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A scientific realism perspective on scientific progress in marketing: An analysis of theory testing in marketing's major journals

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ABSTRACT

Marketing's scientific progress depends on, among other things, the development and testing of theories that explain and predict marketing phenomena. Ultimately, theory testing should advance the discipline toward broader theories with greater explanatory and predictive power. Using the inductive-realist model (Hunt, 2012) as a framework for scientific progress, this study analyzes three decades of theory testing published in five major marketing journals. The study examines issues of the amount of theory testing, the extent to which theories are tested multiple times, and the disciplinary origins of the theories that are tested. The results show that marketing has been remarkably productive in the development and testing of theories; however, that progress is tempered by the relatively few theories that are tested multiple times.

1. Introduction

The inductive-realist view of scientific progress requires the development and testing of theories that explain and predict relevant phenomena. Therefore, for marketing to progress scientifically, scholars must develop and test theories that explain and predict phenomena associated with the discipline's core subject matter – exchange (Bagozzi, 1975; Hunt, 1991). Yadav (2010) argues that an important component of theory development is the broad and creative thinking that often characterizes the purely conceptual articles that appear periodically in marketing's major journals. He notes, however, that the number of such articles has declined significantly over the past 30 years. Yadav attributes the decline to several factors, including emphases in doctoral education, priorities in promotion and tenure evaluation, and editorial preferences at marketing journals. Together, these and other factors may direct effort away from the purely theoretical and toward the empirical. The net result of these factors could be a stifling of theoretical creativity, a focus on small ideas, and a continued reliance on disciplines such as economics and psychology as primary sources of new theoretical insights into marketing. Indeed, the discipline may already be suffering the effects of these harmful trends.

If Yadav's (2010) conclusions about the decline of theoretical development in marketing are correct, they may suggest to some that the state of empirical scholarship in marketing is sound, if only overemphasized. It stands to reason that for a given amount of space in marketing's major journals a decline in the number of conceptual articles implies a corresponding rise in the number of empirical articles. As these journals "continue to thrive" (Yadav, 2010, p. 17), it could be that the emphasis on empirical research serves the discipline well. However, Yadav's (p. 17) conclusions are reached as part of an important admonition about restoring "the balance between different forms of research." In this paper, we argue that this required balance extends beyond finding an appropriate proportion of empirical versus conceptual articles. It also includes achieving balance within the realm of empirical research and, in particular, the empirical testing of theories.

According to Yadav (2010), the vast majority of articles published in marketing journals contain both conceptual and empirical content, suggesting that empirical theory-testing articles do much of the "heavy lifting" of science in marketing. Amidst the periodic calls for greater theoretical and conceptual work cited by Yadav (i.e., Wind, 1979; Staelin, 2005; Webster, 2005), it is surprising how infrequently calls to take stock of long-term trends in theory-testing research occur, especially given its critical role in the science of marketing. Of particular importance to scientific advancement would be questions about the number of theories proposed and tested in articles published by marketing's major journals, the

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amount of testing any single theory receives, and the disciplinary origins of these theories. The purpose of this paper is to conduct such an assessment.

An assessment of this sort would offer needed insights into the state of marketing's progress as a science. If only a few theories are being proposed and tested by marketing scholars, this may indicate a lack of adequate scientific progress. On the other hand, a proliferation of theories may also be a cause for concern, particularly if those theories are what Merton (1949, p. 448) described as "the minor but necessary working hypotheses that evolve in abundance during day to day research." Extensive theory borrowing may also suggest inadequate scientific progress by hindering endogenous theory development and may potentially raise doubts about a discipline's claims of scientific status (Oswick, Fleming, & Hanlon, 2011; Whetten, Felin & King, 2009). While precise indicants of what constitutes adequate progress for the science of marketing may not be easily developed, examination of the issues raised in this paper may provide a rough sense of whether the "balance" Yadav (2010) called for is being struck in the realm of theory testing.

In the sections that follow, we conduct an analysis of empirical theory-testing research published in the same five journals and across the same time period as Yadav's (2010) study of purely conceptual articles. We begin by framing our work within the larger context of the varying perspectives of reality that guide scientific inquiry and then describe the philosophy that guides this study — scientific realism. Using the inductive-realist model (Hunt, 2012) as a framework, we review and adopt a definition of theory and then apply it to a concept referred to here as "explicit tests of theory." We then consider the importance of explicit tests of theory to scientific progress and knowledge development in marketing. Next, we describe an analysis of published explicit tests of theory covering three decades in marketing's major journals. Finally, we discuss the implications of the results.

2. Reality, pluralism, and scientific progress

Given the variety of opinions on what constitutes science itself, much less scientific progress, any paper attempting to gauge that progress will be necessarily controversial. As indicated by this paper's title and introduction, our views are decidedly realist. However, we believe it important to acknowledge the diversity of perspectives about the nature of science and scientific progress, in particular by recognizing differences between the realist views that guide our analysis and non-realist views of science advocated by some researchers in marketing (Peters, Pressey, Vanharanta, & Johnston, 2013; Tadjewski, 2011) and management (Mir & Watson, 2001).

2.1. Views on the nature of reality

A comprehensive review of the non-realist perspectives on science and scientific progress is beyond the scope of this paper, especially given the rich variations in their ontologies and epistemologies. Indeed, Löbler (2011, p. 53) categorizes much realist and non-realist thought into what he refers to as "streams of isms." In these streams flow positivism, empiricism, interpretivism, constructivism, structuralism, relativism, postmodernism, post-structuralism, realism, social constructivism, and so forth. Löbler's treatment of these isms is particularly useful in that it points out the major commonalities in the isms rather than focusing solely on the sometimes narrow differences that separate them.

The four streams identified by Löbler (2011) center primarily on differing views about the nature of reality and whether researchers can objectively evaluate that reality. Of the four streams of thought, only the first, which Löbler calls the "object-oriented/objective stream," sees reality as knowable, albeit imperfectly. According to Löbler, realism and other "positivist" philosophies occupy this stream. In the object-oriented/objective stream, researchers investigate the objects of their research and attempt to uncover characteristics of these objects that will ultimately yield regularities, lawlike generalizations, and scientific laws (Hunt, 1991). Science in the object-oriented/objective stream progresses as knowledge about the nature of objects grows through the development and testing of theories and then the independent replication of those tests.

The remaining three streams view reality and science in quite different terms than the first. Löbler (2011) calls his second stream of isms the "subject-oriented/subjective stream," which includes constructivism and interpretivism. In this stream, the focus of research is not objects of investigation but rather the subjective and socially determined experiences of the researchers themselves, for it is these experiences that determine how researchers conceptualize the objects of their research. Indeed, as Löbler (p. 57, italics in original) suggests, because objects are socially experienced, the realities of the objects are unique to individual researchers who actually construct the realities themselves: "[S]ubjects are *unable to get the same* picture of an object or any entity; they do not even know whether they are investigating the same object." The third stream, the "intersubjective orientation," is related to the subject-oriented/subjective stream through the view that the reality of objects is constructed socially. However, the focus of the intersubjective orientation is not on a researcher's individual construction of reality but on the "co-construction" of reality through social relationships and interactions. The fourth stream is called the "sign/signifier" orientation, which encompasses primarily post-modern philosophies. Under this view, objects of research are actually only "signs" that are disconnected from the objects themselves. The disconnection applies not only to the objects of research but also to all inputs and products of research. Researchers are not researchers but signs that signify researchers, for example.

We emphasize that the notion of socially constructed reality, whether by individual or by groups, extends beyond the simple idea that individuals merely perceive the same phenomenon differently. As Hunt (1991, 316) points out, this perspective "would mean that the perceptions of some of the people could be 'right' and others could be 'wrong'." To the extent that reality itself is socially constructed, either by individual researchers or by groups of researchers, they cannot draw objectively the right conclusions about reality, nor can their conclusions be deemed objectively wrong.

2.2. Plurality in scientific progress

In the world of socially constructed reality where knowledge claims cannot be objectively evaluated, scientific pluralism naturally follows. To the extent that knowledge is theory driven and to the extent that researchers are inseparable from the phenomena they investigate, we believe that a tenet of non-realist philosophies should include openness to many views of science and scientific progress. Indeed, Chia (2014, p. 688; see also Hernes, 2014) commends European academe in particular for its "more readily found scholarly openness to the plurality of perspectives that can be proffered on any observed social phenomenon."

The notion of pluralism raises two important points about the research in this paper. First, those who advance the idea that reality is socially constructed cannot assert that the scientific knowledge claims of realist researchers are objectively wrong. While scholars of this view may argue that realism itself is too narrow a philosophical perspective, they cannot argue the rightness or wrongness of realist research itself. The socially constructed nature of reality

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