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Author(s): Peter R. Dickson and James L. Ginter
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Peter R. Dickson & James L. Ginter

Market Segmentation, Product Differentiation, and Marketing Strategy

Despite the pervasive use of the terms "market segmentation" and "product differentiation," there has been and continues to be considerable misunderstanding about their meaning and use. The authors attempt to lessen the confusion by the use of traditional and contemporary economic theory and product preference maps.

MARKETS have been segmented and products and services differentiated for as long as suppliers have differed in their methods of competing for trade. The major advance in recent times has been that market researchers are using economic and behavioral theories and sophisticated analytical techniques in their search for better ways of identifying market segments and product differentiation opportunities. If sheer amount of statistical analysis and psychological jargon were the criterion, market segmentation could be judged to have shifted in status from an art to a science.

We therefore might expect that by now the basic purpose, definition of terms, and theory underlying market segmentation and product differentiation would have been consistently described and well understood. This is not the case. A review of 16 contemporary marketing textbooks reveals considerable confusion. Five of the texts (Evans and Berman 1982; Mandel and Rosenberg 1981; Neidell 1983; Pride and Ferrell 1985; Stanton 1981) describe product differentiation as an *alternative* to market segmentation and 11 of the texts (Abell and Hammond 1979; Buell 1984; Busch and Houston 1985; Cravens 1982; Dalrymple and Parsons 1983; DeLozier and Woodside 1978; Enis 1980; Guiltinan and Paul 1985; Hughes 1978; Kotler 1984; Reibstein 1985) describe it as a *complement* or means of implementing market segmentation.[1] In addition, three of the texts (Evans and Berman 1982; Mandel and Rosenberg 1981; Pride and Ferrell 1985) limit product differentiation to only *nonphysical* product characteristics.

The potential for misunderstanding is exacerbated by the discussion of "undifferentiated" and "differentiated" marketing strategies. These terms are used to indicate whether or not marketing strategy is based on recognition of market segments. Where product differentiation is discussed as an alternative to market segmentation, it is described as being an undifferentiated marketing strategy. This element of confusion

Peter R. Dickson is Assistant Professor and James L. Ginter is Professor, Academic Faculty of Marketing, The Ohio State University. The authors gratefully acknowledge the thoughtful comments and criticisms on earlier versions of the article provided by Brian Ratchford, Cynthia Fraser, Alan Sawyer, Fred Sturdivant, W. Wayne Talarzyk, Barton Weitz, and anonymous *JM* reviewers.

[1]Four texts, those of Assael (1985), Cunningham and Cunningham (1981), McCarthy and Perreault (1984), and Scott, Warshaw, and Taylor (1985) are not included in the classification because they do not use the term "product differentiation" in the discussion of market segmentation.

arises from the fact that various authors discuss differentiation of the *market, products,* and *strategy,* and the distinctions are seldom made clear.

We attempt to clarify the current misunderstanding by precisely defining and contrasting market segmentation, product differentiation, and demand function modification on both theoretical and practical dimensions. In the first section we present some of the theories and perspectives of market segmentation and product differentiation that have been developed by economists and marketers. We then offer a set of definitions in an attempt to lessen the current confusion in terminology. Finally, we use preference space mapping and practical examples to illustrate the important differences and relationships between product differentiation and demand modification, given various states of demand heterogeneity.

Historical Perspectives

The concepts of product differentiation and market segmentation have long been discussed in the literature. One of the pioneers of marketing thought (Shaw 1912) described the strategy of product differentiation as *meeting* human wants more accurately than the competition. The result is a "buildup of demand" for the producer's product and a potential for a price level higher than that of the existing stock commodity. In discussing the need to treat each distinct geographic region as a separate distribution problem, Shaw emphasized as equally important the recognition of economic and social market "contours" and the need also to treat these as separate marketing problems. Besides specifically recommending separate contour or segment analysis, he pointed out that the law of diminishing returns imposes a limit on the practical value to the company of catering to these different markets.

Also generally overlooked by both marketers and economists has been what Chamberlin (1965) had to say about market segmentation and product differentiation in his theory of monopolistic competition, first published in 1933. Product differentiation was defined simply as distinguishing the goods or services of one seller from those of another on any basis that is important to the buyer and leads to a preference. Chamberlin recognized the importance of both consumer perceptions and nonphysical product characteristics in observing that the basis of differentiation could be real or imagined, arising from distinct product, packaging, or distribution differences, or the prestige value of a trademark and trade name (e.g., Coca-Cola, Kodak, or Calvin Klein). Chamberlin also recognized that differences in buyer preferences result in a set of different demand curves. The heterogeneity in the offering, production, prices, and profits observed in the market was not, in his opinion, the result of imperfect knowledge or other market "frictions," but a reflection of the unsuccessful and successful attempts of manufacturers to adapt their products to the needs and tastes of different buyers.[2] In his first edition, Chamberlin stated that there seemed to be no particular reason why the demand curve would change when a product is differentiated. However, by his third edition, Chamberlin had recognized that the demand curve would move to the right and therefore become less price elastic when the differentiated product more exactly satisfied consumer needs.

Porter (1976) also viewed product differentiation as depending on both physical product characteristics and other elements of the marketing mix. Like Chamberlin, he recognized that product differentiation can be based on perceived as well as actual physical and nonphysical product differences. Porter also adhered to the traditional operational definition of product differentiation as the degree of cross-price inelasticity with respect to competing brands. In a demand equation this cross-inelasticity is represented by a demand function for the firm's offering that is relatively unaffected by changes in the prices of competing brands.

Samuelson (1976) discussed what we term "demand function modification" when he asserted that suppliers "deliberately fragment" industry demand curves into smaller segments through "contrived" product differentiation. His leading economics text thus takes the position that the supplier is the major cause of segmented market demand. Samuelson acknowledged that product differentiation can be a genuine response to differing consumer needs, but he clearly believed that most product differentiation is "artificial." He also repeated Galbraith's (1967) assertion that this is achieved by advertising that "distorts" consumer demand.

In his classic article, Smith (1956) expressed a view of product differentiation similar to Samuelson's position. He described product differentiation as an attempt to alter the shape of the price-quantity demand curve facing the individual supplier using advertising and promotion. If Smith was referring to alteration of the consumer's demand function when he described product differentiation as being "concerned with the bending of demand to the will of supply," this description clearly differs from the view of Chamberlin and Porter and fits what we subsequently term "demand function modification." If, however, Smith actually was referring to alteration of the *perceived* vector of product characteristics, his argument is consistent with those of Chamberlin and Porter with the excep-

[2]Frank, Massy, and Wind (1972) point out that many economists have viewed the existence of different prices as evidence of market imperfections. Chamberlin was a notable early exception.

tion that the latter authors also included alteration of actual physical characteristics through product specification. The creation of imaginary differences when no *real* differences exist through such devices as product names and skillful advertising has been labeled "pseudodifferentiation" by Lancaster (1979).

Smith was, however, consistent with other writers in discussing several, rather than one, demand schedules. He went on to associate the term "market segmentation" with adjustment of product and marketing effort to these differences in demand schedules. As a result of his terminology, Smith positioned market segmentation and product differentiation as alternatives rather than complements. This view was restated in his contribution to the special *Journal of Marketing Research* issue on market segmentation (Smith 1978). The preceding discussion reveals that his position results from additional qualifiers he put on the two concepts. First, he unnecessarily limited product differentiation efforts to promotion and advertising and discussed actual product specification only under market segmentation. Second, he associated product differentiation with recognition of only one, rather than several, demand functions. Theoretical justification for the inclusion of these additional conditions is not apparent.

We can see now that the apparently inconsistent and confusing treatment of product differentiation in contemporary texts is rooted in the differences between the views expressed by Smith and Samuelson and those of Shaw, Chamberlin, and Porter. The position of Smith and Samuelson is reflected in the five previously cited texts that describe product differentiation as an alternative to market segmentation. The views of Shaw, Chamberlin, and Porter are reflected in the 11 texts that treat product differentiation as a complement to or means of implementing a market segmentation strategy.

In addition to the inconsistent treatment of the term "product differentiation," the literature reflects a similar confusion or lack of precision in use of the term "market segmentation." This term often is used to refer to recognition of the existence of multiple demand functions and development of a marketing plan to match one or more of these demand functions. In this usage, market segmentation is described as a marketing strategy (e.g., Frank, Massy, and Wind 1972). Other writers such as Mahajan and Jain (1978) refer to market segmentation as a form of research analysis directed at identification of, and allocation of resources among, market segments. According to this use of the term, the segments with different demand functions are assumed to exist, and the objectives are to identify and cater to these groups rather than to alter or enhance differences in their demand functions. Market segmentation thus is seen as a way of *viewing* the market rather than defined as a management strategy. The purpose of such an analysis is to provide a foundation for market segmentation strategy.

Rosen (1974) and Lancaster (1979) contributed to the development of an economic demand theory in which products are viewed as multicomponent packages of characteristics.[3] Both of these authors acknowledged the existence of a distribution of preference functions or value systems across the consumer population. To the extent that this distribution has multiple regions of concentration surrounded by regions of sparseness, market segments are acknowledged to exist. Both authors also clearly viewed product differentiation as the variety in the characteristics offered by alternative goods. Rosen went on to argue that "a variety of packages appear in product markets to satisfy differences in preferences among consumers, and the situation persists because no firm finds it advantageous to alter the quality content of its products." He clearly viewed *both* product differentiation and market segmentation strategies as a consequence of the existence of market segments. This view is in sharp contrast with Smith's description of product differentiation as an attempt to manipulate consumer preferences.

Rosen, Lancaster, and others applied their hedonic demand theories to analysis of competitive conditions and developed theoretical optimal conditions. Marketing application of these frameworks for product positioning was developed by Hauser and Simmie (1981), Hauser and Shugan (1983), and Hauser and Gaskin (1984). Alternative competitive environments and the relevant strategic options are described subsequently. However, before proceeding with such a discussion, we propose the following definitional conventions.

Definitions

The following definitional framework is offered as a basis for explaining and comparing the various uses of the terms "*market segmentation*" and "*product differentiation*" in the literature. This framework is founded in both the current theoretical economic work of Rosen (1974) and Lancaster (1979) and the more traditional economic theory described by Chamberlin (1965). The definitions are stated in Table 1.

The concepts of market segmentation, product differentiation, and demand function modification can be defined and distinguished through reference to the representation of market demand as

[3]For an excellent statement and evaluation of the work of Rosen and Lancaster, see Ratchford (1975).

TABLE 1
Definitions

Construct	Definition	Comments	Examples
Market segmentation	Heterogeneity in demand functions exists such that market demand can be disaggregated into segments with distinct demand functions (F_i's)	$Q = F(p, x_1, \ldots x_n) = \sum_i Q_i = \sum_i F_i(p, x_1, \ldots x_n)$	The automobile market The soap market The camera market
Product differentiation	A product offering is perceived by the consumer to differ from its competition on any physical or nonphysical product characteristic including price	Perceptual differences created by usage experience, word of mouth, and promotion Actual differences are created by product characteristics	Mercedes Benz in the automobile market People's Express as the first no-frills, low price airline
Product differentiation strategy	Alteration of perceptions so as to result in a state of product differentiation	May be directed at entire market or at one (or more) segment(s) May utilize either physical or nonphysical product characteristics	P&G advertises Charmin as softer than competing brands Tylenol is promoted as effective relief for persons who cannot take aspirin
Demand function modification	Alteration of the functional relationship between perceived product characteristics and demand, i.e., changing F or F_i	Requires product differentiation in existence or as a complementary strategy May be directed at entire market or at one (or more) segment(s) May entail change in ideal point location May entail change in importance attached to a physical or nonphysical product characteristic	Michelin promotes the association of quality with safety for family transportation (to increase importance attached to quality) Dove promotes importance of moisturizing qualities of skin soap
Segment development strategy	Alteration of demand functions of a subset of consumers such that they will become similar and constitute a unique market segment	One particular form of demand function modification Requires product differentiation in existence or as a complementary strategy May entail change in ideal point location May entail change in importance attached to a physical or nonphysical product	Underalls draws attention to unattractiveness of panty lines and creates a segment of panty-line-conscious consumers Promotion of cancer prevention qualities of breakfast cereal to adults

$$Q = F(p, x_1, \ldots, x_n). \tag{1}$$

This demand function is consistent with the multiattribute model commonly used in the marketing literature. It is also similar to the hedonic economic model of demand with the exception that economists usually separate price from the vector of product characteristics. It postulates that the demand, Q, for a particular product offered by an individual supplier is a function of the price, p, and the product characteristics of that offering, $x_1, \ldots, x_n$. These product characteristics include both physical product attributes and nonphysical attributes, which may reflect dimensions of image and product performance. The nature of the functional relationship, F, will depend on the consumers' tastes, competitive product offerings, and other marketplace factors such as disposable personal income.

We should note that the traditional economic concept of the market demand curve,

$$Q = F_{x_1, \ldots, x_n}(p), \quad (2)$$

does not coincide perfectly with the form of the demand model in equation 1. In this traditional economic model, demand is a function of price, given a specified set of fixed product characteristics, and the demand function will shift such that quantity demanded is greater for each price if the product characteristics are changed to match more closely the consumer ideal points.

There appears to be some uncertainty in the economics literature about whether the product characteristics in equations 1 and 2 are objective or subjective. Under the common economics assumption of full consumer information, there is no difference. The marketing literature, in contrast, recognizes that most consumers base decisions on their *perceptions* of reality founded on only partial information. We therefore view $x_1, \ldots, x_n$ as perceptions of product characteristics. It should be noted that these perceptions result from the wide-ranging set of stimuli received by the consumer. Some of these stimuli are controlled by the marketing managers of the brand in question as they make decisions about advertising, packaging, salesforce efforts, and the like. Other stimuli are provided by marketing efforts of competing firms, product usage experience, and the broader environment.

Even if consumers shared common perceptions of a product's characteristics, it would be unusual to expect all consumers to respond equally to a market offering. One reason for this heterogeneity in demand across consumers is diversity in the demand function, F. This distribution of demand functions may take many forms such as uniform, unimodal, or multimodal. Heterogeneity in demand may be viewed also as the distribution of customers' ideal points in an attribute-based product space, where *each* customer's demand function, F, is reflected in the location of the ideal point. Under the condition of demand heterogeneity, it may be possible to view the total market as a set of submarkets or segments, with each having its demand, Q_i, determined by a unique segment demand function, F_i. We view these various segments and their corresponding demand functions as actually existing in the marketplace. This is not to say, however, that any single firm's identification of the market segments and their demand functions accurately portrays this reality. The numerous sets of variables, such as demographic characteristics and past behavior, that have been used to identify segments may or may not lead to accurate conclusions about market segments, depending on their relationship to the demand functions in any particular market setting. Because the demand functions and the vector of product perceptions actually determine the response to a firm's marketing efforts, we maintain that the demand functions themselves should be the theoretical basis for segment definition. Other bases for identifying or defining segments will be useful only to the extent that they correspond empirically to these demand functions and lead to identification of the true market segments.

Under ideal conditions, the total market would consist of subsets or segments whose within-group differences in individual demand functions (or ideal points) would be relatively small in comparison with the between-group differences. Unfortunately, however, individual demand functions are not directly observable and segment distinctions are usually blurred. Different firms' conclusions about the number and properties of market segments therefore will vary with their conceptual and analytic approaches to segment identification. As a result, competing firms may have different perceptions of the market segment structure of a market that exhibits demand heterogeneity. Because these perceptions of segments may provide a basis for marketing strategy, they may be one determinant of competitive performance. We therefore define "market segmentation" as a state of demand heterogeneity such that the total market demand can be disaggregated into segments with distinct demand functions.[4] Each firm's definition, framing, and characterization of this demand heterogeneity will likely be unique and form the basis of the firm's marketing strategy. Consequently the accuracy of the firm's perception of market segmentation often is a critical determinant of competitive advantage.

Product differentiation also is defined as a marketplace condition. If the product class were a commodity, all alternatives would be equal and perceived to be equal on all elements of the vector of price and both physical and nonphysical product characteristics. The prevalent condition is one in which all products are not perceived as equal on each of the product characteristics, including price. We term this condition a state of "product differentiation."

The preceding definitions lead directly to management strategies that may be pursued. One is demand function modification, the alteration of the functional relationship, F or F_i, between perceived product characteristics and market or segment demand. For example, a firm may attempt to increase the importance customers associate with a product attribute on which it has a competitive advantage (e.g., AT&T emphasizing the value of personal telephone services, BMW promoting advanced engineering and

[4]The market segmentation definition could be expanded to include heterogeneity in any market-related response functions—such as heterogeneity in response to different media and distribution channels, as well as in the traditional product demand function. Discussion of the implications of expanding the definition in this way is beyond the scope of this article.

road handling). In addition, the firm may attempt to change the consumer's ideal point on an attribute to a location nearer to that of its offering (e.g., Burger King promoting the advantages of flame-broiling over conventional cooking). The marketing literature generally has viewed the alteration of consumer values and tastes entailed in these strategies as more difficult to achieve than a change in perceptions of product characteristics (Boyd, Ray, and Strong 1972; Lutz 1975).

The term "market segmentation" is used frequently in the marketing literature to refer to a management strategy rather than a market condition or perception of a market condition. In this context, "market segmentation strategy" usually refers to use of information about market segments to design a program(s) to appeal to a specific existing segment(s); this convention is observed in the following sections. The firm also may wish to consider developing the condition of market segmentation through demand function modification. Under this strategy, which we term "segment development strategy," the firm would attempt to cause the development of a homogeneous group of individual consumer demand functions that differ from the demand functions of the remainder of consumers in the marketplace. Within this definitional framework, we can observe that marketing research has been oriented toward identification and analysis of demand heterogeneity for market segmentation strategy rather than for identification of opportunities for segment development.

The term "product differentiation" also may be used to describe a management strategy. It is best viewed as creation of a state of product differentiation by offering a product that is perceived to differ from the competing products on at least one element of the vector of physical and nonphysical product characteristics. As discussed next, this strategy may be pursued through product design in specification of actual product characteristics and/or through advertising directed at establishing perceptions of both physical and nonphysical product characteristics.

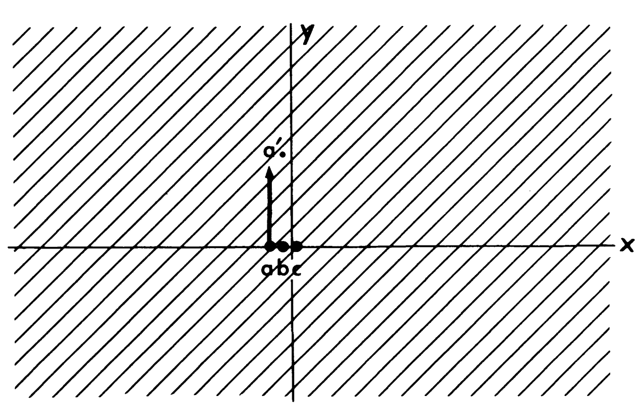
Strategic Options

The strategic options available to a competitor can be illustrated best through reference to a product preference map. For ease of illustration, we assume that two product characteristics, which may be either physical or nonphysical, are of primary importance. Brand locations in this two-dimensional space are representations of consumers' perceptions of the offerings and these perceptions are assumed to be homogeneous for this discussion. Consumers' tastes and values are represented through location of their ideal points. Another simplifying assumption is that the metric on the two axes is homogeneous for all consumers. Finally, we assume that the maps accurately represent the true marketplace conditions. Competitors who fail to understand thoroughly the true market configuration may fail to identify the alternative strategies we discuss or may pursue other strategies that are inappropriate for the market.

Product Differentiation

Figure 1 illustrates a competitive situation in which there is neither product differentiation nor market segmentation. The three competitive offerings, a, b, and c, share the same approximate position, and ideal points are distributed uniformly throughout the space. With this configuration, each of the brands will achieve approximately one third of the total market. A competitor in this situation may achieve a competitive advantage through a strategy of product differentiation. If, for example, brand a were to move to position a′ in Figure 1 by differentiation on axis Y, it would increase its market share because it would be closer to the ideal points of nearly half the market. In this situation, any one brand can increase its sales by differentiation (to a small extent) in any direction from its competitors. Though we do not address the potential dynamics that would result from competitive reaction, one could speculate that brands b and c might also attempt to differentiate their offerings from position a′ and from each other. The various competitive solutions to this problem depend on the nature of the market boundaries (see Lancaster 1979). Definitions of product differentiation that assume a single homogeneous demand function or limit the firm's actions to nonphysical product characteristics would not lead to identification of this strategic option for brand

FIGURE 1
Product Differentiation in a Uniformly Distributed Preference Space



Shaded area represents uniform distribution of consumer ideal points.

a. Note that Figure 1 contains no natural groupings of ideal points, and the product differentiation strategy therefore is not accompanied by either of the strategies of market segmentation or segment development.

Figure 2 represents another set of competitive conditions in which a strategy of targeted product differentiation would be very advantageous. In this diagram the distribution of consumer ideal points is not uniform, but unimodal (e.g., bivariate normal). For example, in the express mail-delivery market most business customers want guaranteed overnight delivery. Each of the brands could increase sales by moving closer to I, the centroid of the ideal point distribution. This situation would be likely to lead to active competition among the three brands, with each attempting to be perceived as being closer to I than its competitors. Ironically, if all three brands were successful in moving to point I, the resulting configuration would reflect no product differentiation and the three brands would share the market as before. Such interbrand competition would result in a closer matching of consumer wants and product offerings and the possibility, at least initially, of an increase in either the general price level or total market demand or both. Product differentiation definitions that are confined to nonphysical product characteristics may cause the marketer to fail to respond on all relevant dimensions in attempting to pursue the strategy depicted in Figure 2.

Segment-Based Product Differentiation

Figure 3 shows the existence of three market segments whose sizes are represented by the area of the corresponding circles. This is a third condition under which product differentiation may be beneficial, but in this case it is coupled with a market segmentation strategy. Because the three brands are initially undifferentiated, any of them could increase sales by moving closer to I_1, the centroid of the largest segment (e.g., a move to a′). This is an example of a segment-based product differentiation strategy (Porter 1980 refers to it as a focus strategy). Note that if one brand were to make such a move, the choice of the remaining brands between moving toward I_2 or I_3 and moving toward I_1 (and sharing sales of segment 1) would depend on the relative sizes of the market segments and the costs of the alternative moves. If brand a were to achieve product differentiation in the direction of I_1, it could increase its price to adjust for its more accurately meeting the needs of segment 1. Whether this increase would result in higher, monopoly profit in the long run would depend on the costs of moving to and remaining at a′ and the attractiveness of the higher profit level to other firms. If brand a were to increase its prices slightly above its increases in costs, the additional profit it would receive may not be enough to cause another brand to attempt to duplicate its move. The reason is that after such a duplication, the two brands would have to share the demand of segment 1 at a lower level of sales and profit for both. Definitions that describe product differentiation as an attempt to alter demand functions and/or recognition of only one demand function in the market would lead to failure to recognize this strategic option. In addition, definitions that constrain it to nonphysical attributes would lead to failure to use all relevant product characteristics in implementing this strategy.

The condition in Figure 3 corresponds to Chamberlin's (1965) observation that where the possibility of differentiation exists, sales depend on the skill with which the good is distinguished from others and made to appeal to a specific group of buyers. Coca-Cola finally recognized heterogeneity in demand with its new segment-based product differentiation strategy.

FIGURE 2
Product Differentiation in a Unimodal Preference Space

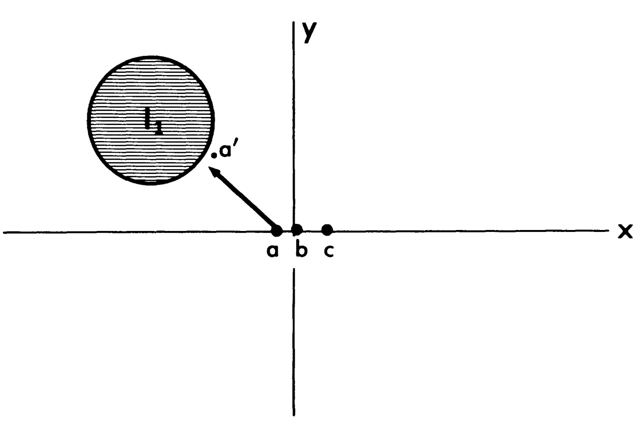
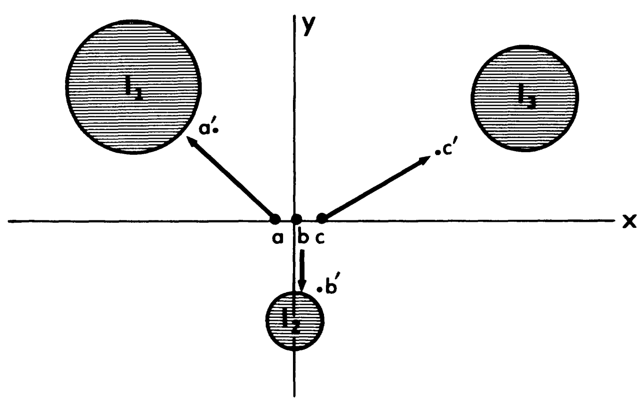


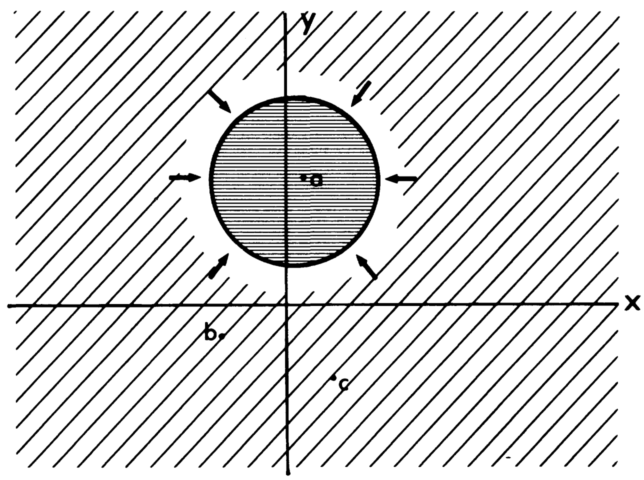
FIGURE 3
Product Differentiation in a Multimodal Preference Space



Classic Coke, New Coke, Cherry Coke, Diet Coke, No Caffeine Coke, and No Caffeine Diet Coke each cater to different segments and the strategy appears to have worked to the extent that Coca-Cola's overall market share has grown. The long-term profitability of the strategy has yet to be established.

Sometimes a marketer will attempt to convince a dubious segment of the public that its brand is distinctive because it has a *combination* of desired attributes normally not present in other alternatives and commonly not believed possible (i.e., an area of the perceived product space is empty because it is perceived to be an infeasible combination of attributes). The Miller Brewing Company's "less filling, great taste" positioning of its Lite Beer is an example of such a campaign. In this case, advertising had to change perceived *relationships* between attributes to be able to position the product successfully.

FIGURE 4
Demand Function Modification of a Uniformly Distributed Preference Space



Demand Modification Strategy

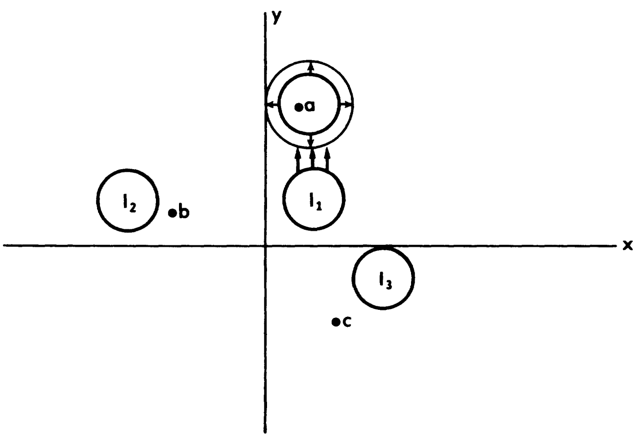
A situation in which a demand modification strategy may be beneficial is shown in Figure 4. In this diagram, product differentiation already exists, perhaps through the unique product characteristics or brand images of the three firms. Because brand a is perceived as having a higher level of characteristic Y, it could increase sales by creating a segment centered at position a. Note that this demand modification would not be effective without product differentiation as an existing state or as a concurrent strategy. In the latter case, the brand would attempt simultaneously to move to position a and to cause ideal points of a group of consumers to converge at that position. As an example, the brand of pantyhose called "Underalls" has drawn attention to its unique product-differentiated solution by promoting the unattractiveness of panty lines. To the extent that the campaign has increased the importance of this product characteristic, it has altered the demand functions of many consumers. Product differentiation definitions that recognize only one demand function would not lead to the strategy depicted in Figure 4, and those that constrain it to nonphysical attributes would lead to failure to consider all relevant dimensions.

This sort of combination of product differentiation and demand modification centered on a so-called "unnecessary feature" often has been the target of social welfare economists. The real problem appears to be that, whether rightly or wrongly, the marketplace frequently does not have the same value system as the economist. Though the marketplace clearly likes the choice that product differentiation provides, among many economists "product differentiation" has become a disparaging term used to describe what is "judged" to be manipulative and/or wasteful competitive strategy. Demand modification also may result in segment development when an attempt at concentrating demand in one area of the space results in multimodal concentrations of demand throughout the space.

A final strategic option is the combination of market segmentation strategy and demand function modification, as shown in Figure 5. In this situation, both product differentiation and market segmentation exist. Initially one would expect brand a to have the lowest market share because it is sharing segment 1 sales with brands b and c, which also have separate, proximate segments. Instead of moving the perceived location of brand a to I_1, the firm could choose to emphasize attribute Y to members of segment 1 in an attempt to move I_1 to a. This approach is clearly an example of what we have termed "demand function modification" and, as it is directed at only one segment, we would also label it "market segmentation strategy." Market segmentation strategy discussions that ignore the possibility of demand function modification, as well as product differentiation definitions that recognize only one demand function, would clearly fail to identify this strategic option.

In reality, demand modification often is accompanied by product differentiation and vice versa. In the winter of 1983, Campbell's Soup launched a demand function modification campaign promoting good nutrition and the importance of the nutritional value of food. At the same time, it attempted to differentiate the product by positioning hot soup as not only an excellent winter food (the theme of previous cam-

FIGURE 5
Demand Function Modification of a Market Segment



paigns), but also a superior nutritional supplement. Demand function modification also may be a byproduct of a product differentiation strategy. When TV advertising very effectively argues that Total has four times the vitamins of an alternative breakfast cereal, for example, one effect may be heightened importance of vitamin supplements in breakfast foods. In 1985, the maker of a high fibre cereal attempted to raise the level of concern among the wives of middle-aged men about the risks of colon cancer and to increase the perceived benefits of a high fibre cereal. This approach is a combination of segmentation, demand function modification, and product differentiation strategies.

Conclusion

The preceding discussion leads to a set of summary statements about the availability of strategic options. First, we can see that the preferred strategic option is determined primarily by the existing market conditions. Second, we can see that a strategy of product differentiation does not require the existence of market segments (Figures 1 and 2), but may be used in conjunction with market segmentation strategy when segments are perceived to exist (Figure 3). Third, a strategy of segment development is feasible *only* when product differentiation either already exists or is an accompanying strategy. Within this framework, product differentiation and market segmentation are clearly *not* alternative management strategies. A product differentiation strategy can be pursued with or without a market segmentation strategy, but a market segmentation strategy can be pursued only when product differentiation already exists or when accompanied by a complementary product differentiation strategy.

The distinction of market segmentation, product differentiation, and demand function modification provided by this conceptual framework is of benefit to both academics and practitioners. It shows that Smith's (1956) discussion of market segmentation as alteration of the product to match more clearly the needs of a segment actually corresponds to a combination of product differentiation and market segmentation, as shown in Figure 3. His discussion of product differentiation as attempting "to bring about the convergence of individual market demands for a variety of products upon a single or limited offering in the market" corresponds to demand function modification (Figure 4) or demand function modification combined with a market segmentation strategy (Figure 5). Farris and Albion's (1980) investigation of the impact of advertising on price also has conceptual ambiguity that our proposed framework eliminates. First, they identify market segmentation as a "central underlying concept" of product differentiation. In fact, neither the concept nor practice of product differentiation requires recognition of heterogeneous market subsets. Second, the authors identify three advertising strategies that achieve product differentiation. Only one of these, "influencing consumers' assessment of the product's performance on a given attribute," is product differentiation. The other two advertising effects, "introducing new attributes into the choice decision" and "influencing the combination of attributes regarded as 'ideal,'" are demand function modification strategies. Because these effects and the means of achieving them can be very different, the distinction between product differentiation and demand function modification must be clearly recognized and understood.

Though market segmentation and product differentiation are key marketing concepts, there has been little discussion about their underlying theory. A major exception is the work of Frank, Massy, and Wind (1972), who offered a comprehensive framework for analysis and distinguished between price discrimination and market segmentation. However, most of the literature on segmentation and differentiation has discussed analytical techniques. We attempt to define, develop the theory, and illustrate the application of market segmentation, product differentiation, demand modification, and segment development. There is evidence that these concepts have been confused with each other in the literature. Because they have very different implications for strategy, it seems important for both managers and academics to have a common, accepted understanding of the theoretical and applied meaning of these concepts.

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