

THE PRODUCT LIFE CYCLE CONCEPT:  
ORIGIN AND EARLY ANTECEDENTS

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ABSTRACT

Although the Product Life Cycle (PLC) concept remains both popular and controversial, its origin has not been documented in the marketing literature. The purpose of this paper is to attempt to identify the origination of the concept as we generally know it today. Secondly, it can be shown that the concept had an antecedent which appeared fifty years ago.

LITERATURE REVIEW

In the two major historical reviews of marketing, neither Bartels (1962, 1976) nor Converse (1959) speculate on the origin of the PLC. In their review of the literature, Rink and Swan (1979) attribute the introduction of the PLC to Joel Dean (1950). No discussion or justification is given by Rink and Swan who apparently relied upon the master's thesis of Belville (1966) as their source. Dean's article was entitled "Pricing Policies for New Products" and took on a heavy managerial economics flavor. In fact, the material in this article appeared verbatim a year later in Dean's classic Managerial Economics text book (1951). Dean's work centered upon pricing policies for new products, focusing upon the fact that new products are doomed to progressive degeneration from competitive inroads. Dean's cycle of competitive degeneracy varies considerably but is in part a large function of technical maturity, market maturity, and competitive maturity. At one point in the article, Dean (1950, p. 50) does make a biological analogy which is the only time the words product life cycle appear. His terms were "before birth, at birth, in childhood, in adulthood, or in senescence." Conceptually, Dean did recognize the PLC but it certainly was not fully articulated at that time.

Prior to Dean's work, the role of innovation upon economic growth as developed by Schumpeter (1939) is interesting especially given his term of "Creative Destruction." Schumpeter also viewed innovation as the setting up of a new production function which has some analogies to the PLC.

In many disciplines during the 1940's and 50's, stage theories as models were quite popular. One example is W. W. Rostow's (1956) five stages of economic growth which were traditional society, establishing the preconditions for take off, the take-off, drive

to maturity, and the age of high mass consumption. There is some similarity to the Product Life Cycle so it might have influenced other writers although Rostow's full elaboration did not appear until his Stages of Economic Growth was published in 1961.

Recent articles by Day (1981), and Tellis and Crawford (1981) both make statements that the PLC is modeled on the biological analogy of birth, growth, maturity, decline. Perhaps the biological analogy has been a strong basis in people's minds when discussing the PLC but by itself is insufficient as proof of a distinct origin of the PLC.

By the late 1950's most of those who began using the term "product life cycle" appeared to be using the concept somewhat self-consciously. I say this because writers such as Patton (1959), Marvin (1959), and Forrester (1958, 1959) all use the PLC but cite no references on the concept. Given that Forrester is frequently cited as one of the first writers on the PLC, the author interviewed Professor Forrester (1982). He stated that he did not coin the term PLC but that it was probably a generally accepted concept by 1959 and that the concept had to have been recognized but perhaps not labeled as such. Thus, even if Dean did discuss a life cycle it apparently was not a conscious, direct link for the writers in the late 1950's.

#### THE FIRST FULL PLC APPEARS

The first full exposition of the PLC as we know it today that the author could find appeared in the proceedings of the 39th National Conference of the American Marketing Association. The meetings were held in June of 1957 just down the road in Detroit and I believe our host, Professor Hollander was in attendance. The proceedings were entitled Marketing's Role in Scientific Management and included a track on product development. It was here that Mr. Conrad Jones presented his paper Product Development From the Management Point of View (1957). Mr. Jones was Manager of New Product Planning at Booz, Allen, and Hamilton. Jones stated in his paper that the results were based upon a comprehensive management research project at his firm which he supervised. Jones (p. 40) stated that their conclusions were based on data from:

More than 300 BA&H client reports, dealing with new product activity.

Fifteen national conferences and seminars on new product management.

More than 2,000 extracts from 600 written source of all kinds.

Forty leading manufacturers and twenty professional organizations selected for special study.

New product data on more than 400 manufacturers and 100 professional organizations. Jones first displayed data on the contribution of new products to sales growth in various industries and then stated, "There are compelling forces behind this drive for new products. There is a life cycle that is characteristic of many - if not most - products. Since all products are 'new' at their outset, we can call it the basic life cycle for new products (p. 41-42)." A reproduction of this life cycle is shown in Figure 1.

## THE BASIC LIFE CYCLE OF NEW PRODUCTS

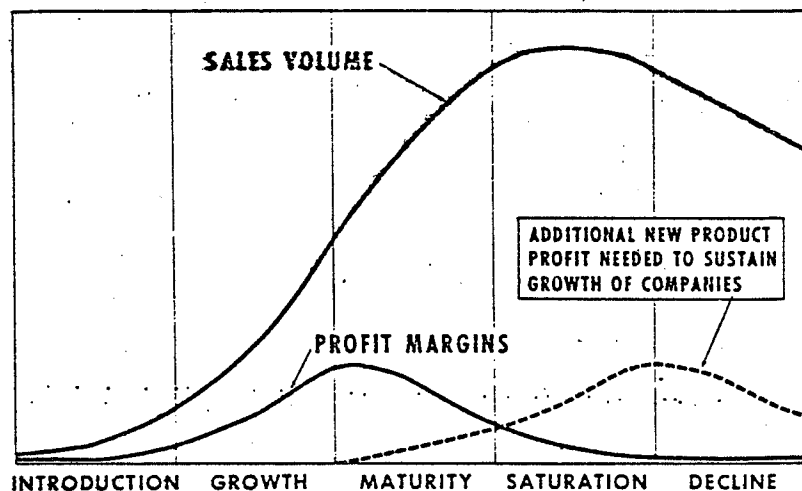


Figure 1

The PLC presented by Jones has an additional stage, saturation, to the normal four and also projects profit margins on the graph as well. Several other key points by Jones were that the cycle varies in length but also is getting shorter all the time. The remainder of Jones' paper is devoted to product development and new product evaluation issues.

The author interviewed Mr. Jones (1982) to see if there was some link to earlier ideas. He could not recall any detailed specifics but stated that "the mortality curve, product evolution, and profit time relationships were all probably the basis for the product life cycle...but that he did remember dreaming up some of the ideas and jargon."

It is interesting that none of the PLC writers subsequent to Jones' paper ever referenced his work even though it was in a fairly significant marketing publication. Perhaps, as Forrester suggested, it was a generally accepted concept. But as we will see next, the concept had been recognized decades earlier.

## AN EARLY ANTECEDENT

At least as early as 1931 (1), Otto Kleppner conceptualized a product life cycle in his classic text, Advertising Procedure (1931). Although his focus was on advertising (as many early marketing texts were), Kleppner stated:

This evolutionary process is one in which most products participate, and can be traced as it passes through three phases, the "pioneering" stage, the "competitive" stage, and the "retentive" stage. What the advertisements for any given product shall say depends largely upon the stage in which the product finds itself at that time (p. 5).

Kleppner labeled his version of a product life cycle as "the advertising spiral" and was depicted thus:

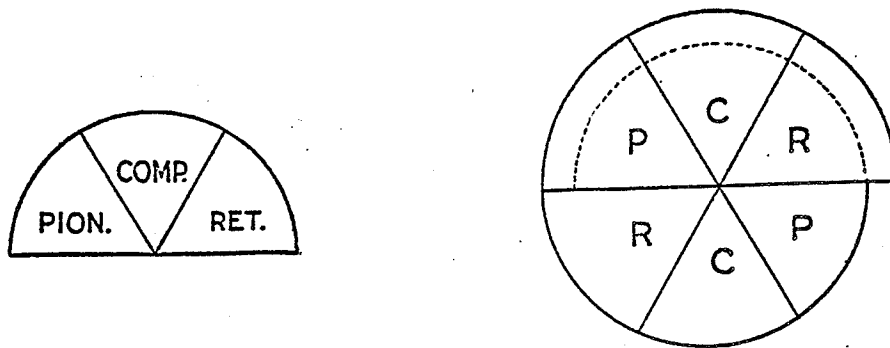


Figure 2

Not only is Kleppner's advertising spiral closely analogous to the current PLC but is quite remarkable in many ways--often preceding contemporary marketing thought by several decades. In fact, it is surprisingly similar to the product evolutionary cycle (PEC) recently proposed by Tellis and Crawford (1981).

First, the advertising spiral is not based upon sales which has been a common criticism (Hunt, 1976). Kleppner states that "the stage of a product depends upon the attitude of the people towards it . . . (and) cannot be determined by examining the commodity itself (p. 12)."

For example, for a product to be considered as pioneering, people must be educated to their need for the product. When this need or desire is recognized everywhere and when alternative brands are offered, then the product enters the competitive stage. Kleppner's retentive stage is when a product has "become so well known that the advertiser sits back, satisfied merely to retain the clientele already established (p. 12)." Kleppner makes an important point in that very few advertisers reach this point and

fewer still can afford to let their product remain in the retentive stage. To Kleppner, neither the age of the product nor current advertising is a good gauge of which stage a product is in. A product may be pioneering among one group of people and competitive for another.

After the retentive stage, Kleppner states:

After great heights come great falls, however, and at the retentive stage . . . two pitfalls await him. One is his expectation that his past success will carry forward the sale of the product, unassisted by the advertising which contributed to that success. The second danger which confronts an advertiser whose product is in the retentive stage arises when he disregards the changing nature and habits of the people (p. 22).

Kleppner envisioned an evolutionary cycle which can go through a transition and start another cycle--the spiral effect. The product stretches out to include new buyers or new uses of the product. Later in his text, Kleppner recognizes that the time may come when the only answer is to find new products (p. 420). Although not one of his explicit stages, Kleppner recognized the decline stage and saw two solutions. First, find new buyers or new uses (which did not necessarily mean reverting back to the pioneering stage) or develop new products.

#### SUMMARY

The author initially set out in an attempt to find the origin of the Product Life Cycle concept. What was found should not be construed as a definitive answer. The existence of additional early writing on the PLC is not only possible but probable in the author's opinion. Hopefully, stronger links can be uncovered in the future.

There are those who would argue that it is a trite question but understanding the evolution of any discipline and its underlying theories, models, and concepts requires inclusion of key contributions. Certainly in the least, the work of Jones and Kleppner belong in this category.

#### NOTES

- (1) The first printing of Kleppner's text was in 1925, an edition the author could not access. Thus the idea may have been published six years earlier.
- (2) Otto Kleppner was a student of a well known advertising pioneer -- Professor George Hotchkiss of New York University fame. Kleppner's work is mentioned by Bartels (1976).

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