
Information as a product: not goods, not services

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Recent decades have witnessed an explosion in the quantity of information being produced, which in turn has created vast opportunities for information-based businesses. The time has come for information to be treated as a unique product alongside goods and services. But is information an intangible good or an imperishable service? In this paper we discuss the unique properties of information as a product and propose that information be distinguished conceptually and thus marketed differently from both goods and services. We offer recommendations for marketing practice that apply uniquely to information. Finally, implications for marketing theory, marketing research, and directions for future research into the marketing of information are presented.

The information age

As the world's economy enters the Information Age, all types of digital data become more important to many aspects of business, to say nothing of daily life (Drucker, 1994; Naisbitt, 1982). Moreover, the selling, transporting, and manipulating of information have become a huge business. It is estimated that there are more than 36,000 information product suppliers in the USA (Meyer and Zack, 1996). One information supplier, Find/SVP, sells hundreds of marketing research and industry reports, many of which cost \$2,000. In 1997 the A.C. Nielsen Company generated over \$1.358 billion in marketing research revenue (<http://www.nielsen.com/home>, 30 July 1997). Tapscott (1996, p. 9) estimates that the interactive multimedia industry will generate one trillion dollars or 10 per cent of the gross domestic product of America in just a few years. Within the industry, almost all current business efforts and research, however, are focused on the production and sale of information products (Meyer and Zack, 1996). This paper provides justification for the need to develop *information marketing* as a distinct field of study and practice alongside traditional goods marketing and the newer field of services marketing. We suggest that marketers should focus attention on creating theories and strategies that are uniquely suited to the marketing of information.

Certainly, the term "information" has many meanings depending on the context in which it is used. While a later section discusses the concept of information in more detail, we begin by thinking of information simply as words, numbers, pictures, software, sounds, or video. The content of information may be factual, as suggested by Campbell's definition: "news, intelligence, facts and ideas that are acquired and passed on as knowledge" (Campbell, 1982, p.15). All of these may be "captured" in time and related again

and again without any degradation in the original data, i.e., information has the capacity to be digitised. Information, as conceptualised here, does not include live performances that require an audience to be present because these are, strictly speaking, services (Lovelock, 1991). In essence, we are defining information both as the communication of knowledge and as a signal or transmitted data (*The American Heritage Dictionary*, 1985). Furthermore, information may be capable of being exchanged as in other marketing transactions (Rowley, 1995).

In common with most new product fields (Foxall, 1984), the initial thrust in the information industries has been creating new forms of information and the technologies to compile and disseminate them. Consequently, either a "production concept" or "selling concept" approach has dominated this business. Our argument is that it is now time to focus more specifically on the marketing of information and let the "marketing concept" guide the development of information products. A market orientation will be as essential to the success of information companies in the future as it is now for any other type of goods or services-based company (Deighton *et al.*, 1996; Webster, 1994).

The focus of our paper is the marketing of information, where information is the primary component of a "product" to be purchased and used by either organisational or household consumers. This paper discusses the nature of information and presents a review of the literature relevant to its marketing. Next, we discuss a new paradigm that distinguishes goods, services, and information. Our orientation to the concept of information is summarised well by Rowley (1995), who states that information is "neither a good nor a service, but has some characteristics of both as well as unique characteristics of its own". This leads to recommendations concerning marketing practice. Finally, implications for marketing

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theory, marketing research, and directions for future research into information marketing are presented.

Three types of products: goods, services, and information

As the marketing concept has long argued, a product is a bundle of benefits that a firm offers to consumers to meet their needs and wants (Webster, 1994). Expanding on this "product/service bundle," we propose that a product consists of relative proportions of three primary elements: goods, services, and information. Figure 1 shows this new concept of a product embedded in the augmented product concept introduced by Levitt (1983) and discussed by Webster (1994).

Most products can be conceptualised as a mixture of these three elements. An example of a product that is comprised of approximately equal proportions of all three elements would be personal computers: the total product consists of the hardware (goods), the service guarantee and user support services (services), and information on its use contained in the manuals and disks (information). From this orientation (see Figure 2) we can refer to a Type I product as one that is dominated by the goods component. Premium oranges sold during the holidays, while dominated by the goods component, may have smaller sectors devoted to services (e.g., returns for imperfections) and information (e.g., a booklet describing unique uses). A Type II product is predominantly a

service, as is a visit to the doctor, where the product is dominated by the professional service, but it may be accompanied by tangible medical devices or drugs (goods) and booklets or advice (information) on health maintenance. Finally, a Type III product is an information product; an encyclopedia on CD-ROM is virtually all information, but it also has a small goods component (the CD, its case, the jewel box), and a small service component (the online help and upgrades). While this article focuses mainly on the marketing of Type III products, the implications are clear: marketers of all types of products should keep in mind that their market offering may contain some proportion of each of these three elements and that competitive advantage, consumer value, and new product development can be guided by enhancing each part of the product.

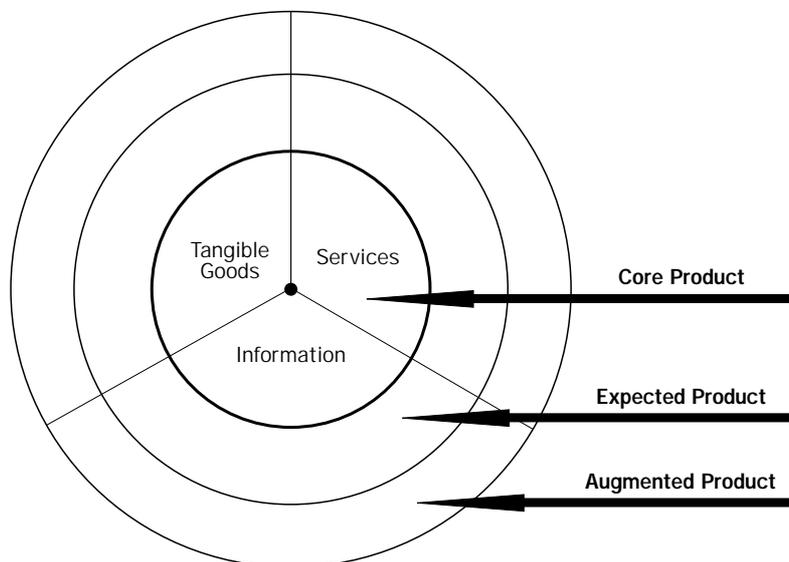
Information is unique

First, it is important to establish a conceptual definition for information and identify its properties. Information is unique because it has a mathematical form, regardless of whether the medium carrying the information is a book, movie, audio tape, or computer screen. In modern terms, information has the capacity to be digitised without any loss of content (Gates, 1995). It may be provided in printed or electronic form and it can be sold to external markets or it can be used internally by the originator (Meyer and Zack, 1996).

Information may be uniformly consumed by more than one person, at various locations, at any time. Information is delivered in an impersonal manner, or it has the capacity to be so delivered. Thus, information is the same for all consumers who can use it any way they wish. The challenge for managers of Type III products (such as the author of a thrilling novel or the creator of a software innovation) is to develop the information (often having high fixed cost and long development time) after which the product may be sold over and over with negligible variable cost. There is no theoretical limit to the level of supply by a single producer (e.g., there are over 100 million copies of Windows 3.1 used throughout the world, all virtually identical (Schlender, 1995)).

Furthermore, consuming information does not use it up or change it (the feature of permanence), although it can become out of date (the feature of obsolescence). Information should not be confused with its

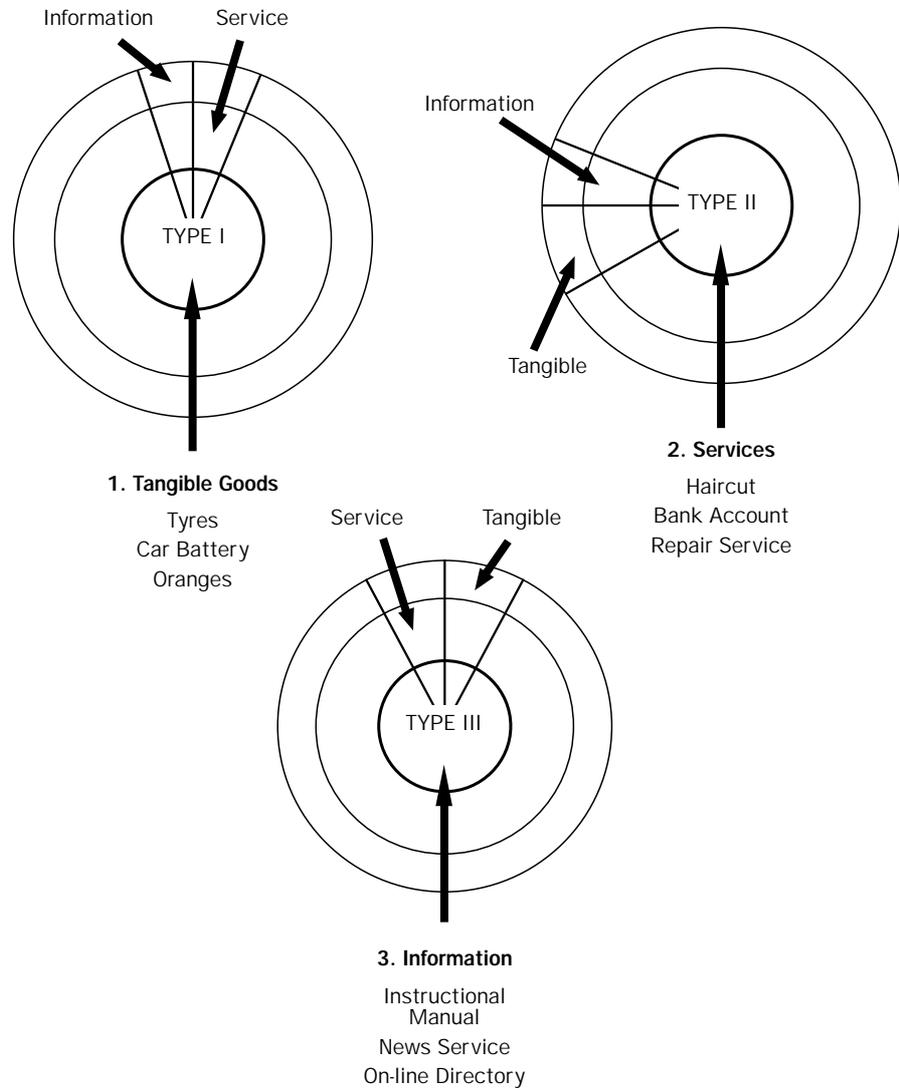
Figure 1
A new concept of a product: tangible goods, services, and information



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Figure 2
 Three types of products



mode or the medium through which it is delivered. *Mode* here refers to whether information exists symbolically as words, numbers, pictures, or sounds. *Medium* refers to the physical means by which it is delivered to users, via print, broadcast, digital, or visual media. Type III products may exist in several modes and be delivered by several media. For example, popular books are sometimes sold as hardbacks, paperbacks, audiotapes, and even CD-ROMs.

Traditional product classification systems

The idea that different types of products should be marketed differently is one of the oldest ideas in marketing. In addition to the

traditional economic distinction between durable and nondurable goods, Copeland's (1924) breakdown of goods into convenience, shopping, and specialty goods is well known to marketers. However, the distinction between different product types (i.e., goods and services) is a more recent concept. An analogy for the case for considering the marketing of information as different from marketing other types of products can be found in the services marketing literature, which emphasises the distinction between goods and services.

The earliest literature about services marketing concentrates on how to market specific services (Hobart, 1947). Articles actively discussing the distinction between marketing services separately from physical goods did not appear until the early 1960s. Regan (1963, p. 57) wrote that services

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represent “either intangibles yielding satisfactions directly (insurance), tangibles yielding satisfactions directly (transportation, housing), or intangibles yielding satisfactions jointly when purchased either with commodities or other services (credit, delivery)”. Regan (1963, p. 62) also noted that “the application of technology to the delivery of services may do for services what technology did for mass production”. He argued (p. 61) that the life-cycle of services has new services as “offered to and sought by higher socioeconomic levels” and mentions that “social pressure and legal means are then invoked to help realise this service for a wider market”.

In another early classification of services, Judd (1964, p. 59) classified services into three categories on the basis of whether they represented:

- 1 rented goods services;
- 2 owned goods services; or
- 3 non-goods services.

Judd (1964, p. 59) pointed out that this classification scheme does not define the essential characteristics of a service, but “it is possible to be quite definite about what services are not”. Rathmell (1966) described a continuum between goods and services, with no product being either a pure good or a pure service. We have extended this idea (as shown in Figure 1 and discussed earlier) by proposing that products consist of tangible elements, services, and information.

The new paradigm

Zeithaml *et al.* (1985) have developed a popular framework showing how goods marketing differs from services marketing. They identify four characteristics that separate services from goods:

- 1 heterogeneity;
- 2 perishability;
- 3 inseparability of production and consumption; and
- 4 intangibility.

In this section, we review these four concepts to show that information is different from both goods and services. Then we expand this paradigm (see Table I) by adding two additional characteristics, ownership and reproducibility (Palmer and Cole, 1995), which justify further the need to treat information as a distinct product category.

Heterogeneity of the offering

Type I products often manifest high homogeneity because of mass production and standardisation. Conversely, Type II products are portrayed as having considerable

Table I

A comparison of goods, services, and information

Product characteristics	Goods	Services	Information
Heterogeneity	Low	High	Very Low
Perishability	Low	High	Very Low
Inseparability	Low	High	Low
Tangibility	High	Low	Very Low
Ownership	High	Low	Both
Reproducibility	Low	Low	Very high

heterogeneity, because the individual differences in humans providing the service make consistent service delivery more difficult (Zeithaml *et al.*, 1985). For example, the final product you receive in a new haircut or a soothing massage may differ considerably from service provider to service provider and, on occasion, even within the same service provider.

Type III products, in contrast, are identical to each other and to the original; the product is exactly the same, demonstrating perfect homogeneity. Information may even be “in the economic sense, a pure public good in that its cost, once the process/system is in place, is completely unaffected by the number of people who have access to it, with the quantity of information unchanged or often expanded with use” (Hawes, 1987, p. 84). This feature enables managers to emphasise “a standardised, quality-controlled product,” for consumers (Hawes, 1987, p. 87). Information is thus similar to goods, but information is even more extreme in uniformity since goods can have small quality variations visible only through sampling and inspection procedures.

Perishability

Perishability describes how long a product can be stored or inventoried. Goods are somewhat difficult to classify since the ability to inventory them varies widely. Some goods will last a lifetime or longer (high-quality tools, aluminum baseball bats, etc.), while other goods have a very short shelf life (bread). In terms of accounting principles, durable industrial goods considered as assets can be depreciated or amortised over an identified period. Services are quite different in that they have value only when they are produced and consumed. If the service is not consumed (i.e., the service provider is idle), the service has no value. For example, unsold seats on an airplane have no value once the plane leaves the departure gate.

Type III products differ from both goods and services in that information is not

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perishable; in fact, information is essentially permanent. Information itself does not deteriorate over time, although the medium in which it is stored may decay, as when a book yellows and falls apart or an early celluloid film decays. In fact, it is not even used up during consumption, but remains to be used again and again. This is not to say that information always retains its original value, as some types of information, such as news, have an element of timeliness or immediacy. Although its value may change over time (with newer information generally being more valuable than older information) the information itself remains the same. In summary, with respect to perishability, information has little in common with services and is more like goods.

Inseparability

The concept of inseparability refers to the physical and institutional distance between the originator of the product and the final consumer. In the case of Type I products, the producer may be quite distant from the final consumer. The product may move through a channel of distribution involving a series of middlemen and it may physically move from a factory, to a warehouse, to a retail store, and finally to a household. Type II products, by contrast, are highly inseparable because the producer and the consumer work in concert to create, deliver, and consume the service. This is especially true of services that are performed directly on the person (e.g., haircut, massage, dental care, etc.), as opposed to services that are performed on objects (e.g., car, outboard motor, etc.) (Lovelock, 1991). Unlike services, information is like a good because it is produced, stored, transported, and can exist without being consumed. Type III products may involve an “ordinary” channel of distribution, such as a store or mail order; or it may be distributed in a unique manner, as in the case of dedicated phone lines and appropriate hardware (e.g., to access information via the Internet). Nevertheless, information still needs to be distributed. Information is capable of being consumed at a distance from its production site, and thus is clearly not a service, again emphasizing the separation between information producers and consumers.

Tangibility

Tangibility refers to the product’s physical properties and the extent to which it can be seen, felt, heard, smelled, etc. Goods are tangible and have physical attributes, although they may also have some service attributes; while the performance of a service

is largely intangible, but may have a few tangible aspects (Levitt, 1983).

Information differs from goods because it exhibits an absence of tangibility. It is symbolic in nature; the most tangible element of an information product is the medium through which it is conveyed. Data, for example, may reside in numbers or letters that have some recognised meaning. Location is not an important property of information. Information may be on your computer screen or in cyberspace being delivered. Thus information is even more intangible than a service, which most likely has some tangible aspects. Information is then clearly not just a good or a service, but is a unique type of product that is not only produced differently than most types of goods (Meyer and Zack, 1996), but should also be marketed differently from both goods and services.

Ownership

Ownership in the sense of taking title to a product is a central feature of consuming goods, but one cannot take title to a service, only own the right to have a service act performed in the future (Palmer and Cole, 1995). Technically speaking, information can be owned; e.g., this article is copyrighted. In reality, however, ownership rights may be difficult to exercise as witnessed by the complexity of laws covering copyright and intellectual property. Information’s good-like qualities facilitate ownership, but its intangible features hinder exclusive possession and control. Besides the intangibility of information, its reproducibility limits ownership, making it different from Type I products, which can be owned but not copied.

Reproducibility

Most of the time a consumer cannot reproduce or copy a tangible good; and counterfeit products are illegal. Many services (other than “do it yourself”) also cannot be copied by the consumer (Palmer and Cole, 1995). Information, however, may be easily copied for or by other consumers using modern technologies that yield low variable costs (information can even be transformed from mode to mode and medium to medium), so that information must be carefully guarded to maintain exclusive possession. On the other hand, this feature means that information is not used up in the act of its consumption, but it can be used repeatedly and shared. Finally, information can be preserved more easily than tangible goods because copies can be made to replace an original if it is stolen or destroyed.

In conclusion, Type III products should not be treated simply as special cases of Type I or Type II products. Information constitutes a unique product, separate from goods and services. Consequently, information as a product requires distinctive marketing strategies.

Information marketing management and strategy

As discussed, information has unique properties that do not conform well to the traditional goods versus services distinctions. In this section we describe the marketing strategy implications of information's unique properties. The ways by which information differs from goods and services may be important to managers charged with marketing Type III products and to academics challenged to further investigate them. We first discuss information market segmentation and then the marketing mix for information.

Information market segmentation

The strategy and practice of market segmentation have always focused on dividing large heterogeneous markets into smaller more homogeneous segments to improve customer satisfaction and market efficiency and effectiveness. The years have witnessed the evolution of market segments from rather crude divisions based on simple demographics and product usage to more sophisticated schemes using consumer lifestyles, values, attitudes, and perceptions. The use of database marketing has pushed the precision of market analysis much further, grouping consumers by zip codes or other geodemographic characteristics (Berry, 1994; Francese and Piirto, 1990; Thomas and Kirchner, 1991). Database marketing also opens the possibility for treating each consumer as an individual target (McDougall, 1995; Peppers and Rogers, 1993). Recommendations regarding market segmentation and targeting consumers are converging on a new paradigm. The emphasis on relationship marketing (Fierman, 1994; Peppers and Rogers, 1993; Vavra, 1992), building long-term relationships between firms and customers, almost demands a one-to-one market segmentation programme for information marketers.

This emphasis on personalisation applies to both business-to-business and to household consumer marketing strategies. Both types of buyers are increasingly coming to demand personalised information products. This is especially appropriate because Type III products are often delivered interactively to consumers. Moreover, consumers of all types are

becoming more involved in the self-customisation of these Type III products. The new push technologies evolving on the Internet ask consumers to describe which types of information they want transmitted to their computers for viewing at their convenience. The Internet also provides individualised stock portfolios, customised weather news, and other types of individualised information for users, often called "intelligent agents". We can conclude that the most appropriate strategy for market segmentation for Type III products is micro-segmentation, where each consumer is treated as a unique individual.

Product considerations

Producers of goods and services are generally concerned with the quality of their product and this should be no less true for the producers of information. Consumers tend to judge the perceived quality of many tangibles by using the dimensions of performance, product features, conformance with specifications, reliability, durability, serviceability, and fit and finish (Garvin, 1984). Likewise, consumers tend to evaluate the quality of services on the dimensions of reliability, empathy, responsiveness, assurance, and tangibility (Parasuraman *et al.*, 1985). Information quality should focus on customer needs and wants, as the marketing concept prescribes (Webster, 1994). We suggest information marketers be guided in their pursuit of quality information products by four other dimensions represented by the acronym FACT:

- 1 *Form*;
- 2 *Accuracy*;
- 3 *Completeness*; and
- 4 *Timeliness*.

Form refers to the mode and medium through which the information is made available. Users have preferred modes (print, electronic) in which they wish to use information and preferred media (books, floppy disks, microfiche, CD-ROM, online) through which they wish information to be delivered. Marketers should ensure that they make information available to users in the form that users prefer. This may entail providing the same information in a variety of forms for different market segments. For example, an online information service is of little use to potential customers who lack access to the Internet. A CD-ROM is useless to computer owners who lack the appropriate disk drive to read it. Thus, marketers of information will likely produce their products in multiple formats to adapt to the technological and experiential characteristics of their customers. The notion of form also may be

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extended to describe the way information is organised and presented as well. Marketers should consult end-users to determine the most attractive ways to organise the information content of the product. For example, can it be searched by name and subject and key word if customers desire? The one-size-fits-all product may be the furthest of all from the demands of the information market.

Accuracy describes how well the information represents the phenomena it purports to describe. Part of the accuracy of information consists of its description of the phenomena users really want described, and not descriptions of other phenomena. For example, the Nielsen Television Index (NTI) filled in by the wrong household members would be misleading. Moreover, accurate information conforms to or represents the actual characteristics of the phenomena that it purports to describe. Information that is inaccurate is really misinformation and can be misleading or harmful to information consumers. Marketers need to determine the level of accuracy desired by users and to ensure that the information they provide is as accurate as users desire. Some unsophisticated information consumers will not be able to specify the level of accuracy desired, assuming all the information is “completely accurate”. This has both marketing and legal ramifications. Some marketing effort may need to be devoted to “educating” consumers on appropriate levels of accuracy, and warnings may need to be developed to ward off legal attacks from consumers who view the information product as inaccurate.

Completeness refers to how much of the target phenomenon is described by the information available. That is, is a complete description available, or are key parts missing? Information that is incomplete either because it leaves out cases or elements of cases may be completely useless to consumers, or may have only reduced value. For example, a database that reports consumer usage of goods, but not these same consumers’ usage of services, would not likely be of much use to marketers interested in selling a service to heavy users. The NTI mortality problem would also be an example of incompleteness.

Timeliness refers to how up to date or current the information is. The phenomena described may be changing, and thus their description needs to reflect these changes. Out-of-date information is obsolete and may be of little or no value. It may in fact be misinformation and may mislead users. Marketers need to ensure that the timeliness of the information they provide meets the requirements of their customers. This quality

aspect adds to the product development task of information marketers by requiring that they continually update their product to keep it timely.

An example of FACT can be found in any local telephone directory, which is merely an alphabetic listing of people, their addresses, and their phone numbers. Should the form of the phone book be a paper volume or a CD-ROM or an addressable online computer memory? The list of names, addresses, and phone numbers should be accurate. The list should contain all the people users would want to reach, leaving out none and really not including names of those users would not want to reach. All the pieces of information should be present, so that complete listings are available for all members of the list. Finally, the list of names, addresses, and phone numbers should be as up to date as possible.

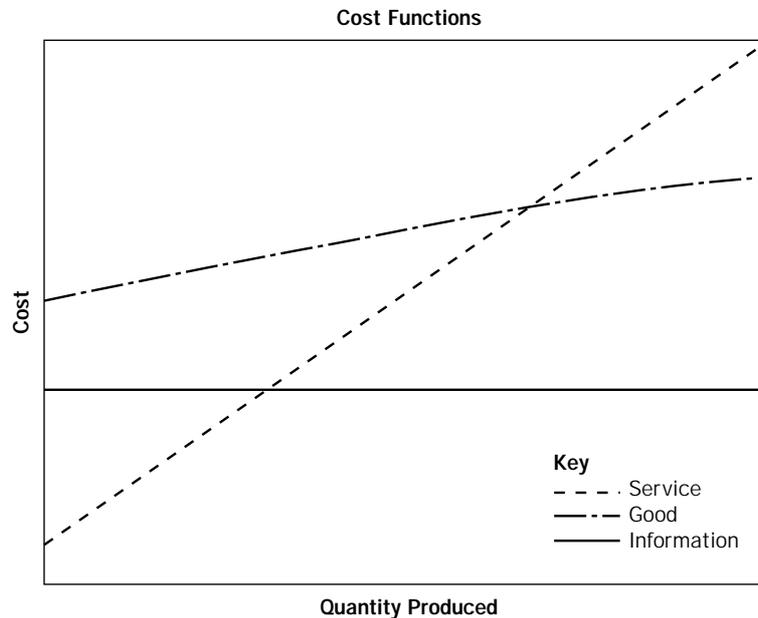
Pricing considerations

As we have described above, one of the key differences between information and either services or goods is that information has extremely low variable unit costs, depending on the medium and channels of distribution. Figure 3 presents a graphic representation of three products: one is a tangible good with high fixed costs and decreasing variable costs due to experience; one is an intangible service with low fixed costs and high variable costs; and the third is an information product with medium fixed costs and almost zero variable costs (Ohmae, 1990). This cost effect simplifies the pricing decision in one sense, since variable costs play a minimal role in determining profit, but amplifies the importance of knowing and understanding what consumers are willing to pay. In other words, marketing managers should focus on estimating demand, since once the distribution infrastructure has been created, variable costs have little bearing on price.

For example, ID Software used an existing Internet and game-sharing community to distribute millions of copies of its game “Doom”. Each of these customers was provided with a toll-free number to order “Doom II,” thus distributing the two-game set with only marginal cost. The optimal price for Doom II would simply be the price that maximizes the function: revenue is the price times unit volume. Even more simply, the optimal price is the price that would achieve maximum gross revenue, regardless of how many copies are sold.

There is a general modelling consideration here applicable to decisions other than pricing. It is appropriate to model the demand for many goods and services in such a way that, as price approaches zero, demand

Figure 3
Cost functions of three product types



approaches infinity. This infinite demand property is indeed an implication of the popular Cobb-Douglas function, which has been used to model market response to price promotion (Achabal *et al.*, 1990), couponing (Narasimha, 1984), price and advertising (Bass, 1969), publicity and distribution (Leeflang and Reuijl, 1985), and salesforce (Hagerty *et al.*, 1988). Since one of the features distinguishing information from both goods and services is that it is not used up in consumption, a particular information offering cannot possibly result in infinite demand because the market is saturated once everyone has a copy. The additional utility derived from another copy of Windows 95 is zero for someone who already owns one; additional purchases come from those who are not yet owners. Appropriate functional forms might include the modified exponential, logistic, or Gompertz models (see Naert and Leeflang, 1978). These ideas are shown graphically in Figure 4.

While Type III products tend to be highly imperishable, often their monetary value is not. We propose that the value of information often exhibits a precipitous decline, as shown in Figure 5. This suggests a standard pricing strategy used by booksellers and movie producers. Both of these industries frequently exhibit skimming strategies in which initial runs are more expensive, i.e., hardcover editions or first-run movies. Over time price is reduced until the market is saturated. Many forms of information follow

the function shown in Figure 5, but some do not. For example, some information products, such as software, become more valuable to the seller and buyer the more copies there are in buyers' hands as the product becomes a de facto standard (Gates, 1995). In this case a penetration pricing strategy is called for.

Not only have changes in telecommunications technology reduced variable costs, but the fixed investment or startup costs necessary to produce information have been reduced. This lowering of total costs strongly suggests that the economies of scale and scope at work in information markets will be radically transformed. Eliminating the requirement to buy printing presses, print or copy the information, and ship paper will reduce entry barriers and allow many smaller firms to enter the publishing business. While today a mass market may be required to achieve profitability, the cost considerations discussed above imply that productions that are finely tuned to a small market segment will be more feasible (see Deighton *et al.*, 1996). The segment itself will not be necessarily based on geography but perhaps on lifestyle and interest. Aimed at micro-segments, these new media may be attractive outlets to reach narrow audiences. Thus, we expect the supplier side in information markets to reveal nonlinear, explosive growth. The most visible example of this is the WWW where such growth is well documented (Miller, 1996; Rebello, 1996). Barriers to entry are minimal, as are inventory carrying costs. Under

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classical economic theory, this would indicate a multitude of users.

As Type III products have high fixed costs, but low variable costs, information producers would opt for a volume strategy in order to maximize profits. Shareware, beta testing, and free product samples are examples of this strategy. This would suggest fewer companies competing, since the high volume firms

would be the most profitable (e.g., Microsoft). Network television provides another example; historically, there were few providers of broad-based programmes, now smaller companies targeting specific niches have proliferated.

Promotion considerations

One distinguishing characteristic of Type III products is elusiveness or uncertainty (Usher, 1984). To be exposed to all the information content in an information product is to consume the product. This is the basic reason why copyright and intellectual property problems arise so often with information products. The goal of promotion, then, becomes one of hinting at the content, or teasing, without giving it away. The intangible aspect of information coupled with its low marginal cost makes it a likely candidate for bundling strategies. Note that software producers do not include a computer with purchase, whereas hardware producers often include software. Microsoft's release of Windows 95 with an Internet access program bundled with the core product is also an illustration of this strategy.

Finally, the information market is likely to be highly fragmented and consist of many market niches. Targeting these segments of consumers via specialised media or direct mail may make promotion of information products easier than the mass marketing of goods and services directed to large market segments. Certainly, there are numerous opportunities to promote information products electronically via the World Wide Web.

Distribution considerations

As the global economy moves towards information bases, the ease with which information can be copied and distributed implies a further internationalisation of that economy. Already phone and computer networks have led to a loss of local governmental control in many cases (e.g., the use of fax machines by democracy supporters during the Tiananmen Square incident). This transnational quality of information markets, combined with reduced entry barriers, implies information markets will see heavy and increasing competition (Ohmae, 1990). On the one hand, technology empowers small groups to sell information in a way previously impossible. On the other hand, the competition that this will unleash implies the need for large-scale channel activity, for branding, and for promotional effort necessary to cut through the clutter. New forms of organisations within the information industry may develop, whereby

Figure 4

Demand functions of three product types

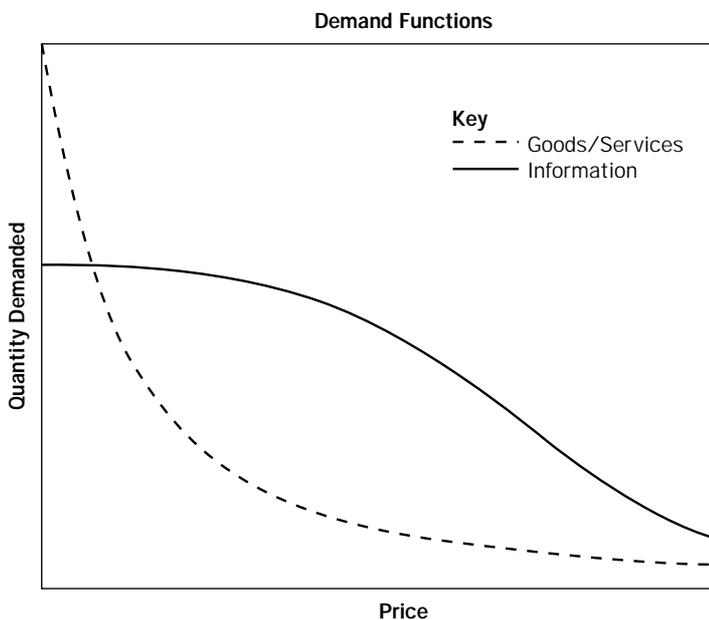
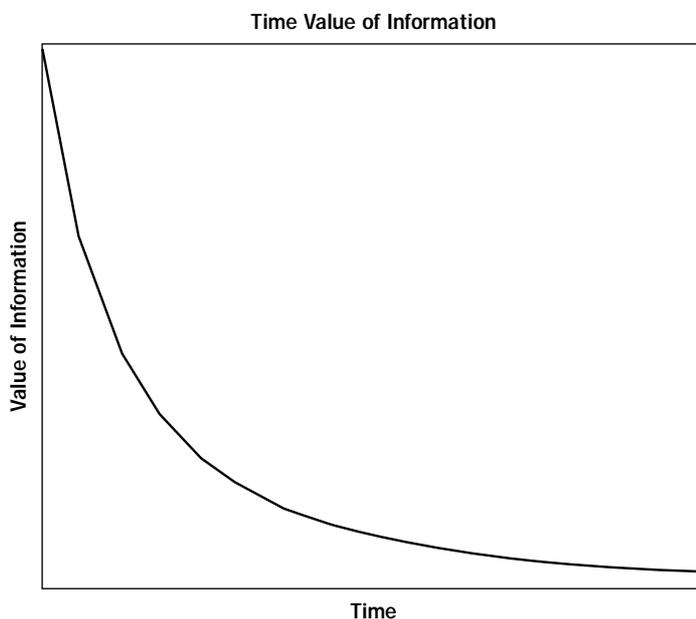


Figure 5

Time value of information



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buyers may pay for grading, sorting, and filtering information (Meyer and Zack, 1996). Like old-line information products such as *TV Guide* and *Readers' Digest*, new electronic-based services act as middlemen to locate, organise, and present information to consumers. Yahoo! is an example of a company that performs these activities; other companies are arising that develop software products that act as information agents for personal computer users.

Compared to goods and services, it is easy for information products to achieve distribution, especially if disseminated electronically. In fact, the problem of distribution ceases to be one of achieving coverage and instead becomes a problem of restricting dissemination in order to generate optimal revenue. We call this process *antidistribution*. If even only one receiver unlawfully copies and disseminates the firm's intellectual property (i.e., violates the copyright), it could damage the viability of the market for the property. Marketers need to be aware of these factors in developing an information marketing strategy to ensure control over distribution of information products.

Information distribution via computers depends on users having the appropriate hardware and software to use the information produced in ways that are different from goods and services markets. Consequently, one major feature of distributing information is the need for information marketers to ensure that potential users have the right equipment (peripherals, software, decoders, cables, etc.). This is especially true in light of the multidirectional flow of future information products. Persuading consumers to adopt interactive TV, for example, depends as much on the provision of hardware as it does on the other elements of the marketing mix, much like the spread of colour TV was inhibited by the lack of colour programming. Successful diffusion of any technological innovation depends on the market having the appropriate infrastructure.

The increased intelligence at the periphery of our communications systems leads us to believe that all media will move over time from unidirectional through bidirectional to multidirectional flow. The equilibrium point for informational flow will necessarily shift towards the receiver, who can now instantly and cheaply also become a sender (Hoffman and Novak, 1995). The entire framework of television, print, radio, and direct mail advertising is currently based on a heavily asymmetric, or one-way, relationship between sender and receiver. This framework will need to give way to something that is

closer to relationship marketing (Vavra, 1992) involving two-way communications.

Summary and conclusion

The extreme intangibility, homogeneity, and non-perishability of Type III products create both opportunities and challenges for marketing. Companies that have taken advantage of information's unique properties will likely be more successful (e. g. Microsoft). For both academic and applied researchers the marketing of information presents a wealth of unexplored topics for research.

The paradigm presented here suggests that marketing managers and researchers need to reconceptualise what they mean by "product" for consumers and not neglect the information component of their market offerings. Moreover, Type III products satisfy unique needs and wants not satisfied by product viewed chiefly as goods or services. We contend that broadening the product concept to include information makes more explicit the nature of the benefits consumers desire from consumption. Consumer behaviour should be conceptualised more broadly to account for the consumption of information product, and the roles of well established concepts such as perceived risk, enduring involvement, and opinion leadership in information markets should be explored. Some specific questions that beg theoretical and empirical attention are:

- 1 Do consumers use information products in unique ways, including "meta-information," or information about information?
- 2 Is there a limit to the value of information? Information does not follow traditional economic models, other than in the sense that it is virtually a free good.
- 3 What type of individual is a heavy information consumer? Individual differences in information consumption should be explained.

Market research itself may need to adopt new strategies and methods to develop systematic knowledge of information markets. The problems of measuring the number and characteristics of users of the Internet, for example, pose a challenge to market research. Techniques, perhaps the use of simulations, will need to be developed to learn more about how consumers interact with new information media.

Much has been written about the information explosion, from Moore's Law to WWW books and consultancy industry (Hoffman and Novak, 1996). However, very little until now has been written on information on a

broader level. Information has its own unique properties, and both managers and researchers need to take these factors into account when devising marketing plans. This paper presents a first step in that effort.

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