behaviors. From a psychological perspective, researchers immediately recall a certain mental image on a particular research paradigm when he/she is engaging in the research project, and it occurs even long before they begin to consider the philosophical aspects of the research. The mental image of a research refers to a set of impressions and symbols for a particular research approach imprinted on the researcher's mind. Mental image is composed of three sub–categories; primary image, secondary image, and symbolic objects. Primary image refers to general images associated with a particular research approach. It is something that a researcher instantly reminds when he/she thinks of a particular research when designing, implementing and evaluating it, and it is believed to capture the essential characteristics of the research. Secondary image refers to the one
derived from primary images of the research. Most of secondary image is associated with the researcher's fragmentary perceptions towards the research in matter. Symbolic object refers to any physical, conceptual construct that is believed to represent, or remind us a particular type of research. Approach. Mental image is a configuration of inquiring modes and processes. It is so strong and prevalent that it always provides researchers with a particular research orientation and strategy such as sense-making, purposes, guidelines, and justifications for their research activities and evaluations.

**Singerian Research Paradigm**

Nevertheless, as Weber (Weber, 2004) points out, the difference between positivism and interpretivism is greatly reduced in real research activities. In other words, the gap between positivist and interpretivist research is much negligible than constructions of the positivist and interpretivist paradigms. For example, positivist research assumes a linear, sequential research process. In reality, however, positivist researchers may come back innumerably to the theories and literature in revising their initial hypotheses or even research questions. The same thing happens with hypotheses generation and testing. Contrary to the strategic plan, hypotheses may sometimes be changed during data collection and analysis, or researchers may even return to the literature review after the initial data analysis to obtain a better understanding of the processes. In this regard, observation and measurement are not simply limited to hypothesis testing. Rather, they provide new insights or understandings to the researchers. For interpretivist research, the situation is more difficult. The assumption that data can be approached without prejudice or preconception (Glaser, Strauss, & Strutzel, 1968) has already been severely challenged, even within interpretivism itself (Klein & Myers, 1999). Furthermore, the argument that generalizations beyond ideographic understandings of phenomena are impossible (Geertz, 1973; Guba & Lincoln, 1982; Taylor, 1971) has also been confronted by the criticism that generalizations are inevitable, and perhaps even desirable (Williams, 2000).

As a result, even from the perspective of research strategy, the differences between positivism and interpretivism are either shallow or non-existent. Based upon this,
a new research paradigm, capturing the essence of real research activities (whether it is positivist or interpretivist) is needed. In this vein, we propose a Singerian research paradigm as a promising alternative. Our Singerian approach draws on Churchman’s useful concept, the Singerian inquiring system. In his famous book, “The Design of Inquiring Systems (Churchman, 1971)”, Churchman defined an inquiry as the process of creating knowledge, and proposed five different strategies of inquiry by recasting the philosophical theories of Leibniz, Locke, Kant, Hegel, and Singer “in the language and design of inquiring systems (p. 18)(Churchman, 1971)”. As strategies of inquiry, the five approaches have distinct characteristics, as summarized in Table 3 below.

**Table 3. Five inquiring strategies as research paradigms**

<table>
<thead>
<tr>
<th>Inquiring modes</th>
<th>Leibnizian</th>
<th>Lockeian</th>
<th>Kantian</th>
<th>Hegelian</th>
<th>Singerian</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inquiring procedure</strong></td>
<td>Logic</td>
<td>Observation, Inductive logic, Agreement</td>
<td>Inductive logic, Comparison and selection</td>
<td>Dialectic</td>
<td>All the modes from the other four</td>
</tr>
<tr>
<td><strong>Given</strong></td>
<td>Built-in axioms, Capable researcher</td>
<td>Community of researchers, Phenomena</td>
<td>Space-time frame work, Theories</td>
<td>Two opposing positions</td>
<td>Previous knowledge, Phenomena, Capable researcher</td>
</tr>
<tr>
<td><strong>Beginning</strong></td>
<td>Identify facts</td>
<td>Identify built-in properties</td>
<td>Observe phenomena</td>
<td>Thesis</td>
<td>Logical Reasoning</td>
</tr>
<tr>
<td><strong>Process</strong></td>
<td>Logical reasoning</td>
<td>Assign labels to the properties</td>
<td>Construct models, Interpret data</td>
<td>Anti-thesis</td>
<td>Theoretically guided observation and data analysis</td>
</tr>
<tr>
<td><strong>Goal</strong></td>
<td>Developing a logical theory</td>
<td>Building a theory representing phenomena</td>
<td>Choose best model</td>
<td>Synthesis of different propositions</td>
<td>Theory development</td>
</tr>
</tbody>
</table>
Among these five strategies, Churchman saw the Singerian approach to be the most advanced. According to him, the Singerian paradigm of research has the following principles:

1. Research activities are teleological in nature, in that they attempt to contribute to the betterment of humankind by improving its understanding of the environment. In this regard, all truths are pragmatic.

2. Individual research projects should not be seen as independent; rather, each should be seen as a part of series of inquiries aimed at the development of theory. Research activity is itself a never-ending process of inquiry.

3. The entire research process is a project of collaboration among researcher, evaluators, and research subjects. In other words, not only do researchers generate knowledge, but also reviewers and the other colleagues inherent in a research community. Even the people participating as research subjects actively contribute to knowledge creation. As Churchman notes, “The designers are everyone ... Progress can be measured in terms of the degree to which the client, decision maker, and designer are the same (p. 201)”.

4. Of course, the role of a researcher is nevertheless a critical one. As Churchman continues, “... at any stage, there will be the leaders and the followers. For Singer the most important decision makers are the heroes (or researchers), those inspired by the heroic mood to depart from the safe lands of the status quo ... (pp. 200–1)”.

4. The research community and system of evaluation help the researcher both by evaluating knowledge created by the research, and by providing the criteria that define what acceptable research is. Furthermore, the existence of these communities and systems means that knowledge can be accumulated through processes of generalization, theorization, and the revision of theory (pp. 186–9).

5. A research or knowledge creation process can be either incremental or radical. In most cases, knowledge is developed incrementally, through the research process (termed “partitioning”). However, at certain points, it is developed radically by the introduction of a new theoretical framework or variables. Churchman defined this as the “sweeping-in” process. This process “consists of bringing concepts and
variables of [various disciplines] into the model to overcome inconsistencies of the reading (p. 197)”. Churchman argues that the justification for this process is that “... the spirit of [the] Hegelian inquiring system on which Singer built his theory of inquiry says that when all is going well, and data and hypothesis are mutually compatible, then is the time to rock the boat, upset the apple cart, encourage revolution and dissent. ... This is the only pathway to reality: whenever we are confident that we have grasped reality, then begins the new adventure to reveal our illusion and put us back again in the black forest (p. 199)”.

6. A research project should mobilize every possible mode of inquiry and source knowledge from various disciplines, in setting up or developing a research inquiry (p. 197). As Churchman notes, “One sees that it would be very helpful if the inquiring system had a catalogue of opportunities in this regard, and that the traditional problem of the classification of the sciences might provide some clues. Singer’s method follows a traditional one of starting with logic and noting the dimensions added by each science in turn. Thus, arithmetic adds number and numerical laws; geometry adds point, line, plane, etc. ... sociology adds groups of minds and group laws; ethics adds ultimate purpose and moral laws”. Maxwell (Maxwell, 2012) further develops this idea. He argues that knowledge resources that give birth to or develop an inquiry (or the conceptual context of a study) are not limited to existing theories and research, as is usual in most positivist and some interpretivist research enquiries. Rather, knowledge is expanded into four different types: experiential knowledge, existing theory and research, pilot and exploratory research, and thought experiments.

As a research approach, the Singerian paradigm has distinct characteristics in terms of both defining the modes of inquiry and the procedures needed for knowledge production. In terms of modes of inquiry, it adopts almost all forms of acquisition, such as logic (both inductive and deductive), observation, measurement, feedbacks, consensus, comparison and selection, and synthesis. In terms of inquiring procedures, and the existence of previous forms of knowledge, phenomenon, and a capable researcher, it begins with the logical reasoning needed to conceptualize a research question and theoretical framework, which is followed by theoretically guided observation
and data analysis, and finally (as the goal), the continuous development of theory. The Singerian paradigm is distinguished from interpretivism in that it approaches data with a theoretical lens. At the same time, however, it is also different from positivism in that observation and data analysis are conceptualized as sense-making, while inductive logic is given as a theoretical lens. More importantly, a Singerian paradigm assumes that the transition from one phase of research to the other is not sequential or linear, but iterative. Figure 1 illustrates a research framework based on a Singerian approach.

![Figure 1. Research framework based on a Singerian paradigm](image)

As seen in this framework, all of the research projects are composed of three distinct, but related sub-spheres: logical, empirical, and theoretical. Research projects are initiated within each logical sphere. With the research idea or research question in place, researchers begin to formulate a conceptual framework (Maxwell, 2012; Miles & Huberman, 1994) in the larger sphere. Of course, this framework is only tentative, and is always open to further revision. Furthermore, the clarity and rigor of the framework may vary, depending on the researcher’s overarching philosophy and methods. For example, researchers who are concerned with laboratory experiments based on a
positivist paradigm will develop stronger and more rigid frameworks, while researchers who use ethnography based forms of interpretivism will attempt to expel these forms of preconception from their research procedure and practices.

Nevertheless, almost all researchers have a conceptual framework in mind at the initiation of their research. In forming this framework, they first identify what basic components are necessary, perform a thought experiment, and then build a logical, tentative framework for the research. In the empirical sphere, researchers observe or measure the phenomenon under analysis with lenses developed in the logical sphere, analyze the data, and then try to validate what they have observed or measured. Furthermore, the results of the activities performed in this empirical sphere can be compared to the logical sphere. This may stimulate a new round of thought experiments, by providing new insights that were not recognized by the researcher in the first investigation. Finally, in the theoretical sphere, the researcher further develops a theory by synthesizing the logical framework and empirical data. In the process of revising the initial framework, multiple models and explanations may be produced to explain the phenomenon at hand.

One of the critical duties of researchers at this point is to then go back to the earlier stages of research. They should revisit what concerns and understandings they held at the beginning of the process (the five resources), or review the thought experiments and data analysis to compare and synthesize new models, or select the best and most attractive ones. Moreover, this process may cause a new round of thought experimentation or observation, measurement, and data analysis resulting in better insights into these processes. After the selection and synthesis, the theoretical framework must undergo an evaluation process, undertaken by both research subjects (this group may become the client, in many cases) and colleagues in the same academic community. In this way, research findings can be recognized as valid or credible forms of knowledge. In particular, evaluations from clients/research subjects are important to the Singerian paradigm because they make the new knowledge more exoteric, while evaluations from colleagues make it more esoteric. According to Churchman (Churchman, 1971), exoteric knowledge is easy to understand, apply, and contributes to the improvement of the
real lives of people. In order to contribute to the first principle of a Singerian paradigm, as described above, knowledge generated by research projects should be exoteric as well as esoteric.

On the other hand, it is also clear that researchers always begin their research projects with a clear set of preconceptions and assumption, which heavily influence their research activities. In other words, researchers never begin their research projects with a blank slate. At least five different parameters effect research activities: the researcher's worldview and their experience of the research subject, the various theories available to the researcher, research ideas and questions which they have at the beginning of the research, previous research findings and empirical clues which a researcher may already know as a result of a pilot study or earlier data collection and analysis, and their research background including their research methods, skills, and experiences. As with the logical sphere, the level of influence of these five parameters will vary depending on the research philosophy and research methods used by the researcher.

Furthermore, researchers also decide whether they will continue to follow up on research, based on the current research findings, and whether they have made sufficient contributions to both a body of knowledge and to the people who are concerned with the research. In principle, any research project is a never-ending loop, as a perfect understanding of a phenomenon is never achievable. However, a community of researchers or clients can decide whether a specific research project is worth continuing.

In a nutshell, the Singerian research framework depicted in Figure 1 shows how research activities (whether positivist or interpretivist), performed in real situations, can be understood. Simultaneously, it also shows, in a greater level of detail, both how positivism and interpretivism are variants of the same generalized approach to knowledge creation and validation.

Finally, as was done with positivism and interpretivism, the Singerian paradigm also provides an understanding of the research to the researchers involved. This mental image is similar to the research framework depicted in Figure 1. However, while Figure 1 reveals the internal structure of Singerian research, a mental image depicts how researchers understand the research projects they work on and what research strategies concern them.
Figure 2. Mental image of a Singerian paradigm

As shown in Figure 2, the Singerian paradigm research is understood as a continuous dialogue between inquiry and data acquisition. In this image, and with all the available knowledge in mind, researchers generate initial inquiries (or theories), and then examine whatever data is demanded by the lens of the inquiry. However, they rarely give full credit to these lenses. Instead, researchers try to use their own senses in attempting to understand what is occurring with the phenomena they are studying. As a result of the process of data analysis, they obtain better understandings (or theories) in terms of asking the right questions. As a result, this again enables a researcher to examine a better data set, which is more appropriate to the question, and so on. In this way, both the inquiry and the research findings develop over time. The quality of both the inquiries and data (or the research findings) are gradually improved through an S curve; the research may approach perfection, but never truly achieves it.

Concluding Thoughts: Ideology of Research Paradigms

After examining the Singerian approach, it remains to question the future of the rhetoric. Will this rhetoric still be useful to us? From Weber’s perspective (Weber, 2004), the rhetoric is no longer useful; it is to be replaced by a new research paradigm. Nevertheless, the rhetoric still exists – even though it is no longer productive – because of the arcane, philosophical language predominantly used by interpretivist researchers. The confusions and complications generated by this language have caused some difficulties in understanding and communicating between the two paradigms. As a result,
an erroneous dichotomy has blocked the true understanding of the nature of research. In this vein, the rhetoric has served as a false ideology for a number of years.

We have no objection to Webber’s concerns, except that this ideology has been justified, in some instances, by the difference between positivism and interpretivism, as two different research strategies. The Singerian paradigm, however, has showed us that they share many common characteristics, even when both paradigms are seen as research strategies. As means of scientific inquiry, they use similar tools, such as observation, feedback, trials/errors, logic (whether it inductive or deductive), comparisons, and syntheses. Moreover, they are procedurally similar, in terms of the inductive and deductive processes they both go through, and that the research process is cyclical, iterative, and conducted for the improvement of knowledge.

To date, nevertheless, particular modes of inquiry and certain procedures have been emphasized by each paradigm. In this vein, this rhetoric is a form of ideology, and it plays a negative role in hampering reasonable understandings of the nature of research activities. Thus, in this instance, we have attempted to overcome this ideology. However, we also understand that the rhetoric has played a positive role. When researchers try to characterize their own research activities, especially in comparison with others (within a generalized framework of research), or when we educate students, ideology can work as an explanatory tool. Therefore, it seems evident to us that this rhetoric will survive, even though a new paradigm, which successfully explains the underlying unity between positivism and interpretivism, will replace it in the future.

References


