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What is This?
Revisiting and revising Alderson’s formula to measure the productivity of the aggregate marketing system

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Abstract
In response to a swirling controversy over high costs, wastes and inefficiencies in marketing, Wroe Alderson (1948) proposed a novel formula to measure the productivity (or efficiency) of the marketing system. His dual input–output formulation represented a significant conceptual advance over marketing efficiency measures that had gone before or have come after. Alderson’s main contribution was to add a measure of household purchasing productivity to the standard economic formulation of the aggregate marketing productivity of business firms. There were, however, conceptual, operational and empirical problems with the formula, particularly with Alderson’s inclusion of household buying behavior. Because the conceptual challenges appeared so intractable and also because the difficulties of measurement seemed so insurmountable, the formula has long been relegated to the scrapheap of marketing history.

Conceptual advances in marketing theory, particularly in light of Alderson’s later theoretical work, along with the availability of data sources hitherto unavailable, now make empirically testing the efficiency formula a realistic possibility. Consequently, it is worth revisiting the formula and reexamining the conceptual challenges so that one of Alderson’s most brilliant theoretical contributions to marketing thought may finally be conceptually resurrected and empirically tested.

Keywords
marketing efficiency, marketing performance, marketing productivity, marketing systems, marketing theory, Wroe Alderson

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Introduction

Seventy years ago the marketing discipline faced its most severe crisis of confidence. With the publication of the controversial book: *Does Distribution Cost Too Much?* (Stewart and Dewhurst, 1939: 3), marketing scholars were thrust onto the defensive of arguing against the criticisms: ‘that it costs too much to distribute goods and that modern methods of marketing are wasteful and inefficient.’ There were numerous rejoinders, usually in scholarly journals (e.g. Beckman, 1940; Converse, 1940; Engle, 1940, 1941; Alderson, 1941; Huegy, 1941; Phillips, 1941; Vaile, 1941); but at least one retort: ‘Does Distribution Cost Enough!’ (Mazur, 1947) found its way into one of America’s most popular periodicals – *Fortune Magazine*. As a consequence, marketing authors expanded coverage or added one or two chapters on marketing costs and marketing efficiency to their ‘Principles’ textbooks (e.g. Converse and Huegy, 1940; Clark and Clark, 1942; Maynard and Beckman, 1946; Duddy and Revzan, 1947; Phillips and Duncan, 1948).

From the origin of the discipline efficiency was regarded as a core marketing issue (Shaw, 1912). From the micro viewpoint of a business firm: ‘The general problem of the executive can be defined as the problem of efficiency’ (Alderson, 1951: 19). To the macro standpoint of a society: ‘The great central problem of marketing is the problem of efficiency from the social point of view’ (Cassels, 1936: 129). Long after the marketing management revolution in scholarly thought began its ascendency in the 1960s (Shaw and Jones, 2005), and macromarketing issues, particularly the cost and efficiency controversy, began to fade into history, the first marketing management textbook to use the ‘4 Ps’ framework, both originally (McCarthy, 1960: 739) and still in its fifteenth edition, conceded that ‘micro-marketing often does cost too much’ (Perreault, Jr and McCarthy, 2005: 611, 613); however, in remembrance of the protracted efficiency arguments, which by now had all but vanished, the authors continued to argue: ‘macro-marketing does not cost too much.’

In the midst of the controversy, apparently in a brilliant flash of insight, Wroe Alderson (1948) proposed a formula to measure the efficiency of the aggregate marketing system. By marketing system, he later explained, Alderson (1965: 21–2) meant the interactions between sellers and buyers. By contrast, the term marketing since the advent of the marketing management school of thought, and particularly the ‘boundary expansions’ of broadened and generic marketing, according to Sheth and Garrett (1986: 1), ‘have resulted in limiting our perception of marketing to selling,’ thus narrowing marketing to only one part of the marketing system by excluding the household buying component. Alderson’s formula is so versatile, however, that it could be regarded as a general formula to measure efficiency at any level of marketing system activity, from micro- to macro-units. The efficiency formula could be used for measuring the marketing activities of a firm or the buying activities of a household; or their interaction in creating an individual market transaction; or the selling and buying activities among firms and firms, and firms and households, in a set of transactions (termed a transvection, discussed below), up to the aggregate marketing process of a nation (e.g. the United States), or even a group of nations (e.g. the European Union).

Even though ‘efficiency’ was long regarded as the ‘central problem of marketing’ (for example Shaw, 1912; Cassels, 1936; Alderson, 1941, 1948, 1951; Vaile et al., 1952), the definition of efficiency has never been particularly clear in marketing or any other academic discipline across the social sciences (Shaw, 2009). As a Committee on Marketing (1961) noted while trying to clarify the elusive criterion of efficiency:

The term efficiency is used in various ways . . . There is a popular, although incorrect, notion that low costs mean efficient performance . . . More correctly, it relates to getting things done.
Based on the Committee’s interpretation, efficiency means something more than low costs and it is somehow related to doing things effectively. Effectiveness is left undefined, but the Committee’s precise definition of an efficient performance is the same input–output ratio that precisely defines productivity. The intricacies and complexities of defining efficiency is beyond the scope of the present paper; but following the marketing literature, efficiency will be defined synonymously with productivity as the ratio of outputs divided by inputs and these performance terms will be used interchangeably throughout the text (for a more comprehensive treatment of the criterion of efficiency and other performance criteria see Shaw, 2009).

Productivity (or efficiency) measures how well a process is operating, i.e. how well the process transforms inputs into outputs. Productivity improves by increasing outputs relative to inputs or reducing inputs relative to outputs. Productivity measurement is used to compare the performance of a given system over time (longitudinally), or for comparing different systems either at a given point in time (a cross-section) or across time. Because all of the difficulties of measuring productivity at lower levels of analysis are collectively and cumulatively subsumed at higher levels, efficiency studies of the aggregate marketing system have proven the most intractable. Combining humorously with seriousness, the difficulties and importance of measurement was expressed by Vaile et al. (1952: 652): ‘Anyone who undertakes to apply quantitative methods to [aggregate marketing productivity] analysis needs to preserve full freedom for the operation of his judgment, his sense of balance, and his sense of humor.’ But they concluded on a more serious note: ‘The need for factual studies is great, however, and efforts to promote them cannot be abandoned.’

A similar plea, with a tall agenda, was made by Beckman (1965):

What is urgently needed with respect to studies of productivity in marketing is to conceptualize the subject matter ... In this work one must not be governed so much by ... traditional ideas as by the results of a reexamination in light of the most advanced thinking in marketing with reference to the nature of the product, the essence of production as the creation of economic values rather than the making of physical products, and the resources actually utilized in its work. (Beckman, 1965: 70)

By ‘traditional ideas,’ Beckman was referring to the earlier 20th century view of regarding marketing activities as economic costs in contrast to the well accepted idea of manufacturers’ adding value by creating form utility. The cost view overlooked marketing’s role in the creation of time, place and possession utilities – which also added value. Thus, at the time, ‘the most advanced thinking in marketing [about] the nature of the product’ was Alderson’s (1957) position that marketing produced ‘a bundle of utilities,’ and the most progressive thinking on translating these utilities into ‘the creation of economic values’ by business firms was Beckman’s (1958a, 1958b) work on value added as marketing output. The most forward thinking on ‘the resources actually utilized’ by households was Downs’s (1961) and Bender’s (1964) examination of consumer-purchasing costs and the significance of search time in buyer efficiency. And the most prescient thinking to ‘conceptualize the subject matter ... of productivity in marketing’ was Alderson’s (1948, 1957, 1965) pioneering analysis of marketing systems and the integration of selling and buying activities of firms and households in creating market transactions and transvections into a formula for measuring the efficiency of the aggregate marketing system.

There were conceptual and methodological problems with Alderson’s formula, however, and how these issues could be resolved was not at all evident to contemporary authors. Moreover, the
reexamination to organize the bits and pieces of ideas in the productivity literature that Beckman was calling for is more obvious in hindsight, of course, than it was at the time. Furthermore, even as Beckman (1965) was proposing his research agenda for conceptualizing aggregate efficiency, micromarketing was starting to push macro issues, including productivity, out of sight and mind.

Over the years there have been a number of attempts at measuring the aggregate productivity of marketing based on the work of business firms. Measurement of macromarketing productivity usually involves totaling employed marketing labor costs as input and summing the value of marketing activities by firms as outputs. Input costs typically entails adding the number of persons or person-hours employed in marketing (including manufacturing workers primarily engaged in marketing, and those employed in wholesaling and retailing, agents and brokers, importers and exporters, workers in freight transportation and marketing communication, such as advertising and promotion, as well as consulting, among other marketing services and activities). This measure is called partial factor or the labor productivity of marketing; full factor productivity would also include the capital and land used in marketing as inputs. Output value is typically measured by taking the difference between selling price and cost of sales (gross margin) for those firms engaged in marketing work, as noted above.

In a meta-analysis of seven empirical studies measuring productivity, covering a one-hundred-year time frame, from 1869 to 1968, Shaw (1990: 290) concluded, ‘aggregate marketing productivity in the United States has increased significantly over the past century.’ However, there was a caveat. The buying activity of households, particularly with the increase in self-service, was not reflected in actual measurements of aggregate marketing productivity (Shaw, 1990: 290–1). That is, the empirical studies of marketing productivity only covered the activities of firms, but there were no studies that included both firms and households in a measure of ‘marketing system’ productivity. This omission pointed to a fundamental flaw in the theoretical framework. ‘Any market transaction involves tradeoffs between buyer and seller concerning the performance of marketing activities,’ as Grabner and Layton (1973: 167–68) pointed out, but efficiency ‘theory deals only with sellers . . . [hence] the theory really does not deal with marketing performance in total.’ Such a limitation meant that ‘productivity improvements,’ as Bucklin (1975: 560) observed, ‘might be due more to beneficial changes in consumer buying behavior rather than to the adoption of any new meaningful technology by marketing management.’ To resolve these concerns, Shaw (1990: 291) proposed: ‘Future research needs to incorporate both the work of service industries and of household purchasing activities into measures of aggregate marketing productivity.’

The only attempt in the literature to incorporate household buying activity into a formula for measuring the efficiency of the marketing system is found in the work of Alderson (1948). Although his original paper provided some conceptual justification for the formula, a single article was just too short to do it justice. A fuller discussion of the logic upon which the formula was based would require the remainder of his life’s work, particularly Alderson’s (1957, 1965) two most noteworthy books: Marketing Behavior and Executive Action and Dynamic Marketing Behavior. Unfortunately, despite his brilliance, Alderson was not a methodical scholar and seldom followed up on his creative insights (Barksdale, 1980). This was also true for his work on marketing efficiency. Alderson, perhaps due to his untimely death, never returned to his earlier marketing system formula and completed the loop by linking his theoretical constructions to his productivity formulation – the purpose of the present work.

Far more sophisticated than previous or subsequent measures of marketing productivity, since it incorporated household buying activities, along with the marketing activities of firms, Alderson’s formula was never empirically tested. There were a number of conceptual, methodological and
empirical problems with the formula. As some of these problems appeared insurmountable, at least one crucial data series was completely unavailable and another extremely difficult to obtain, the formula was marginalized with only a few limited attempts to deal with the conceptual challenges, and these were mostly to poke holes at the formula.

Because they present such an ordeal to the uninitiated, difficulties in comprehending Alderson’s marketing theories in general, and productivity formula in particular, have not gone unnoticed in the literature. Many of those analyzing Alderson’s work have commented on the difficulty of understanding his writing (e.g. Hostiuk and Kurtz, 1973; Holbrook, 2001). For example Barksdale (1980: 3) writes: ‘Alderson was a creative scholar and an innovative thinker; however . . . his publications are difficult to read and understand.’ That puts it mildly according to another scholar who analyzed his writing style: ‘Alderson’s academic articles are indeed fiendishly difficult, bordering on the diabolical’ (Brown, 2005: 117). Even a leading theoretician, who attempted to formalize some of Alderson’s theoretical work, had conceptual misgivings about his productivity formula. In a panel discussion on ‘The Graduate Marketing Theory Course,’ Hunt (1979: 677) opined, ‘take Alderson’s notion about the efficiency of marketing systems. It is not a particularly well thought out piece.’ No doubt there were problems with the formula and underlying theory. However, Alderson’s formula for measuring marketing efficiency, and the theoretical foundation upon which it is based, offers greater depth to students of marketing thought than appears on the surface.

With the formerly missing data becoming accessible, and with the advantage of 60 years of conceptual developments, especially Alderson’s ensuing books and more than a hundred articles, as well as the subsequent work on marketing systems mostly by students of Alderson (e.g. Dixon, 1967; Fisk, 1967; Fisk and Dixon, 1967; Narver and Savitt, 1971; Shaw and Dixon, 1980; Hunt et al., 1981; Dixon and Wilkinson, 1989), it is now time to revisit and reexamine Alderson’s great insight into a method for measuring the productivity of the aggregate marketing system. Consequently, this research program seeks to discover if Alderson’s formula can be resurrected from the scrapheap of marketing history by addressing the many conceptual, operational and empirical difficulties with the formula. The present paper begins this task by taking a theoretical approach to identifying and attempting to resolve the conceptual issues with Alderson’s (1948) ‘A Formula for Measuring Productivity in Distribution.’

An Aldersonian theory of the marketing process

To provide a foundation for discussing the issues in marketing productivity, it is first necessary to understand Alderson’s theoretical analysis of the marketing process that transforms inputs into outputs. Bits and pieces of Alderson’s approach to a general theory of marketing are strewn throughout his prolific writings, and a partial theoretical formalization of Alderson’s work was proposed by Hunt et al. (1981). However, particular emphasis in this paper is placed on just three of Alderson’s many powerful constructs: (1) firms and households (the actors) as ‘organized behavior systems’ who use their resources (the inputs); (2) in performing the selling and buying activities necessary to efficiently overcome ‘discrepancies in the market’ (the marketing process) of product and service assortments, time and space, information and valuation, possession and ownership to (3) create ‘transactions and transvections’ (the outputs).

First, firms and households identify who performs marketing system activities (selling and buying) and for whom they are performed. Overcoming discrepancies describes what marketing activities are undertaken by the parties and explains when, where, and why they occur. Finally,
transactions and transvections describe what marketing is and does by explaining how the marketing system operates to create efficiencies. Alderson (1965: 83) used the ‘market transaction as a fundamental building block [to construct] a more rigorous type of marketing theory.’ He created the theoretical structure for building selling and buying activities into market transactions, and then building transactions into transvections, and finally building transvections into the aggregate marketing process. More constructs could easily be added to make the theory richer (heterogeneous supply and demand, sorts and transformations, differential advantage, market segmentation and product differentiation, etc.), but with space limitations, only a general outline is proposed here based mainly on these three constructs and two scientific laws.

Over the decades, a number of scholars have also proposed theoretical explanations of the marketing process similar to Alderson’s (1957) ‘discrepancies of assortment.’ These authors have used a variety of differing terminology (e.g. ‘maladjustments’ by Shaw (1912) and Clark (1922); ‘obstacles,’ ‘resistances,’ and ‘channel circuits’ by Breyer (1934, 1949); ‘flows’ by Vaile et al. (1952); Fisk (1967); Bartels (1968); and Dixon and Wilkinson (1989); and ‘separations’ by McInnes (1964); however, the underlying logic was fundamentally the same.

Explanations of the marketing process, using the terms expressed by Alderson (1957, 1965) and McInnes (1964) appear the most clear, concise and convincing. Beginning with the relationship between makers and users of goods, it is argued that the potential for market transactions is created when producers become separated from consumers by the division of labor. ‘It is the power of exchanging that gives occasion to the division of labor’ (Smith, 1776 [1937]: 17). As specialization increases, the division of labor becomes deeper, the gaps between producers and consumers become greater, and the network of potential trading relationships become more complex. The potential for exchange, however, is not the same as an actual market transaction. Discrepancies (maladjustments, gaps, obstacles, resistances, separations) between the parties provide the opportunity for market activity to be performed by marketing specialists, i.e. middlemen, to bridge the gaps (adjust maladjustments, overcome obstacles, close circuits, channel the flows) separating original sellers from final buyers, thereby transforming transactional potentialities into actualities.

However, as Alderson (1958: 19) also noted: ‘Potentially the cost of transactions is so high that controlling or reducing this cost is a major objective in market analysis.’ One of the major efficiencies created in the marketing process to reduce the potential costs of the marketing system found fuller expression in another Alderson work (1954: 7) and may be termed the ‘Law of Reduced Contacts (or Transactions).’ The idea that intermediaries provide value by overcoming discrepancies and reducing contacts is now such a commonplace in the marketing textbook literature that it is taken for granted and almost never attributed back to Alderson (e.g. Kotler, 2003: 506; Perreault, Jr and McCarthy, 2005: 302–3; Kerin et al., 2006: 396–8; Lamb et al., 2006: 394–6; Kotler and Armstrong, 2010: 339–40; Pride and Ferrell, 2010: 392–3). Alderson’s (1954) Law of Reduced Contacts is one of the twin pillars of efficiency that gives rise to the institutional structure of marketing systems and allows intermediaries to develop, survive and grow.

The Law of Reduced Contacts recognizes that: (1) given a roughly constant number of producers (manufacturers) and consumers (households), if a marketing intermediary arises and persists, then the number of contacts between producers and consumers declines and the total costs of the channel decline (even with the additional costs and profits of the intermediary); (2) if the number of producers and/or consumers increases, without an intermediary, then the number of contacts increases multiplicatively; (3) if the number of producers and/or consumers increases, with an intermediary, then the number of contacts increases arithmetically. Or more simply, if the number of producers (P) or consumers (C) increases, then the cost of contacts also increases.
Without an intermediary, there are $P \times C$ contacts; however, with an intermediary there are $P + C$ contacts and costs rise much less rapidly thereby increasing marketing efficiency.

Alderson’s Law is enhanced by its interaction with a corollary empirical generalization. Florence’s (1933) Law of Bulk Transactions acknowledges that if transaction size rises, then costs increase less than proportionally. It takes considerably less than ten times the work to sell a million dollar insurance policy compared to a $100,000 policy, or less than six times the work to buy a six pack rather than a single unit. These two scientific laws (i.e. well corroborated if $x$, then $y$ statements) working in combination, reducing the number of contacts/transactions while simultaneously increasing transaction size/value, produce synergies that explain much of the efficiencies found in marketing systems.

At the micro level of an individual unit of action for the marketing system, the direct and desired result of marketing activity is to match a household buyer’s ‘small segment of demand’ with a business firm’s ‘small segment of supply’ in a market transaction (Alderson, 1965: 21). In his electro-magnetic analogy, Breyer (1934: 107) described this sale–purchase transaction as a ‘simple circuit closing’; and McGarry (1950: 273) called the retail–consumer transaction the ‘termination function . . . the consummative act for which all other functions have been preparatory in the marketing process.’

Alderson (1965: 21 and 86) coined the term ‘transvection’ to embrace the set of transactions, including all sorts and transformations, from an original seller of raw materials, through intermediate purchases and sales, to the final buyer of a finished product or service. The transvection results from a series of transactions that, in turn, result from buyers and sellers engaged in a double search in which customers are looking for goods and suppliers are looking for customers. It is an exchange of information leading to an agreement . . . [that] is a joint decision in which the customer agrees to take the goods offered and the supplier agrees to sell at the stated price and terms. (Alderson 1965: 75)

Breyer (1949: 7) called closing this circuit: ‘A full cycle of marketing, one that spans the full stretch from producer to consumer, of channel dimension in its vertical aspect.’ Consequently, the transvection includes all the marketing activities taking place in a channel of distribution (the institutional structure). Therefore, aggregating the set of parallel consumer transvections in a particular nation, say the United States, for a particular time period, say a year, provides ‘an exhaustive description of the [macro]marketing process’ (Alderson, 1965: 92). In viewing the marketing system as a whole, the desired and direct result of marketing activity is to match aggregate supply with aggregate demand (Alderson, 1957). Since the direct and desired result of the marketing system, from micro- to macro-levels of analysis, is actualizing potential transactions (McInnes, 1964), then the potential transactions actualized provide a meaningful expression for the output of the marketing process and the costs to the parties, both sellers and buyers, of engaging in marketing activities, express the inputs.

**Alderson’s contribution to measuring the productivity of the aggregate marketing system**

Although productivity is a simple concept, measuring how well a process transforms inputs into outputs, when considering something as multifaceted as the aggregate marketing system, the issues become far more complex and often perplexing. Not surprisingly, there has been considerable
discussion and division in the literature as to what constitutes marketing inputs and outputs. Historically, aggregate marketing productivity has been conceptualized and measured (Bucklin, 1978) by summing the activities of individual business firms engaged in marketing (manufacturer’s sales activities, wholesalers and retailers, advertisers, etc.).

Alderson’s (1948, 1957) great contribution to the measurement of macromarketing productivity was to think of marketing as a system and therefore include final household buyers in the productivity formula. This was a major advance whose omission was widely recognized. It was pointed out ‘as a matter of common observation,’ by Cox et al. (1965: 181), that ‘consumers do a great deal of the work of marketing.’ Yet ‘the unpaid effort put out by consumers,’ as Vaile et al. (1952: 657) acknowledged, ‘is probably the most fugitive aspect of input [in marketing].’ But how to deal with marketing activity shifting from firms to households was not obvious: ‘Self-service affects productivity levels,’ as Claque (1965: 19) tried to clarify, ‘but ... cannot be viewed as a [retail] output, because it is not a service rendered to the purchaser but an activity performed by the consumer;’ his suggestion was to ‘add the consumers’ time spent in selecting and obtaining merchandise to productivity measurement.’ But he was unable to explain how it could, or to what it should, be added.

Unfortunately, this wider perspective of marketing systems has become obscured with the rise of marketing management, particularly the advent of ‘generic marketing’ (Kotler, 1972a), which Grabner and Layton (1973: 167) emphasize ‘deals only with sellers.’ That would have surprised earlier writers, who continually noted: ‘It should be obvious to all that selling and buying are the essence of marketing. Without both selling and buying there is no marketing. There must be two parties to any transaction’ (Nervik and Black, 1951: 3). That buying is a fundamental part of marketing now has to be highlighted by occasional articles with such ironic titles as: ‘Consumer–Purchaser Costs – Do Retailers Recognize Them?’ (Bender, 1964) or ‘Buying is Marketing Too!’ (Kotler and Levy, 1973).

If measurement of marketing performance covers only parts of the system rather than the marketing system as a whole, then it is possible that gains or losses in productivity as measured by some isolated parts represent only a transfer of work to or from the unmeasured segment. To the extent that marketing activities are shifted from one sector to another, say from the business sector to households, as in self service for example, measures of marketing productivity will appear to improve, because household buyers performing marketing tasks are not counted as a cost, when the theoretical framework of marketing performance is defined to exclude them (Vaile et al., 1952).

The difficulties of conceptualizing and measuring the efficiency of the aggregate marketing system, however, as Narver and Savitt (1971: 373) noted, ‘become even more complex when we include the consumer as should be the case. This is perhaps the most difficult task.’ Alderson (1965: 48) suggested a means for including household purchasing when he defined behavior as ‘activity occupying time,’ which provided a method to partition buying behavior and separate it from other household activities (e.g. employment, home production and consuming activities). There have been several attempts in the literature (Downs, 1961; Bender, 1964; Shaw and Pirog, 1997) to capture the specific activities involved in household buying, including: (1) search; (2) planning and selection; (3) travel; (4) waiting; (5) negotiation; and (6) warrantee, return and complaint activities. As this discussion has shown, there is considerable support from leading scholars to somehow include household buying activities in a measure of marketing performance. Thus we return to the only formulated approach to measure the productivity of both firms and households in the aggregate marketing system.
Alderson’s formula to measure the efficiency of the aggregate marketing system

In a unique attempt to incorporate the purchasing activities of households along with the marketing activities of firms, Alderson proposed ‘A Formula for Measuring Productivity in Distribution’ (1948: 442). The original formulation stated in Alderson’s own terminology is shown in Formula 1.

In Alderson’s productivity formula the input–output ratio is sub-divided into two input–output ratios. Both ratios are indexed because one is in sales per hour and the other in hours only. Since the units of measurement were not equivalent an index was required. The numerator input–output ratio, an index of unit sales per shopping hour, expressed the demand side of the market. It represents both the input-costs of household purchasing activities and the output-benefits received. Taking a household’s viewpoint in trying to identify what the marketing system actually provides for consumers, Alderson reasoned that if no marketing system existed then each household would have to visit the farm or factory or handicraft shop in which desired products were made; make their own selections; and arrange for transportation to their homes. What actually happens may be compared against this standard of zero distribution and the difference represents the output of the distribution system. (Alderson, 1948: 443)

Standing between no distribution supplied and the potential demanded is the process by which inputs are transformed into outputs to actualize marketing potential.

The denominator input–output ratio, an index of man hour equivalents, expressed the marketing activities of firms or the supply side of the market. Most studies of aggregate marketing productivity focus solely on the firm or denominator side of the input–output ratio. The standard productivity formula used by economists and macromarketing analysts is Gross Margin or Value Added divided by the number of hours employed in marketing; technically termed the labor productivity (or labor efficiency) of marketing (Bucklin, 1978). Neither the numerator nor denominator input–output ratios in Alderson’s equation have escaped criticism in the literature.

Critique of the numerator of Alderson’s formula: Household purchasing productivity

A number of objections to the numerator, or household demand side, of the productivity formula have been suggested in the literature (e.g. Vaile et al., 1952; Narver and Savitt, 1971; Bucklin, 1978; Hunt, 1979). The reservations of most marketing scholars may be traced back to Black and Houston (1950), who raised ‘three serious objections’ to Alderson’s formulation of household purchasing productivity.

Two objections related to the output concept in the numerator of the formula. First, ‘retail unit sales are not specifically defined, but it appears that a unit sale is any purchase regardless of size,’

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<th>Marketing Productivity =</th>
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<td>Index of man-hour equivalents</td>
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<td>total expenses of distribution</td>
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Formula 1. Alderson’s ‘formula for measuring productivity in distribution’
and Black and Houston (1950: 42) argued, ‘the size of the purchase surely needs to be taken into account.’ This objection is well founded, because number of transactions ignores the price, which reflects both a retailer’s cost of goods plus the services provided by the retailer, and these vary widely from full service to self-service. Rather than number, the output construct should take into account the size of the purchase reflecting the value of services provided. Thus, what is required is to replace Alderson’s vague measure of retail unit sales, generally taken to mean the number of transactions, with the more clear and precise monetary (e.g. dollar or Euro) measure of their value.

Further, Bucklin (1978: 21) provided conceptual, operational and empirical arguments in favor of transaction value as the relevant marketing output measure. Conceptually, a market transaction represents ‘an agreement to exchange goods (or personal services) and carry with them an obligation for an array of marketing services.’ Operationally, a market transaction provides a ‘unique and identifiable phenomena [sic].’ Empirically, a market transaction is countable and ‘analogous to the physical unit in production.’ (See Beckman (1958a) for the significance of the value added concept as a measurement of output, and Beckman (1958b) for 10 reasons why it should be employed in marketing.) Thus, to resolve the objection to marketing output as the number of consumer transactions, it is here proposed to replace Alderson’s original measure with the total value of retail–household transactions (or transvections).

The second objection to number of transactions as marketing output, made by Black and Houston (1950: 42), was that ‘it fails to take into account the services that accompany the sale.’ Again, the objection is well taken but also simply resolved. Services included with the sale are captured in the retail sales price when using value rather than number of retail–household transactions. Thus, changing from number of retail sales (or its equivalent – consumer purchases or retail–household transactions) to dollar value resolves both objections in the literature to the output measure of household purchasing productivity.

On the input side of the purchasing efficiency ratio, Black and Houston (1950: 42) criticized the number of shopping hours because ‘it assumes that the consumers’ time is all cost and no benefit.’ Obviously some consumers get pleasure from shopping, even window shopping. Alderson (1948: 444) anticipated this objection and answered with an analogy: ‘All shopping time in retail stores would be included [as a cost] despite the fact that consumers may enjoy shopping. Some salesmen may enjoy selling ... but ... this time is preempted against any other use.’ Similarly, Blankertz (1950: 166) argued: ‘Whether motivated by convenience or pleasure in shopping ... to satisfy wants ... the consumer must buy.’ Thus, purchasing time is regarded as ‘a means to an end’ (Alderson, 1965: 49), i.e. an opportunity cost representing an alternative foregone, irrespective of any intrinsic or instrumental satisfaction derived from the buying process.

Moreover, it is reasonable to assume that any intrinsic satisfaction derived from some types of shopping, such as a woman buying expensive jewelry or a new dress (and there may not be much joy for the companion when she is accompanied by a boyfriend or husband who is making the payment), is more than offset by the drudgery involved in other types of buying, such as the weekly grocery shopping. Again, it is helpful to carefully distinguish between buying and consuming activity. Thus, even expensive shopping items, such as a house, automobile or television, which may provide much satisfaction during the life of their consumption, are likely to produce considerable dissatisfaction in the buying process from the physical and mental burdens of searching, traveling, comparing and negotiating, as well as the attendant cognitive dissonance that accompanies high involvement purchases. Thus, the net benefit of shopping time is almost certainly negative, it is a real cost to buyers of doing business. Consequently, taking all the objections and resolutions into account, the household purchasing productivity ratio may be reformulated as shown in Formula 2.
The numerator, Retail–Household Transaction Value, represents the total value added by past production and prior distribution, the current value to both parties in exchange; the seller’s anticipated profits and the buyer’s expected satisfaction (use value) from subsequent consumption. In sum, Retail–Household Transaction Value represents the total range of products and services offered to and accepted by household buyers – the actualized potential of the marketing system. The denominator, Household Purchasing Time, reflects the opportunity cost of acquiring the products and services offered.

At a very low level of marketing system output, household members would have to provide almost all of the shopping inputs. As the market expands, the household can choose the desired level of marketing output it wishes to buy from a wide-to-narrow, deep-to-shallow assortment of products and a range of full service to self service. For example if a store does not provide delivery or installation service, then the buyer must cart the product home and install it himself thereby incurring greater purchasing costs and home production costs as well. Alternatively, the buyer can reduce purchasing opportunity cost by shopping at a store which does provide delivery and installation, pay a higher retail price and buy more marketing service output. The empirical evidence supports the contention that households with higher incomes (or less leisure time), have greater opportunity costs for time relative to income and therefore pay higher prices and buy more marketing services; whereas households with lower incomes (or more leisure time) trade off additional purchasing time for lower prices and buy less marketing output (Shaw and Pirog, 1997). Thus, an increase in the productivity of the macromarketing system, assuming that firm marketing productivity is held constant, varies directly with total household acquisitions in the market, and inversely with the cost of household shopping inputs to obtain these product and service assortments.

**Critique of the denominator of Alderson’s formula: Firm marketing productivity**

There have also been various criticisms of the denominator, or firm side, of Alderson’s productivity ratio. These tend to be more technical in nature (Bucklin, 1978). On the output side, what Alderson termed the ‘total expenses of distribution’ sounds more like input–costs rather than output–benefits. Not surprisingly, this distinction between cost and benefit has also been a source of some confusion in the literature. Historically, marketing costs were identified as the difference between selling price and cost of goods, termed Gross Margin (GM) by marketing intermediaries (e.g. wholesalers and retailers). But this difference closely approximates the services provided by marketing firms or Value Added (VA), which represents output. Part of the misunderstanding is that a conceptual issue has long been entangled with a methodological issue.

Conceptually, the confusion between VA and GM was expressed by an American Marketing Association Committee studying issues of marketing productivity: ‘To use the phrase “value added by distribution” instead of “marketing cost” [GM] . . . is equivalent to saying that output is input. Simply stated, cost and value added are two names for the same thing’ (Sevin et al., 1951: 53). Other authors have also attempted to distinguish between input costs [GM] and output value.
Tousley et al. (1962: 660) thought: “The term “cost” had a negative connotation ... “value added” is a positive term ... an addition to the economy rather than a subtraction, output rather than input.” But this appeared too arbitrary, “it is obvious, of course, that merely changing the terminology will not make marketing useful or desirable,” as Cox et al. (1965: 29) noted, and their solution to the problem of GM or VA being considered an input or output, was “to vary the usage from one part of the discussion to another.” But without providing a rationale for varying the use of terms, their approach also appeared arbitrary.

Within Alderson’s framework, marketing is viewed as a complex system consisting of groups of interacting firms and households playing selling and buying roles. Because the outputs of one process are inputs into another process, it is not surprising that what appears to one party as an input cost will appear to the other as an output value. From the perspective of the firm, all purchases of raw materials, component parts, finished products, labor and other services represent input costs, also termed factors of production; these factor costs are the resources used to produce output value – i.e. marketing services. GM is simply an accounting technique for measuring the cost of materials component of the output produced. VA separates the full input cost from the outputs produced; it represents the monetized contribution of a firm transforming its resources into a product/service assortment or bundle of utilities to offer customers. From the household perspective, a firm’s offering represents the monetized value of the household’s opportunity cost (i.e. the make or buy decision) of purchasing products and services in the market. Stated alternatively, output from the firm, i.e. product and service assortments, are purchased inputs to household production and consumption processes (Shaw and Pirog, 1997). Outputs from the household, in the form of payment, are inputs to the firm as sales revenue (either cash payment or receivables). Taking the marketing system as a whole, value is given in exchange for value received – quid pro quo.

Methodologically, GM appears roughly equivalent to VA at the firm level of analysis (Bucklin, 1978). GM represents the firm’s contribution to the selling price less the cost of goods, while VA represents the firm’s contribution to the selling price less the cost of goods and other purchased services. From an accounting standpoint GM is much easier to count than VA, which is why it has been so widely used in studies of productivity. Empirically, the difference between GM and VA is usually so small as to be negligible when considering the marketing of agricultural or manufactured goods, because the product component is usually high relative to the service component. When considering the growth rate of service industries over time, however, where there are few ancillary goods sold but many purchased services, the difference could well become significant. Thus VA, because it includes only the work of a firm and does not count purchased services from other firms, in contrast to GM, represents a truer value of the work performed by an individual firm. For the marketing system as a whole, however, the benefit of VA becomes even more significant because it avoids the double counting found in GM, which includes purchased services that are also counted as a sale by the service provider. Consequently, even from a methodological standpoint, VA is preferred to GM in studying productivity because it provides a truer measure of output for a firm, an economic sector, or the marketing system as a whole.

Turning to the denominator or input side of the ratio, Alderson (1948) imaginatively tried to get at a full factor cost set of inputs based on the average hourly wage rate. Alderson reasoned that marketing value added (the numerator of the denominator ratio) was produced by labor and non-labor (land and capital) components. He regarded the non-labor component as a substitute for labor and attempted to equalize these two components by reducing them to man-hours (dividing total marketing value added by the average hourly wage rate equals total man-hours equivalents). This approach, while inspired, has proven too difficult for any scholar to even attempt. While there have
been limited efforts to capture capital along with labor (notably Kendrik, 1973); historically, firm inputs have mostly been measured by the labor component alone; either the number of people employed in marketing or the more accurate measurement of the number of person hours employed in marketing (Bucklin, 1978; Shaw, 1990). Because a single factor is used to express firms’ inputs costs, this has technically become known as labor productivity. It should be noted that it represents not the productivity of labor, because capital and land are not counted, but the productivity with which labor is used (Black and Houston, 1950).

The number of person hours employed in marketing has an obvious benefit when counterpoised against the number of shopping hours included in the household purchasing productivity ratio. It makes explicit the trade-off between the number of hours employees of firms work and the number of hours household buyers spend in the marketing process. Taking the various objections and resolutions into account, the firm marketing productivity ratio may be recast as shown in Formula 3.

Thus, an increase in the productivity of the aggregate marketing system, assuming that household purchasing productivity is held constant, varies directly with the total marketing value added by firms and inversely with the total hourly marketing labor inputs to supply it.

Reformulating Alderson’s measure of productivity for the aggregate marketing system

Taking all the objections and resolutions to Alderson’s efficiency measure into account, and recombining the numerator, household purchasing input–output ratio, with the denominator, firm marketing input–output ratio, the reformulation to measure the productivity of the aggregate marketing system is shown in Formula 4.

Semantically, the formula states that the efficiency of the marketing system is the ratio of household purchasing productivity (output) divided by firm marketing productivity (input). Household purchasing productivity, in turn, consists of the total value of products and services that households’ demand (output) in the market relative to their cost of purchasing it (input). Firm marketing productivity consists of the total marketing value added that firms supply (output) to the market relative to their labor costs of providing it (input). Since both productivity ratios are expressed in equivalent units – dollars per hour – this reformulation has the added benefit of not requiring indexes.

Essentially, the formula captures total household demand for all products and services acquired in the market (and their purchasing costs in shopping hours) divided by total business firm supply of marketing services (and their labor costs in hours employed). It is, of course, realized that marketing services are captured in both the output of the numerator household ratio as a component of the total economic value of products and services purchased as well as the output of the denominator firm ratio as marketing services sold. Marketing value added could have been subtracted from the numerator total value added, but that leaves the unwieldy output phrase ‘retail-household transaction value less marketing value added’ and makes the measure sound more

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\text{Firm Marketing Productivity} = \frac{\Sigma \text{Value Added by Marketing}}{\Sigma \text{Hours Employed in Marketing}}
\]

Formula 3. Firm marketing productivity
confusing than it actually is. To avoid this unnecessary confusion, and because it does not create any measurement bias when used consistently in either longitudinal or cross-sectional studies, marketing value added is included in both ratios. Thus, an increase in the productivity of the aggregate marketing system varies directly with total retail–household transaction value per shopping hour and inversely with total marketing value added per employee hour.

**Implications for marketing theory**

To deal with issues of aggregate productivity it is necessary to employ a well articulated theoretical foundation, because at least ‘some of our difficulties in connection with the concept and the measurement of marketing productivity may be attributable to the fact that the available theoretical frame of reference has been both inadequate and unclear’ (Smith, 1965). As numerous marketing scholars throughout these pages have repeatedly emphasized, the omission of household buying activities represents a glaring weakness in the conceptual framework of marketing. The theory issue has become exacerbated by the dominance of the marketing management school of thought, particularly the pervasiveness of broadened marketing and generic exchange because ‘the boundary expansions’ take only a seller’s (marketer’s) viewpoint to the virtual exclusion of buyers (Sheth and Garrett, 1986: 1).

Generic exchange expands the domain of marketing by transferring marketing techniques to non-marketing practitioners, and thereby ‘reflects the process of doing marketing rather than critically reflecting on what it is we are doing’ (Editors, 2001). Generic exchange works in a practical sense because influencing others by using puffery, persuasive communication and techniques for overcoming objections, as are taught in advertising and personal selling classes, can be applied in many if not most interpersonal contexts. Although one may question whether they should be?

Without doubt, the most widely accepted notion of marketing is Kotler’s (1972a) generic version of exchange (Nickels, 1974; Hunt, 1976). Indeed, some authors believe that: ‘exchange is the key to unlocking a new conception of marketing with near universal applicability,’ and Anderson et al. (1999: 9, emphasis in original), further opined, ‘focusing on the general (exchanges in any organizational or interpersonal context), rather than the specific (conventional marketing context), provides a richer theoretical foundation and literature on which to draw.’ However, the universality of exchange is not such ‘a new conception,’ and there are considerable theoretical and overlooked methodological problems with this broadened view in a non-market ‘context,’ particularly as it relates to marketing productivity.

First the newness issue. Even before Kotler (1972a) used the term ‘generic exchange,’ the generality of the exchange concept was well understood across the social sciences. Karl Polanyi
(1957), an anthropologist, emphasized that exchange was a universal social phenomenon, but he also recognized that not all social exchange was economic in nature, nor was all economic exchange of the market variety. Similarly, George Homans (1958: 603), a sociologist, recognized the generalizability of the concept and even defined social (i.e. ‘generic’) exchange in quasi-business terms: ‘Profit = Reward – Cost.’ In this formulation, reward denoted a particular action chosen and cost was the alternative forgone. As well, Thibaut and Kelley (1959), social-psychologists, adopted the Homans exchange equation, because of its generality, and added the concept of a comparison level for alternatives. Likewise, Peter Newman (1965), an economist, discussed the ‘generalization’ of the exchange concept in individual choice behavior. Obviously, the generality or generic nature of the exchange concept is not new; what is new is equating all human behavior – related to any type of exchange – with marketing behavior: ‘Marketing is the set of human activities directed at facilitating and consummating exchanges’ (Kotler, 1972b: 12).

Conceptually, generic exchange in a non-market context creates considerable confusion for understanding marketing productivity. Inherent in broadened marketing/generic exchange is the idea that the parties to any exchange of value, not only economic but also political and social values, are performing marketing activity. Such a broad view would include a politician exchanging a pledge of delivering services to constituents for their votes, a pastor exchanging promises of salvation with parishioners for a tithe, a mother exchanging a birthday present with her child for a kiss, a pirate exchanging prisoners for a ransom, two fighters exchanging blows, or even two people exchanging social greetings – a handshake, or a ‘hello’ in exchange for a ‘hi.’ Because all of these examples fit Kotler’s (1972a: 49, 53) definitions of generic exchange, ‘marketing applies to any social unit … seeking a specific response from … or exchange of values with … [another] social unit’, then by definition the parties are engaged in marketing activity.

Despite the fact that interactions between parties may represent diverse social roles under differing social norms and social constraints, with the parties having widely different expectations, motives and values, they would all be subsumed under the label of marketing, because they are activities in the pursuit of creating exchanges. Even Anderson et al. (1999: 11, emphasis in original) recognized some limitations of generic exchange: ‘There appear to be both logical and practical limits on the “generic” applicability of any exchange process, including the marketing process in achieving exchange objectives it did not originally develop to achieve.’ Thus, context does matter.

And that is the vague and ambiguous nature of generic exchange: ‘Transactions occur not only between buyers and sellers,’ according to Kotler (1972a: 48), ‘but also between any two parties … [even] when a person decides to watch a television program; he is exchanging his time for entertainment.’ Aside from the confusion created by labeling such activities as marketing, even between two parties, generic exchange renders the macro-boundary for marketing’s subject matter indistinct and unclear, thus it has no scientific basis because it violates ‘the first axiom for a science of marketing … distinct and clear subject matter’ (Bartels, 1970: 6).

While the concept of generic exchange may have some interesting practical applications, in the use of persuasive communication, such as politicians and charities using market research and promotional techniques, there are virtually no theoretical implications. Except for the ‘broadening marketing’ notion (Kotler and Levy, 1969), generic exchange was not grounded in any prior marketing thought or theory (Jones and Shaw, 2002). Because broadened marketing/generic exchange has become so enmeshed in the fabric of marketing thought (Hunt, 1976), it has become difficult to disentangle and see beyond it (Ardnt, 1983). However, there was no intellectual building of marketing ideas, no set of systematically related propositions, no law-like statements, and virtually no possibility of measurement or empirical testing at aggregate levels of analysis.
Methodologically, generic exchange in a non-market context produces a measurement muddle. Most social values are expressed in terms of cognitions, attitudes or opinions, and these social and psychological concepts are measured with ordinal – assumed interval – scales. There may be methods to measure the value of some of the less egregious examples of generic exchange in two-party dyads or small groups; however, there is no way to individually measure and then add the value of all or even most social exchanges among humans. The non-market context matters in the measurement of such exchange values as love, friendship, respect, honor, courage, grief, happiness and knowledge – and calling them marketing. Measuring these so-called marketing activities and values across contexts, outside the market, defy empirical aggregation – even in principle.

If the value of exchanges cannot be measured at both the individual and aggregate marketing levels of analysis, then the idea of broadened marketing/generic exchange cannot be turned into a construct (i.e. concept capable of being measured). Because it is constructs that are employed to build theory, lacking constructs means that broadened marketing and generic exchange cannot be used as a theoretical framework to describe and explain the marketing system. Consequently, the broadened/generic notion appears not only unscientific but also atheoretical.

Further, generic exchange makes a disadvantage out of one of marketing’s most useful social science benefits. A more than ‘incidental advantage’ of the market transaction for empirically testing theory was noted by Homans (1958: 598), who observed ‘that it is carried out under special circumstances and with a most useful built-in numerical measure of value.’ In contrast to measuring attitudes and opinions in generic exchanges on ordinal or interval scales, the measurement of money in market exchanges occurs on a true ratio scale; and monetary values can be measured for an individual transaction, summated for a set of transactions, or further aggregated for sets of sets of transactions, up to the aggregate marketing process.

These ‘special circumstances,’ under which Homans (1958: 598) and Polanyi (1957), among others, say market transactions are ‘carried out’, should not be overlooked. Only the market transaction integrates cultural, legal and business values (Commons, 1924, 1934) with a medium of exchange. Although lost in broadening marketing and generic exchange, the ubiquitous and routine market transaction is truly extraordinary among all forms of social exchanges. While social exchanges date back to the beginning of the human species, and the origins of trade are lost in antiquity, the genesis of market activity and market transactions developed only over the last three millennia, and the growth of the marketing system contributed significantly to the rise of Western Civilization (Shaw, 1995). As expressed by Alderson (1957: 195, emphasis in original): ‘Economic progress has consisted largely in finding more efficient ways of matching heterogeneous supply and heterogeneous demand.’

It will be recalled that Alderson (1965: 83) used the ‘market transaction as a fundamental building block for a more rigorous type of marketing theory.’ Alderson extended Breyer’s notion of a sales–purchase transaction (1934: 107), that is: ‘Markets are opportunities to buy and sell . . . the moment of agreement upon a sale–purchase a simple marketing circuit is closed.’ Breyer, in turn, built on Commons (1924: 245, emphasis in original) conclusion, based on his extensive analysis of business practice and legal grounds, that ‘Marketing is not an exchange of commodities – it is a purchase and sale.’ Because he recognized the special circumstances involved, Commons narrowed, rather than broadened, the exchange concept by differentiating a simple barter exchange between traders from a market transaction between seller and buyer.

Building, block by block, on the work of Commons and Breyer, Alderson (1965) constructed a theoretical framework for building selling and buying activities into market transactions, and then building market transactions into transvections, and finally building transvections into the
aggregate marketing process of a nation. Therefore, market transactions and transvections, in contrast to broadened marketing and generic exchange, do provide a theoretical basis to determine how well the marketing process transforms inputs into outputs as articulated by the formula for measuring the productivity of the aggregate marketing system.

**Conclusion**

This paper set out to discover if Alderson’s formula to measure the productivity of the aggregate marketing system could be resurrected from the scrapheap of marketing history by identifying and attempting to resolve the conceptual concerns with his formulation. These conceptual issues were identified in the marketing literature and resolved by a modern reformulation reflecting Alderson’s original equations and then building upon his, and other scholars’, subsequent theoretical approach to marketing systems.

The formula for measuring the productivity of the aggregate marketing system captures the total household demand (and related purchasing costs) for products and services transacted in the market divided by the total business firm supply of marketing outputs (and related labor costs). An increase in the productivity of the marketing process varies directly with total retail–household transaction value per shopping hour and inversely with total marketing value added per employee work hour. In justifying the productivity formula, a theoretical framework of the marketing system was presented in which theory followed ‘from a concept of its subject [matter] and is consistent with it’ (Bartels, 1970: 6). The theory was based on Alderson’s explanation of organized behavior systems (firms and households) using their resources to perform the marketing activities (selling and buying) necessary for overcoming discrepancies in the market to create transactions and transvections. This view of marketing, in contrast to the broadened/generic view, provides clear and distinct subject matter (Bartels, 1968). Marketing activities and market exchanges arise, survive and grow because of the efficiency created in production by the division of labor (Smith, 1776 [1937]: 3). Marketing through intermediaries, marketing institutions and marketing systems arises, survives and grows because of the efficiencies created largely by the interaction of the scientific Laws of Reduced Contacts (Alderson, 1954) and Bulk Transactions (Florence, 1933), discussed previously.

Building on Alderson’s work, this research has added the construct of a Retail–Household Transaction (or Transvection). This transvection explains the ‘termination function,’ what McGarry (1950: 269) regarded as the ‘sine qua non’ of marketing, ‘the consummation of the marketing process.’ The sum of Retail–Household Transaction Value satisfies Bucklin’s (1978) three criteria for an output measure of aggregate marketing productivity, discussed earlier. The Retail–Household Transvection also provides a foundation for explaining what Hunt (1983: 13) described as the four ‘fundamental dependent variables of marketing science’ that require explanation: the behavior of (1) sellers and (2) buyers, interacting in (3) channels of distribution (the institutional structure) to create market transactions and transvections, and (4) the reciprocal impacts of the marketing system with the larger social system of which it is a part. The Retail–Household Transvection includes the set of all transactions from original sellers of raw materials, including all sorts and transformations, through intermediate purchases and sales, to the final buyer of a finished product or service. Thus, the Retail–Household Transvection expresses the total value added by past production and prior distribution in the channel, the current value to both parties in exchange; the seller’s anticipated profits and the buyer’s expected satisfaction (or use value) from subsequent consumption. Hence, the sum of these transvections equals the aggregate marketing output of a given society for a given time period.
A limitation of this research is that the theoretical discussion was constrained to an explanatory sketch of the marketing system and not developed into a more fully formalized general theory. However, market transactions and transvections, in contrast to generic exchanges, are consistent with the criteria for a general theory of marketing: explaining the fundamental dependent variables of marketing with a systematically related set of propositions, containing laws, which are empirically testable (Hunt, 2002). It is the task of future research to deal with the formidable methodological challenges and daunting empirical issues raised by the formula; and despite the difficulties to press ahead toward actually measuring the productivity of the aggregate marketing system over time, for say, the United States or European Union.

**Note**

1. Alderson used the terms productivity and distribution in this article, rather than the terms he normally used – efficiency and marketing (e.g. Alderson, 1941, 1951, 1957, 1965) – because of his original audience. The April 1948 *Journal of Marketing* article was a revision of an earlier unpublished paper presented at the ‘First Conference on Productivity’ sponsored by the US Bureau of Labor Statistics (October 1947). Except for the two papers presented by Wroe Alderson and Reavis Cox, the conference was attended almost exclusively by economists. The terms productivity and distribution were more familiar to economists than were the terms efficiency and marketing and the former terms were carried over into their respective *Journal of Marketing* articles by each writer.

**References**


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