"Is Marketing a Science?" Revisited

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THE SCIENCE of the postmodern world will put the "Is Marketing a Science?" debate in a new perspective. The change should relieve some of the tension of the "schizophrenia" resulting from the two opposing views.

Tomorrow's science will maximize the advantage of the marketing concept as an approach to the study of marketing. It will forsake for the moment the hope that the universe can be described into predictable patterns. It will embrace the reality of a dynamic world which can be explained in terms of science only provisionally.

History of "Is Marketing a Science?"

In 1948 Lyndon O. Brown, in support of the emphasis given for many years by the American Marketing Association, published an article entitled "Toward a Profession of Marketing." He made no claims for marketing as a science; but he urged the accumulation of a body of knowledge, the development of an analytical approach, and the sharpening of research as a basic tool for management. Nonetheless, his paper ignited the embers of the "Is Marketing a Science?" debate.

Probably the best report on the contemporary score is by Robert D. Buzzell. However, in measuring the achievements in marketing against the standards of a science, he finds much to be desired. One of the contributions in Buzzell's article is a succinct and accurate phrasing of the standards of a science:

... a classified and systematized body of knowledge, . . . organized around one or more central theories and a number of general principles, . . . usually expressed in quantitative terms, . . . knowledge which permits the prediction and, under some circumstances, the control of future events.

4 Same reference as footnote 3, at p. 32.
Yet today there is little if any central core of theory or durable principle in marketing. Quantitative formulas applied to marketing that are part of an enduring theory or generalization are rare. The background in which the process occurs changes too rapidly for a stable philosophy of prediction to emerge.5

On the other hand, the scientific forces arrayed to further the scientific objectives of marketing are formidable. During the last decade there has emerged a new attitude toward the meaning of both science and marketing that may provide a new balance to the arguments.

Innovations in the Concept of Science

The change in attitude toward science is described by Huston Smith, Professor of Philosophy at the Massachusetts Institute of Technology.6 He states that "our generation is playing a crucial part in the radical revolution of thought, the development of the postmodern mind and a new view of reality." He says that this century will "... rank with the fourth century which witnessed the triumph of Christianity, and the seventeenth, which signalled the dawn of human science. ..." This change, according to him, despairs of the hope that science as presently conceived can bring life and its physical environment into an orderly focus.

Professor Smith asks "how are we to picture an electron traveling two or more different routes through space concurrently or passing from orbit to orbit without traversing the space between them at all? What kind of model can we construct of a space that is finite yet unbounded, or of light which is both wave and particle?"8

He quotes P. W. Bridgman of Harvard, who suggests that "we have reached the limit of the vision of the great pioneers of science, the vision, namely, that we live in a sympathetic world in that it is comprehensible by our minds."9

Many of the basic theories describing the ultimate nature of the universe have been shot through with conflict and diversity. The cosmic breakthrough shattered the dream of the scientist who hoped that he and his colleagues were making significant progress in cataloging the unknowns of the universe into laws and principles.

Indeed, the scientific millennium, the quest for which began in the seventeenth century, was visualized as a period when the basic questions about the universe and its nature would be settled. Today the scientific millennium is viewed as a period when a maximum number of trained minds exercising scientific skill will achieve greater speed in finding significant and useful relationships in an infinite unknown.

Conant's Contribution

James Bryant Conant, renowned chemist and former President of Harvard University, describes different boundaries of science; and his definition meets the demands of the new cosmic reality: "Science is an interconnected series of concepts and conceptual schemes that have developed as a result of experimentation and observation and are fruitful of further experimentation and observations."

He continues. "Science is a speculative enterprise [italics added]. The validity of a new idea and the significance of a new experimental finding are to be measured by the consequences—consequences in terms of other ideas and experiments. Thus conceived, science is not a quest for certainty; it is rather a quest which is successful only to the degree that it is continuous."11

Conant points to the disillusionment that came about in the 1930s, wherein physicists had to forsake their previous belief that experiments could find unchanging principles and reliable answers to many problems. He says, "This episode in itself is for me sufficient justification for treating all scientific theories and explanations as highly provisional [italics added]."12

REFERENCES


7 Same reference as footnote 6, at p. 59.

8 Same reference as footnote 6, at p. 59.

9 Same reference as footnote 6, at p. 59.


12 Same reference as footnote 10, at p. 28.

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Conant's first requirement for a valid science consists of conceptual schemes that are fruitful. Such schemes or plans contribute to the increasing flow of other such schemes or plans. Unlike the general principle, they may become obsolete and be supplanted by those which include or transcend them. Their test as a part of a valid science is in their fruitfulness as a basis for new concepts.

The second criterion for scientific endeavor is that it would tend to "...lower the degree of empiricism or to extend the range of theory." In other words, science should make possible the predicting of outcomes.

Conant states that by the application of basic theory the surveyor can describe a variety of areas having no similarity as to boundaries. On the other hand, the recipe of the chef is good for only one dish. If he attempts to discover another tasty dish, he will not have foreknowledge of his findings. He must experiment to determine its quality. If he succeeds, there will be little in his discovery that will apply to additional dishes.

Another example to illustrate the extending of the range of theory is Boyle's Law, relating to the expansion of gases. This law operates in steam, gasoline, diesel, or jet engines. It also applies to firearms and explosives. Unlike the chef's recipe, the predictability possible as a result of the law enables men to extend the range of theory and know results before they happen. This law is one of the conceptual schemes that were fruitful in leading to the discovery of a means for splitting the atom.

This predictability aspect of science is the popular one. By extending the range of theory in light, sound, and chemistry, man has discovered leverage with which he has completely changed the world.

It was thus a natural development that social problems were subjected to this so-called scientific analysis. A typical incident is in the evolution of price determination as a measure of value. Smith, Malthus, Ricardo, Mill, and others were contributors to a man-hour theory of value. Nearly a hundred years later Hungarian economists, supported by Jevons from England, advanced a different view of value based on utility.

In 1890 Alfred Marshall published his Principles, which compromised the differences and synthesized the opposing views. His example of the two blades of the scissors describing the interaction of demand and supply curves meets Conant's test of science in the social realm. The meeting of the forces of demand with the forces of supply at the market place to set a price is a conceptual scheme that extends the range of theory in the science of economics.

The New Concept of Science and Marketing

According to Conant's proposition, the would-be marketing scientists should not discontinue their search for laws, principles, and central theories. Yet the great returns that will accrue to marketing scientists lie in three overlapping areas.

First is the development of conceptual schemes that will open new frontiers in marketing knowledge and suggest additional avenues for observation and experiment. The results of these developments will be of sufficient merit that they will be recorded, analyzed, and published.

Second, the marketing scientist will draw on the fruitful conceptual schemes and develop others that extend beyond fruitfulness to usefulness. Usefulness consists of a quality which makes the marketing manager better able to predict the outcome of his commitment and more successful in his enterprise than he would have been without such knowledge.

Third, the marketing scientist constantly will be refining the present concepts to greater usefulness and adapting them to the changing patterns and practices of the market place.

This process is well under way. It began when man first described and analyzed market activities and published the results for the benefit of others. From an infinite number of examples of this continuing process, two of contemporary interest and significance will serve as illustrations.

Study by Coffin

The first example comes from a pioneering experiment in assessing advertising effectiveness, in which Thomas E. Coffin includes an example of both the fruitful and the useful conceptual scheme. He states: "It has taken audience researchers some three decades and upwards of a hundred million dollars spent on audience research of all varieties to arrive at a point where they can produce reasonably accurate answers to the question of how many? [Italics added.] Isn't it logical to expect the same sequence of events to accrue in determining how hard?" Coffin's statement in the context of "Is Marketing a Science?" says in effect: It has taken researchers three decades and a hundred million dollars in experimenting with conceptual schemes that are fruitful to establish one that is useful. Isn't it logical to expect the same sequence of events in determining a similar yet different objective? Having thus cited a useful example, Coffin introduces one that is fruitful. He reports the results of his experiment wherein a 2-wave panel composed of the same individuals was reinterviewed to determine the comparative impact of television and magazine advertising at two points in time, three months apart; and he is duly modest in claiming his experiment to be fruitful but not yet useful.

13 Same reference as footnote 10, at p. 58.


15 Same reference as footnote 14, at p. 2.
Many would disagree with Daniel Starch’s claims that he is able to measure the specific results in sales of a magazine advertisement or a television commercial in his “net-ad-produced-purchases” method. Yet there are few who would deny that his conceptual scheme contains seeds which will sometimes and in some manner influence predictability.

The above-described activities are still “speculative enterprise.” Their “fruitfulness” will be measured in terms of the “other ideas and other experiments” they stimulate, and the degree to which they are “continuous.”

**Study by Oxenfeldt**

The second illustrative example is in the area of sales outcome. Alfred R. Oxenfeldt reports an observation that has already proved fruitful in stimulating comment in learned journals and books. He captures a “speculative” and “continuous” tone by presenting his experiment in a diary form which includes his own speculations.

If judged by the law, principle, or central-theory category (the benchmarks of traditional science), his experience was disillusioning. Because of the inadequacy of records available to him and the dynamics of the competitive television industry, whose share-of-market results he was studying, he was unable to discover the information he originally sought. Although he despaired at several levels, there were residual ingredients in his observations. He lists seven generalizations to guide similar and subsequent scientific undertakings. He also lists four conclusions for business executives and four points which describe the nature of executive decisions as they relate to scientific undertakings.

Oxenfeldt delves courageously into that twilight area where marketing decisions grow out of knowledge about the problems and practices of business and the analytical or administrative skill of the executive. Which of these two ingredients is strategic?

He takes the view that it is not an either-or situation, but rather a combination. One is prompted by his thinking to reason as follows: The rigorous analysis of the available facts and subsequent action by the executive may have three residues: (1) the actual results of his course of action; (2) an improved administrative skill resulting from his experience; and (3) the knowledge gained from putting his plans into action.

For the purpose of this discussion, the last of these is strategic. If this knowledge is analyzed and given a degree of permanence in writing and its validity determined, it may stimulate the development of other useful or fruitful ideas.

The use of electronic data processing will make the recording and analyzing of facts related to everyday business transactions more common. This extensive and intensive examination of transactions will serve as a feedback from actual experience. It could provide a prolific resource for discovering and refining relevant conceptual schemes. Oxenfeldt’s project was just such an attempt to measure the effect of marketing transactions on a broad front. Even though he did not discover specific reasons for the change in market shares, it would reveal a lack of imagination not to see in his study a residue of significant knowledge. His contribution included at least the beginning of conceptual schemes that were speculative, fruitful, continuous, and possibly useful.

**Scientific Method**

The traditional view of scientific method includes agreement among respected scholars as to the meaning of terms, classifying data so that they will achieve a high degree of accurate mobility, and finally testing the validity of hypotheses.

Conant’s failure to agree that these points are controlling does not mean that he would neglect them. He would expect such conditions to prevail in any scientific endeavor. Yet he considers them as routines and not the source of the dynamics and vitality of science. His three steps in describing the scientific process are: (1) speculative thinking as a creative act; (2) deductive reasoning; and (3) cut-and-try or empirical experimentation. This describes a process of getting a working hypothesis in mind; eliminating it or improving on it; projecting its potentials by deductive reasoning; and then actually testing it in the field or the laboratory.

The conceptual schemes resulting from this process are often more tenuous, dynamic, and speculative than the reliable, stable, traditional law and principle. Yet they describe the area of science in which many modern scientists are engaged.

**An Art or a Science?**

In answer to the recurring question, “Is marketing an art or a science?” Jevon’s word is the simplest: “... science is to know, and art is to do...”

Knowledge makes it possible to improve the skill in doing; and doing serves as a means of testing and enhancing knowledge. To pinpoint an instance, the act of performing an experiment in the laboratory requires an artistic skill to some degree. Yet the residue of knowledge recorded as a result of the experiment is science. It will serve as a means of improving the effectiveness of the next experiment. Science in marketing will provide guides to

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17 Oxenfeldt, same reference as footnote 4.
more efficient action and a means of sharpening skill.

Marketing men are constantly improving their effectiveness by means of a growing body of conceptual schemes that move from the fruitful into the useful stage. The act of marketing is an art. The practitioner as such is not a scientist. Yet in the course of his work he may publish observations and conduct experiments. To the extent that he does so and contributes to the fund of conceptual schemes that are fruitful and that extend the range of theory in marketing, he functions as a scientist.

The Marketing Concept

Winning the consumer’s choice in a highly competitive world at a minimum cost forced the marketing executive to break free from traditional patterns of thinking. The method of science which consisted of dividing and classifying, then redividing and reclassifying, in search of principles or laws did not satisfy the demands of reality in marketing.

In order to see all the forces influencing marketing success in their interrelationships within the whole, the many intangible ingredients of choice had to be included. Synthesis had to complement analysis. The marketing department had to be viewed as a part of the unified whole.

MARKETING MEMO

Caveat Vendor Is the New Slogan . . .

“Let the buyer beware” has been abandoned as a business philosophy by all but a marginal few, and few of these have enjoyed any but the most transitory success. But it is becoming apparent that the natural progress being made through the survival and growth of the ethical and honest, and the eventual failure of the others, is not a sufficiently rapid or sure process to satisfy our elected officials in Washington. New responsibilities for honesty, performance and even good taste are being put onto the shoulders of the seller, and the penalties are becoming increasingly severe.


Its success depended on interrelationships among production, product development, packaging, finance, personnel, and public relations. A conceptual view indicated that all of these, as well as controllable areas outside the firm, were in some manner an influence on the customer’s choice or on the cost of winning it. The manner in which these activities were coordinated in a dynamic process to achieve the desired impact gave coherence and an integrated unity to the process.

The adoption of the term marketing concept reemphasized the consumer’s choice as the center of the concentric circle and made it the heart of the marketing universe.

Basic to all other conceptual schemes in marketing are those used in the financial statements. The costs and satisfactions resulting from the processes of the firm are converted into expenses and incomes, and summarized to determine profits. They provide a basis for measuring the ultimate effect of all other conceptual schemes.

The concept approach to marketing releases valuable relationships which were “frozen out” of use by traditional compartmentalized treatment. It provides a potential for the development of many such schemes that are yet in their budding stages. The quest is a speculative enterprise, yet fruitful and continuous.