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--Marketing strategies for mass computer-  
communications services : draft final  
report

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25 March 1985

Mr. R. Provencher  
Institutional Assistance Program  
Department of Communications  
Communications Research Centre  
Shirley Bay - Building 74  
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Ottawa, Ontario  
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Dear Mr. Provencher:

Enclosed are four copies of the draft final report for the University  
Research Program Study

**Marketing Strategies for Mass Computer/Communication  
Services (DSS Contract OST84-00255)**

As you will be aware, an extension on completion of the final report has  
been requested and has been agreed to by the scientific authority, in view  
of the fact that the contract for the study was signed approximately five  
months later than the start date in the original study proposal. The  
specific content of the draft final report has also been discussed with the  
scientific authority and agreed to by him.

If you have any questions, please let me know.

Sincerely,

Barry Lesser  
Principal Investigator

BL/vjb

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**MARKETING STRATEGIES FOR  
MASS COMPUTER-COMMUNICATIONS  
SERVICES <sup>2</sup>  
DRAFT FINAL REPORT**

submitted by

Dr. B. Lesser <sup>1</sup>

and

Dr. T. Schellinck

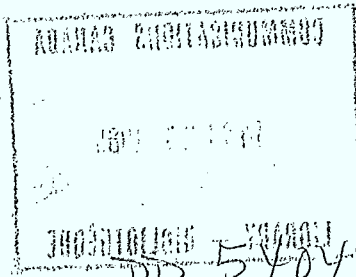
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Chapter One  
INTRODUCTION

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Computer-communications services have the potential to become a significant source of economic growth in Canada and to alter many aspects of life in Canada, ranging from ways of doing business to individual lifestyles.

For these effects to be achieved, three things must happen: the services must be introduced to the marketplace; they must be used; and they must be used on a widespread basis, i.e., there must be significant usage of some computer-communications services by the general public.

In the late 1970's, forecasters on the home-usage of computer-communications services in Canada, in particular Telidon videotex services, were predicting relatively high levels of market penetration by the mid-1980's. Judged according to both the level of service development and the level of market penetration in place at the beginning of 1985, these predictions have quite obviously failed to come true.

Predictions being made at the same time for business-oriented "general" services were equally optimistic. While the business market has developed to a greater degree than the home or residential market, it is, however, still well-behind these predictions of market growth.

There are a variety of reasons which might be suggested to explain the failure of the market to develop faster than it has. Indeed, the results to date were not unexpected by some observers. What must be asked about the performance of the market

to this point, is not so much why it has not developed faster up to now but how it can be developed faster from this point.

This is an important question to the ultimate emergence of the so-called "information economy". While widespread usage, general-public services are not a sufficient condition for the information economy, they are a necessary condition. Without such services, much of the projected transformative impact of the information economy will not occur.

The question of how the market for these services can be developed has a number of dimensions. This study will concentrate on one of these -- successful marketing strategies for computer-communications services.

Marketing strategies, as used here, will be interpreted in a relatively broad manner. The focus will be not just on the narrow question of direct marketing effort but also on the much larger question of the structural/institutional market environment within which the direct marketing effort occurs.

A variety of structural/institutional characteristics of the market continue to remain uncertain or undefined. Lack of equipment (i.e., hardware) standards; incompatibility of hardware; choice of terminal equipment, lack of software development, lack of content focus, competing production technologies, competing distribution systems, undefined market structures, lack of uniform pricing structures -- these all represent instances of structural or institutional characteristics which are still unspecified. A marketing strategy in the computer-communications service market at the present time cannot take the structural/institutional environment as given; each of the above characteristics is itself a variable in the marketing strategy.

Another major source of uncertainty/ambiguity in the market at the present time is government policy. Is there a marketing role for government, what is that role and what are the implications of various government policies for the marketing efforts of private sector firms are questions to which there are no definitive answers at the moment. The Canadian federal

government has spent in excess of \$67 million on its Telidon program since 1979, with very little to show for its efforts in terms of positive market development. In part, at least, this showing can be explained by the relative lack of attention to marketing in the Telidon program. It is not clear, however, what this says for future government involvement or for particular avenues of government involvement. These are questions on which this study attempts to shed some light.

The computer-communications services market is, potentially, very large and very heterogeneous. In order to keep the examination of marketing strategies within manageable proportions, the focus of this study will be on "mass market" computer-communications services.

As used here, the term "mass market" will be taken to mean:

- widespread usage
- and
- accessibility by the general public
- (whether the general public actually used the service(s) or not)

Computer-communications services will be defined as services involving the combined use of computers and electronic communications for the remote delivery of computerized data bases and/or the direct interaction of end-users with remote-stored computer information.

The "mass market for computer-communications services", combining the above two definitions, becomes:

the widespread usage of services involving the combined use of computers and electronic communications for the remote delivery of computerized data bases and/or the direct interaction of an end-user with remote-stored computer information, where such services are available to, and accessible by, the general public, even if they are not used by the general public.

This focus, as noted above, has been chosen to keep the

discussion of marketing strategies within manageable proportions. Within this general constraint, it has been chosen for two further reasons: as noted earlier, widespread usage by the general public is a necessary condition for many of the potential transformative effects of the "information economy"; and, from a marketing theory perspective, the "general public" market is amongst the most challenging for firms and therefore provides a better vehicle for illustration of preferred marketing strategies than highly specialized, high cost business services.

The residential market is clearly an important part of the mass market. But many business-oriented services may also be included in the mass market as that term is defined here. In effect our definition of the mass market is the entire market with the exception of: closed user-group systems in which admission to the group is restricted in such a way that joining is not a matter of individual choice; highly specialized, "expert" systems; and highly specialized, high cost, business services which are designed for a relatively small and select audience.

These parts of the market which are being excluded are not unimportant themselves to the development of the overall computer-communications services market. They are excluded because they do not fit the requirements of widespread usage and access by the general public which are the criteria by which we are defining the mass market. Individually and collectively, however, these excluded categories of services could involve a significant number of users. Moreover, in the long run, if computer-communications services do become widespread, the dividing line between general public access services and others could become indistinguishable. To a large extent, the notion of the mass market is a theoretical construct which allows this study to focus on a particular set of computer-communications services uses and users, given the current level of development (or lack thereof) in these areas. When and if the development is achieved, the identification of the mass market as a separate market segment of the overall computer-communications services market may be far



less relevant as an ex ante conceptualization of the market.

Defining the mass market in practice, rather than in theory, poses considerably greater difficulty, if, from a marketing point of view, we are trying to capture a realistic estimate of the size of the potential market. Various ways of estimating the potential size of the mass market in the aggregate could be used:

1. an income-based estimate in which different income groups are assumed to have different probabilities of joining the market
2. a social-class based estimate in which different social classes are assumed to have different probabilities of joining the market
3. a technology- (equipment-) based estimate in which the audience of present (and prospective) terminal owners or telephone subscribers or cable subscribers defines the aggregate target audience group
4. an individual service estimation procedure whereby aggregate market size is found by adding together the potential market for each individual service or type of service
5. a volume or sales-based estimate which takes one of the preceding procedures for estimating the number of services and weights those numbers in an appropriate way to take into account expected usage levels in each group
6. an income-expenditure analysis which takes income groups and estimates for each group expected spending behaviour for computer-communications services based on an analysis of existing expenditure patterns/behaviour by each group.

The above is not a definitive list but is sufficient to demonstrate that any attempt at estimating the potential size of the aggregate market is fraught with difficulties.

Income distribution groups have been shown by marketing research to be poor predictors of buying behaviour, in general. Moreover the selection of expected market penetration rates by income group would be arbitrary in the absence of an already

established market on which to base the figures.

Social-class groupings do not exist for Canada. The next chapter contains a more detailed discussion of this methodology using U.S. numbers for illustrative purposes. But, as that discussion shows, even where a social-class grouping of the population exists, the choice of expected penetration rate by group is still arbitrary.

A technology or equipment-based estimate has the problem of choosing which indicator to use. Cable subscribers, telephone subscribers and personal computer owners are all theoretically possible definitions of the potential market size. But they are not necessarily mutually exclusive alternatives. Moreover, they ignore the possibility that individuals who belong to none of these groups at present may join in order to access computer-communications services. In other words, the direction of causality in the marketplace may, for some individuals, be the reverse of what is assumed in the initial proposition; telephone (cable) subscribers or personal computer owners may be likely candidates for computer-communications services but computer-communications services users may be likely candidates for joining the telephone (cable) system, or the personal computer market.

A simple process of aggregating the potential market of individual service offerings begs the question of estimating the individual markets. More importantly, the dynamics of the system could produce misleading results; the cumulative market may not be equal to the sum of its estimated parts. Individuals who might subscribe to any service would not, however, necessarily subscribe to all services. Conversely, an individual who joins at least one service might become more willing to add-on additional services.

Sales-based estimates suffer from the problem of whichever of the above procedures for estimating market size is chosen. Additionally, in the absence of any historical data on usage patterns, the choice of weights to reflect expected usage levels would be somewhat arbitrary.

An income-expenditure analysis suffers from the problem of

the income distribution method described earlier coupled with the difficulty inherent in trying to estimate expected spending.

In addition to these specific problems, all of these techniques for estimating potential market size suffer from the present lack of defined content focus, distribution system, terminal standards, price structure, etc. In other words, we have to know what people are buying, how they are receiving it, what it is costing, etc.; before we can begin to consider penetration rates, or individual service markets, or expenditure patterns, etc.

A further problem with all of the above techniques is that they have a bias towards residential-based services. None of the estimation techniques just outlined include, explicitly, an estimate for business customers or business usage. While, as previously noted, the residential market is a major component of the mass market, it is not, by itself, synonymous with the mass market. Indeed, as we shall see in the discussion of current marketing strategies in Chapter Four, the business segment of the market may be more important than the residential segment, despite their respective potential shares of the market measured in number of users, because of the higher expected probability of early adoption in the business sector, all other things equal, and because of the potentially greater usage levels of business users versus residential users, all other things equal.

Given all of these caveats and qualifications, no attempt will be made here to try to estimate the potential size of the mass market. In the estimation of the authors of this report, any such exercise would, at best, be illustrative; it would not represent a market forecast of any validity. Market forecasts are possible at the individual firm or micro level; where the firm can specify or ascertain the characteristics of its target audience and the features (content, technology, etc.) of its planned service offering(s). It is not possible, however, at the macro level.

The range of services encompassed in the computer-

FIGURE 1.1

**Classification of Computer-Communications Service Offerings**

Interactive

Consumptive

A. Information Retrieval

electronic newspapers  
electronic encyclopedias  
library data bases  
library catalogue review  
transit information (dynamic)  
housing availability (dynamic)  
comparison shopping (dynamic)  
captioning  
electronic directories  
education course listings  
community information  
first-aid  
medical information  
classified advertising  
display advertising  
supplement to TV advertising  
electronic yellow pages  
emergency information  
government information  
book/literature reviews  
event evaluation  
consumer information (dynamic)  
political, economic, social,  
market, and technology  
forecasts

electronic newspapers  
electronic encyclopedias  
library data bases  
library catalogue review  
transit information (static)  
housing availability (static)  
comparison shopping (static)  
captioning  
electronic directories  
education course listings  
community information  
first-aid  
medical information  
classified advertising  
display advertising  
supplement to TV advertising  
electronic yellow pages  
emergency information  
government information  
book/literature reviews  
event evaluation  
consumer information (static)  
political, economic, social,  
market, and technology  
forecasts

FIGURE 1.1

**Classification of Computer-Communications Service Offerings**

Interactive	Consumptive
<u>A. Information Retrieval</u>	
hobby information political profiles industrial profiles traffic analysis (dynamic) pharmaceutical information tax information/guides mortgage information/services dictionary/thesaurus weather information journals/magazines/books CAI/CMI special services for home-bound students (dynamic) supplemental materials for TV programs (dynamic) retraining (dynamic) travel information (dynamic) research assistance vocational counselling training simulations political scenarios employment information/job searching artistic workshops do-it-yourself training(dynamic)	hobby information political profiles industrial profiles traffic analysis (static) pharmaceutical information tax information/guides mortgage information/services dictionary/thesaurus weather information journals/magazines/books special services for home-bound students (static) supplemental materials for TV programs (static) retraining (static) travel information (static)  vocational training information -- -- employment information  -- do-it-yourself training(static)

FIGURE 1.1

**Classification of Computer-Communications Service Offerings**



A. Information Retrieval

specialized newsletters	specialized newsletters
specialized journals/magazines	specialized journals/magazines

B. Transactions

on-demand TV	on-demand TV (only on subscription, unlimited usage basis)
electronic jukebox	electronic jukebox (only on subscription, unlimited usage basis)
information provider sales	--
complex issue testing	--
text/graphics report generation	--
medical claims	--
computer dating	--
document delivery	--
electronic checkbook	--
electronic funds transfer	--
electronic credit cards	--
electronic gambling	--
entertainment options	--
- travel, restaurant, hotel reservations	
- theatre/sports tickets	
electronic shopping	--

FIGURE 1.1

Classification of Computer-Communications Service Offerings

Interactive	Consumptive
-------------	-------------

B. Transactions

book lending	--
book buying	--
inter-library loans	--
used goods trading	--
teletypesetting	--
brokerage services	--
- shopping	
- banking	
- insurance	

C. Messaging

electronic hot lines	--
town meeting	--
"debate" on political issues	--
community bulletin board (dynamic)	community bulletin board (static)
electronic mail	--
videotexgram	--
conferencing	--
serendipity machine	--
electronic welcome wagon	--
referenda or quasi-referenda	--
consumer action	--

FIGURE 1.1

Classification of Computer-Communications Service Offerings

Interactive	Consumptive
-------------	-------------

C. Messaging

electronic gossip	--
internal business communication involving external access	--
market research	--
complaints	--

D. Computing

personal information storage	--
inventory/stock control	--
economic modelling	--
home computing service	--
video games	--
financial management	--
telework	--
extensions of corporate management systems	--

E. Monitoring

home security	home security (by polling system)	--
health and safety monitoring		--



FIGURE 1.1

**Classification of Computer-Communications Service Offerings**

Interactive	Consumptive
<u>E. Monitoring</u>	
energy management remote control of household functions meter reading	-- -- meter reading (by polling system)

Note to Figure 1.1

The terms static and dynamic refer to the nature of the content that can be delivered by a particular service. An interactive service, such as traffic analysis, for example, can be made to provide users with customized routings on request. This would be a dynamic service. The same service as consumptive could only provide routings pre-programmed into the system. This would be a static service. In general, dynamic refers to the ability of the user to vary the content and/or the presentation of content while static refers to a fixed content/format which the user cannot influence.

communications services market may be very broad and very diverse. To facilitate our subsequent discussion, a general classification of these services into relatively homogeneous groups is desirable. Figure 1.1 presents such a taxonomy of service offerings, drawn from an earlier study by part of the present author team. Figure 1.1 uses a two-tier classification scheme representing two different types of function orientation: one defined in terms of output functionality and the other in terms of operational functionality. The particular services listed within each dual classification category are illustrative, i.e., the listings are not intended to be definitive or exhaustive.

An examination of Figure 1.1 reveals the extreme diversity/heterogeneity of the computer-communications services market. For marketing purposes this represents both the challenge and the opportunity of the market. Possible market niches abound; the trick is to find them and to define a product package to successfully serve them. We begin our examination of marketing approaches with a review of certain theoretical principles of marketing in the next chapter.

Chapter Two  
MARKETING PRINCIPLES

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This chapter sets out and illustrates the marketing principles necessary to address the questions surrounding the marketing of computer-communications services for the mass market.

The chapter is divided into two parts: the first examines macro-marketing principles and the second, micro-marketing principles.

Macro-marketing deals with the operation of the marketing system and its effectiveness in satisfying the needs of society. Issues such as the impact of new technologies on established marketing systems; the impact of government on marketing efforts and the impact of changes to marketing systems on the well-being of customers are macro-marketing in perspective.

A micro-marketing perspective examines marketing practice at the individual firm level. It involves more specifically the question of the direct marketing of computer-communications services.

The distinction between the macro and the micro approaches is an important one. Computer-communications technology and hence the services it is used to deliver is, in one sense, simply a marketing channel. In other words, a computer-communications service is not a product in itself but rather is a different or alternative means for delivering products. It may well be that the products delivered using computer-communications technology will have different characteristics than the same products delivered through different channels but this will likely be true

of any comparison between two alternative marketing channels. Computer-communications technology does not, at the macro level, create a unique set of products but rather a unique distribution or marketing channel with potentially a unique, or at least different, set of product characteristics. It is in this context that macro-marketing theory will be used to analyze the phenomenon of marketing mass market computer-communications services. At the micro level, by contrast, the emphasis is on the approach taken by individual firms to the marketing of distinct product offerings employing computer-communications technology.

## Macro-Marketing Perspectives

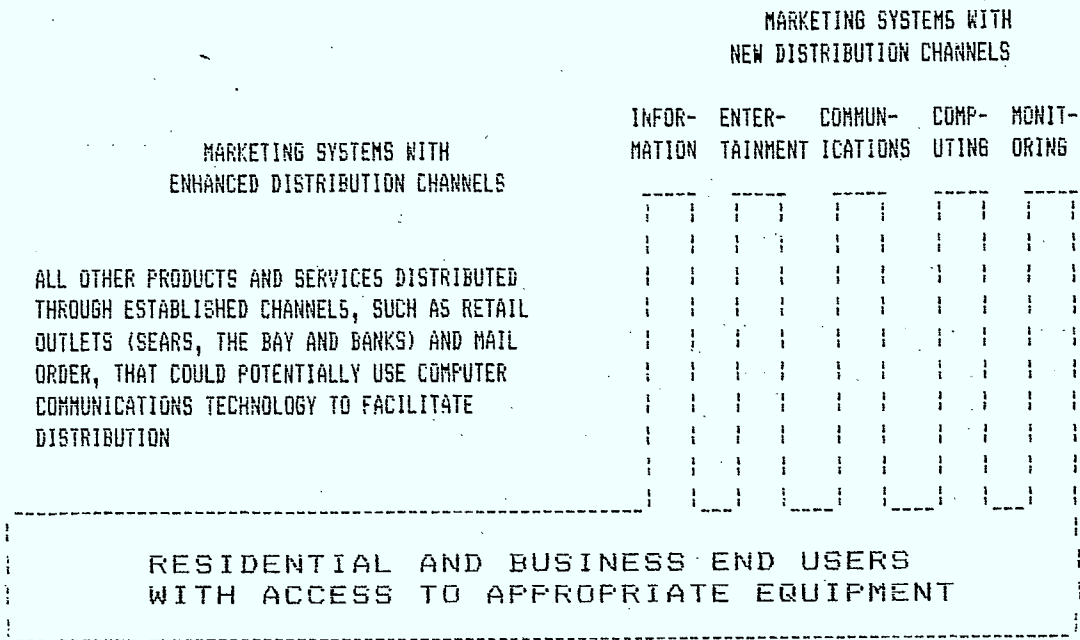
### The Marketing System

Macro-marketing deals with the ability of marketing systems to meet the needs of society. These needs should be defined in generic terms, such as the need for warmth, food, shelter, entertainment, knowledge, friendship and status. Generic needs are used because they are relatively constant over time, while the marketing systems which meet these needs are constantly changing. Computer communications services, as noted above, are not products in themselves but merely a means of either delivering products (e.g., information retrieval, monitoring, or computing), or facilitating the acquisition and delivery of products (e.g., shopping or banking).

Figure 2.1 shows the scope of macro-marketing analysis. A firm is likely to be involved in several of the channels shown in Figure 2.1 at once. For example, a bank offering financial services might use the technology to enhance its distribution system while at the same time feeding promotion into the mass information market system.

Figure 2.2 shows a simplified schematic of the mass information market system which illustrates the concept of a marketing system and shows how a new technology would fit in. It can be seen that there are a large number of competing

Figure 2.1



organizations in the system. For computer-communications services to survive as an alternative channel they must meet needs that are not being satisfied adequately by these organizations.

Theoretically, computer-communications services have certain characteristics, which, for some users, represent benefits over the alternatives.

These characteristics include:

1. large storage capacity
2. rapid access
3. broad market coverage, limited only by communications cost, which increases scale of operation allowing economies of scale to be realized

4. immediacy
5. flexibility in content
6. flexibility in payment system
7. flexibility in location of use and so on.

The importance of these characteristics will depend both on the specifics of the service offering, i.e., the way in which the services are packaged in terms of access, response times, updating, pricing, etc. and on consumers' perceptions of the value of these characteristics. A characteristic is an advantage only if it is of value to the customer, i.e., only if it satisfies a

**Figure 2.2**

Information Manufacturers (Information Providers)	Middlemen (Brokers, Service Providers)	Carriers (Distribution Providers)	Customers (Users)
Reporters/wire services	T.V. Networks	Radio Waves	
Authors	Radio Stations	Satellite	
Singers	Computer- Communications Services	Cable	Residence Market
Musicians		Telephone	
Programmers	Newspapers	Direct Delivery	
Researchers	Magazines	Libraries	Institu- tional/ Business Market
Consumer groups	Book Publishers	Retail Outlets	
Consumers	Record/Tape Companies	Postal Service	
Business			
Government	Motion Pictures/ Video Cassettes		
Photographers			

need of the customer better than the alternatives.

A marketing channel system for a product is the route taken by the title to the product as it moves from the producer to the final consumer or industrial user. The distribution channel is the path taken by the physical good and can be different. Both of these channels are relevant to an analysis of the marketing system. The literature mainly examines marketing channels as social systems and therefore, mainly uses social variables to understand how the system works. The main social variables considered are roles, power, conflict and communication. Environmental variables are also examined, including economic, socio-cultural, competitive, legal and technological variables. All of these variables are useful in understanding the structure, profitability, effectiveness and efficiency of marketing channels and their participants.

Roles are defined as a set of prescriptions defining what the behaviour of a position member should be. A marketing channel, when viewed as a social system is comprised of a series of recognizable positions with each organization (e.g., information providers, middlemen and retailers) occupying these positions in the channel. Each position has a set of socially defined prescriptions (roles) delineating what constitutes acceptable behaviour for occupants of these roles. The roles can be defined in terms of the functions that each member organization should perform (financing, risk taking, grading, innovation/research, consumer analysis, the channel's marketing strategy development, storage, inventory control, advertising, pricing, etc.) and in terms of the objectives (sales maximisation, capacity utilization, survival, customer satisfaction, etc.). An effective channel is likely to have a high degree of consensus among its members concerning their respective roles.

Power, in a marketing channel context, refers to the capacity of a particular channel member to control or influence the behaviour of another channel member. These are five sources of power.

- (a) Reward power refers to the capacity of the channel member to reward another if the latter conforms to the influence of the former. These rewards are usually in the form of financial gains.
- (b) Coercive power is essentially the opposite of reward power in that one channel member threatens to punish other channel members if they do not conform to the influencer's attempts. Firms that have monopolies of supply, distribution or customer franchise frequently exercise coercive power. Thus, General Motors will demand to see the accounting books of the suppliers that depend on General Motors for their business in order to ensure that they are not making too much profit. Manufacturers such as Gallo Wines, Levis Strauss and Procter and Gamble threaten to withdraw their brands from retailers who do not conform to their wishes, and large retailers such as Sears are "tough" on the manufacturers that depend on them for the sale of their goods.
- (c) Legitimate power stems from internalised norms in one channel member which dictate that another channel member has a legitimate right to influence him, and that he has an obligation to accept that influence. Distribution systems are usually made up of independent organisations who in general do not recognise legitimate power.
- (d) Referent power exists when one channel member can convince another channel member that they have a common goal that could be achieved if the other channel member would change his behaviour. The degree to which referent power is used within a channel depends on the amount of communication among channel members so that common goals and problems can be recognised and addressed. Encouraging this type of power will be beneficial for the channel in the long run and any agency, such as the government, which could facilitate



inter-organizational communication and therefore, the use of referent power, could substantially improve the quality of a given channel.

- (e) Expert power is derived from knowledge which one channel member attributes to another in some given area. This is quite common in marketing channels. Expertise is most common in the form of technical expertise or marketing expertise.

Understanding the degree and sources of power held by various members of a channel is important for analyzing a channel's development and survival. Those organizations with power use it to maximize their profits. Often, therefore, organizational behaviour can be explained by their need to develop power relative to other channel members.

Conflict in a distribution channel exists when an organization perceives the behaviour of another organization to be impeding the attainment of its goals or the effective performance of its instrumental behaviour patterns. Conflict and competition are not the same concept. Competition is behaviour which is object centered, indirect and impersonal. Conflict, on the other hand, is direct, personal and opponent centered behaviour. There are seven underlying causes of conflict:

1. role incongruities
2. resource scarcities
3. perceptual differences
4. expectation differences
5. decision domain disagreements
6. goal incompatibilities
7. communication difficulties

The final critical variable in examining distribution channels is the degree and nature of communication flows within the channel. Distortions and interruptions in communications are usually caused by divergent goals among channel members, different vocabularies, perceptual differences caused by different frames of reference, and the secretive behaviour of some channel members.

The quality and degree of communication ultimately effects the efficiency and effectiveness of the channel.

### **Consumer Benefits**

The question of who is likely to benefit from new technology is important in examining how marketing strategies are likely to develop and the type of benefits likely to accrue to society.

Two theories used in the study of consumer behaviour are useful in answering this question. First, social class theory suggests that people from different social classes will have different sets of needs and buyer behaviour. Their likelihood of adopting a new innovation will differ as will reasons for the adoption. Second, innovation adoption theory postulates different buyer behaviour at different levels of market adoption which has implications for the effectiveness of marketing strategies.

### **Social Class Theory**

Much of the work in social class theory has been conducted in the United States. The concept of social class has been shown to be an important determinant of buyer behaviour. Unfortunately for marketers, sociologists in Canada have focussed mainly on social status and have assumed that social class structure and characteristics in Canada and the United States are basically the same.

A breakdown of the consumer population along socio-economic lines reveals very distinct product preferences by socio-economic class particularly in choices involving entertainment and the media. Even where income differences are not overly great as, for example, between upper-middle and lower-middle income earners (families), buying behaviour and motivation, reflecting, perhaps, social class distinctions, can be quite markedly different. The various classes and certain characteristics of most interest in the content of computer-communications services are as follows:

#### Upper Class

It is hypothesized that they are likely to be early

adopters of computer-communications services; in particular they are likely to have a high level of interest in financial services.

#### Upper-middle class

professionals, independent businessmen, corporate managers. This group places a high value on education and the development of professional and administrative skills by their children. They tend to buy "quality" home furniture, clothing and appliances but are careful shoppers, not given overly to impulse buying. Product promotion aimed at this group must be more rational in its approach than for lower classes.

It is hypothesized that this group represents the source of the majority of residential users/use of computer-communications services for education, investment, shopping, and banking. "Hobby" interests may also be high in this group.

#### Lower-middle class

primarily white collar works (office workers, small businessmen) "grey collar" workers (mailmen, firemen, etc.). This group is concerned with respectability. On average, they exhibit conscientious work habits and adhere to culturally defined norms and standards of behaviours. They tend to buy conventional home furnishings and clothing and are "do-it-yourself" types.

It is hypothesized that this group, on average, is likely to be interested in computer-communications services for education, shopping and banking, although the adoption rate is likely to be considerably lower than for the upper-middle class group.

#### Upper-lower class

primarily blue collar workers, both skilled and semi-skilled. Males tend to have a strong "all-male" self image, be sports enthusiasts, outdoorsmen, smoke and drink beer. Women, proportionately, tend to see their vocation as

that of housekeeper and mother. Members of this group tend to be materialistic, wanting to own "things" as a sign of well-being. Thus, they tend to buy conspicuous items such as motorbikes, stereos, color TV's and cars.

It is hypothesized that this group's interest in computer-communications services is likely to be for entertainment, games, news, sports and weather information (updates) and perhaps, shopping. The trigger service for this group is likely to be entertainment. Turnover rates, however, are likely to be very high, as initial novelty wears off and/or because of different male/female reactions to the service. In the pay-TV market, for example, aimed at upper-lower class households, men (husbands) tended to order the service while women (wives) were the ones to cancel it. The long-run picture, then, has very few upper-lower class households adopting interactive computer-communications services.

#### Lower-lower class

most unskilled labour with little disposable income. It is hypothesized that few, if any, of this group would be expected to adopt computer-communications services.

Given a particular distribution of social class and making some assumptions on penetration ratios for two-way interactive computer-communications services based on the hypotheses described above, it is possible to derive a rough breakdown of the size and make-up of the potential market. The reported distribution of social classes within society have been relatively consistent. For the purposes of this discussion two reported distributions representing the extremes in skewness toward upper class and lower class are used in order to provide some feeling for the sensitivity of results to these variations (the upward skewed distribution comes from McCann and is the one generally used by marketers, while the downward skewed distribution comes from Martineau.

**Figure 2.3**

	% of Population		Assumed Penetration Ratio	Adopters as a % of Population		% Share of Market	
	skewed up	skewed down		skewed up	skewed down	skewed up	skewed down
Upper	3%	.9%	80%	2.4%	.72%	12%	5%
Upper-Middle	12%	7.2%	80%	9.6%	5.76%	49%	40%
Lower-Middle	30%	28.4%	20%	6.0%	5.68%	30%	40%
Upper-Lower	35%	44.0%	5%	1.75%	2.20%	9%	15%
Lower-Lower	20%	19.5%	0%	0.0%	0.0%	0%	0%
			Totals	19.75%	14.36%	100%	100%

If these hypothesized penetration ratios are correct, the main benefactors will be the upper and upper-middle classes and 80% of the market will be made up of upper-middle and lower-middle classes. It also suggests that the market potential for in-home interactive computer-communications is between 15%-20% of households.

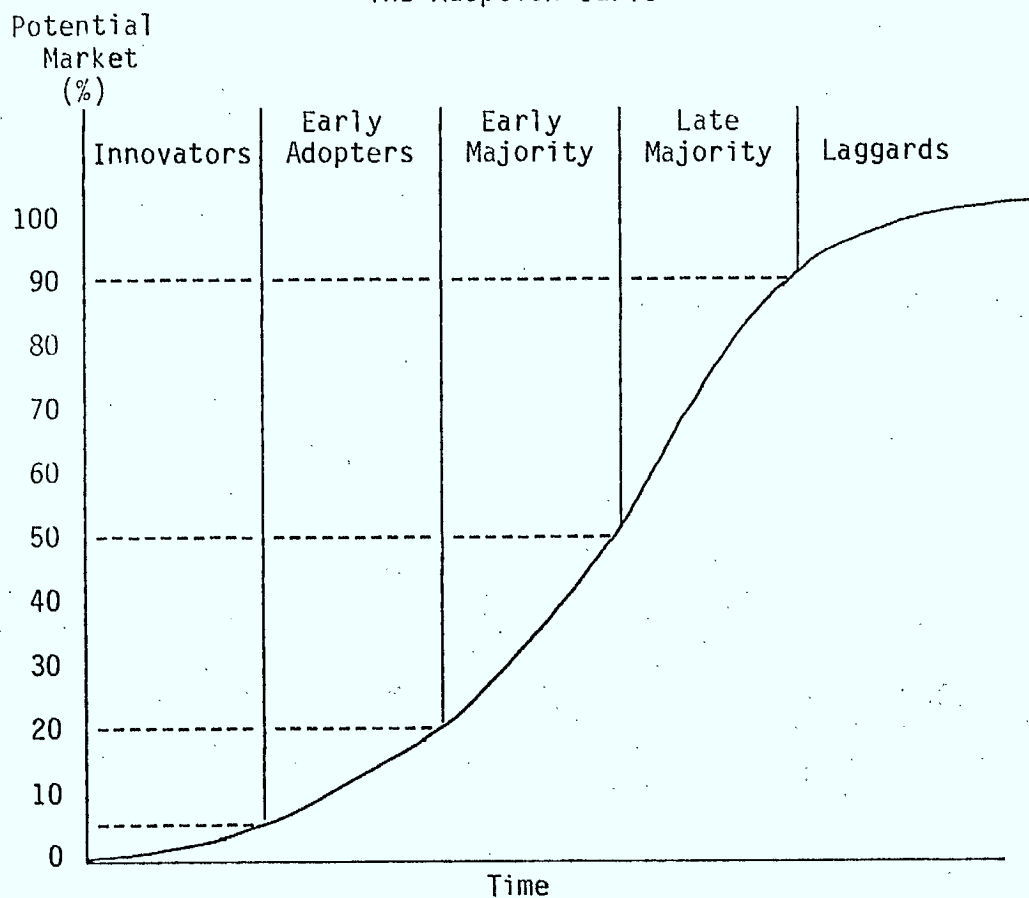
These estimates are based on very subjective assumptions. An important question in this regard is whether the penetration rate for the lower-middle and upper-lower classes can be increased and under what circumstances. If, for example, banks were to "force" an electronic payments system on their customers, these two groups would show much higher penetration rates. The extent of the rise would still be open to question, however, depending on what options were left to bank customers (such as, for example, use of

public access terminals) and the terms under which the banks' actions were taken (subsidized terminals, for example, would lead to more adopters than a non-subsidized situation). What must also be remembered in terms of this example, however, is that even if a sector or service such as banking forces more adopters, this, in itself, is no guarantee that these individuals will subscribe to other services, in the long run:

### Innovation Adoption Behaviour

Figure 2.4 shows an adoption curve for a new product over time. The above estimates represent some long run "equilibrium" position in the market but take no explicit account of the time period involved in the market growing or developing to that point. The adoption curve in Figure 2.4 shows the rate of adoption over time.

**FIGURE 2.4**  
The Adoption Curve



The categories of adopters set out in Figure 2.4 indicate the following:

1. Innovators - 3-5% of the potential market

The characteristics of this group include

- younger, high social/economic status
- many contacts outside their own social group and community

- tendency to rely on impersonal and scientific information sources or other innovators

A successful promotion strategy aimed at this group would involve informative advertising in specialty media, with the message appealing to primary demand by informing people of the benefits of the new product or service.

2. Early Adopters - 10-15% of the potential market

The characteristics of this group include:

- relatively high social status
- younger, more mobile, more creative than later adopters
- tend to rely on mass media
- tend to rely on sales people more than other groups
- adoption by this group makes product respectable, i.e., socially acceptable

A successful promotion strategy for this group would involve informative advertising, coupled with pushing brand awareness. The use of well-trained, technically-oriented retail sales personnel, backed by written literature, is important. Mass media is used to inform about the service and sources of further information.

3. Early Majority - 34% of the potential market

The characteristics of this group are:

- slightly above average social status
- tendency to wait for early adopters to first try a product

A successful promotion strategy for this group would involve use of general media advertising, falling prices and less emphasis on personal sales, the products having become more refined and several brands likely being available.

4. Late Majority and Laggards - 45% of market

The characteristics of this group include:

- below average social class
- below average economic status
- influenced in adoption by others
- less "tuned-in" to mass media
- make less use of salesmen

A successful promotion strategy for this group would involve general media advertising based on an appeal to secondary demand. Promotion budgets may be reduced as competitive pressures reduce margins and as current advertising is perceived to have less impact in brand choice unless product innovations are introduced.

The above generalizations assume a number of factors, such as price, content, etc., as given and, even with this qualification, clearly may not hold true for all innovative products. In particular, early adopters and early majority adopters may be lower-middle or lower-class if the innovation appeals to their value system. These groups were, for example, more likely to be early adopters (purchasers) of snowmobiles, motorcycles, color television and pay television. The lower social classes have also adopted computers but of the less expensive, less versatile variety, such as games-only machines, which are regarded as "disposable" items. This group is likely to be far less confident with anything too technical in nature and is therefore likely to shy away from more "sophisticated" personal computers and hence, computer-communications services which rely on more sophisticated personal computers.

There are several further points to note from Figure 2.4 and the discussion of the adopter group which follows Figure 2.4.



First, as has been noted, the promotional strategy would change as we move along the adoption curve, in response to the changing characteristics of new groups of adopters. This suggests that firms in the market should have some idea of where its service(s) is (are) on the adoption curve at any point in time.

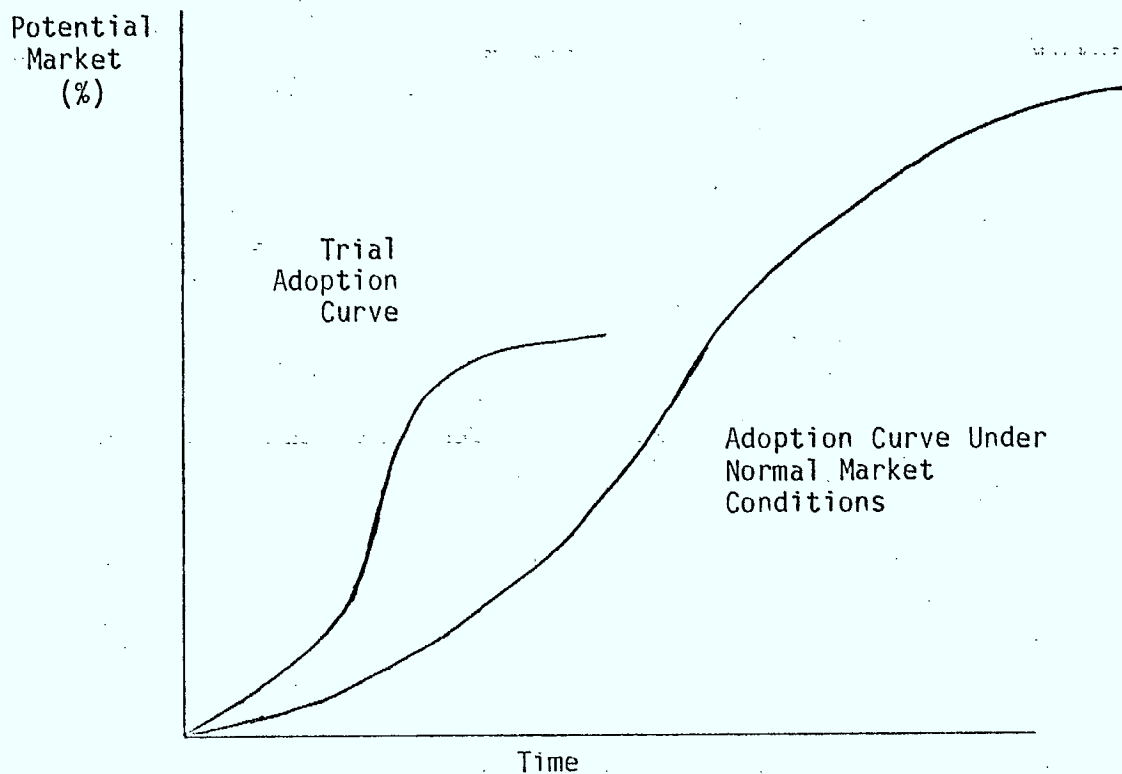
Second, the same new technology could produce several adoption curves, depending on the number of sets of needs the new technology would help to satisfy. Thus, there may be a product adoption curve for financial or investment services, entertainment services, information services, etc. For each of these the potential market may vary in size and rate of adoption. Moreover, they may be interdependent in that the stage of adoption reached already for one type of service may influence other services, either inducing people to enter earlier in subsequent rounds or to reverse, to hold back, because of budget constraints for example. Firms targeting to several segments should keep in mind that their promotion strategies may have to be quite different for the different services offered, at the same time as the interdependence factor must be taken into account.

Field trials where the users are given terminals and a range of services to choose from may not be particularly useful for predicting service adoption for two reasons. The respectability factor normally provided by early adopters which is of influence for the early majority may be later in coming because the early adoption phase is buried inside the trial. The trial might, consequently, underestimate the market potential. Also marketers tend to rely on the innovators and early adopters to provide feedback on quality. By the time the early majority start adopting the product it has been fine tuned. At this stage, most of the competing brands will be very similar. The field trials introduce untried services. Considerable fine tuning might ensue but the potential market is grossly underestimated because the product has not been fully refined and marketed by the end of the trial.

The trials might also underestimate the rate of adoption

since users are given unusual incentives to participate during the trial. The shape of the curve in this case will be relatively steep at the outset, but will then level off rapidly giving the false impression that market potential has been reached. This is shown in Figure 2.5.

Figure 2.5



### Micro Marketing Perspectives

A production-oriented firm is one where the main objective is to produce products as cheaply as possible. In an economy where demand outstrips supply, and therefore everything which is made can, in general, be sold, profits are maximized by concentrating

on reducing costs. Once supply capability begins to outstrip demand, however, most successful firms switch to being marketing-oriented.

For a production-oriented firm, the marketing strategy of the firm is determined primarily by the characteristics of the firm itself. For a marketing-oriented firm, however, it is the needs of customers which primarily determine the marketing strategy.

Production-oriented firms include all firms which are sales-oriented, i.e., firms which put all their effort into selling the good or service, regardless of any pre-defined need on the part of the customer; finance-oriented where company decisions are based simply on financial criteria (usually, short term criteria); and certain high technology industries where the technology creates a product-driven marketing approach.

A marketing-oriented firm may introduce technologically advanced products, make its decisions based on sound financial criteria and emphasize an effective sales and promotion campaign. But all of these functions are performed based on the needs of the customer. An underlying principle of the marketing concept is that customers will not purchase a new product unless they have reason to be dissatisfied with existing products. There may be initial purchases to satisfy curiosity but continued purchases will not take place if there is no dissatisfaction with existing products. Industry has repeatedly introduced technologically superior products only to have the product fail in the marketplace because it does not respond to the needs of customers any better than existing products or because it fails to specifically respond to customers' unmet needs. For example, in the case of computer-communications services, consumers may be perfectly satisfied with existing print media for acquiring general information. They may be quite dissatisfied, however, about the quality of their children's education. A production-oriented computer-communications service firm may develop a technology that will provide both general and educational information and will do so cheaper and better than newspapers, magazines and text books.

This firm will proceed to invest in the production of hardware and of the data base to provide these services and develop a promotional campaign which emphasizes these services.

In the same situation, a marketing-oriented firm would first determine the customers' needs, discover the unmet need in education, and proceed to design the service around this need and market it accordingly by, for example, advertising in family-oriented media or setting up support services such as complementary print publications. Finally the firm would adjust its services based on feedback from the customers.

When these two firms go into the marketplace head-to-head, the marketing firm has a far greater chance of success. It is catering to the needs of its customers, education for their children, and therefore represents the service customers will pick. This will be true even if, within limits, the service costs more than the service of the production-oriented firm. Price, per se, is relevant only in relation to the benefit of a good or service. A cheaper product which does not deliver the desired characteristics, i.e., which does not respond to the expressed needs of the customer will not be preferred to a more expensive product which does. The marketing-oriented firm, by positioning itself as the educationally-oriented service, will be effective in appealing to that segment of the market.

The magazine industry provides an excellent example of this type of strategy. Thirty years ago, there were a few general magazines on store shelves. Today, there are hundreds of quite profitable magazines most of which cater to the needs of a very specific target group or segment of the market. This point brings us to a more careful delineation of the meaning of a "marketing strategy".

A marketing strategy has two distinct, albeit interrelated parts:

1. a target market - a fairly homogeneous group of customers to whom a company wishes to appeal  
and

2. a marketing mix - the controllable variables which the company combines to satisfy the target group.

To develop a marketing strategy, the firm must first decide on the target market(s) it wishes to pursue. Segmentation analysis will divide the potential customers into subgroups with relatively homogeneous traits or purchasing behaviour. A major principle which lies behind such an approach is that a firm which tailors its marketing strategy to the needs of a specific subgroup will be more successful than a firm trying to appeal to all potential customers equally. It is possible, however, to sub-divide the market in different ways and according to different criteria. Thus the way in which the market is segmenting may be a crucial variable in the process. Segmentation analysis is, in fact, a very subjective process; a firm's ultimate success may depend more on their innovativeness in segmenting the market than on the product itself. It is also important to recognize that there are some constraints on the segmentation. The firm does not want to focus on a market segment that is either too small to be profitable or too difficult to reach economically.

Figure 2.6 illustrates one approach to market segmentation.

For each of the segments, i.e., for each "box" in Figure 2.6, the firm estimates potential sales, growth rates, purchase behaviour, price sensitivity, and other characteristics useful for defining an appropriate marketing mix. It also analyses the strengths and weaknesses of present and potential competitors for each segment's business. Taking into account the firm's own strengths and weaknesses, it selects one of several of the segments as target groups. The marketing mix is then determined on the basis of the choice of target market. This process is generally referred to as "positioning" the firm's services in the marketplace. The objective is to minimize direct competition while selecting those segments the firm is most likely to be successful with, thus maximizing its profit potential.

The marketing mix is made up of those variables controlled by the firm. These are price, product, promotion and distribution

**Figure 2.6**  
Market Segmentation of Potential Customers of  
Computer-Communications Services

State of Nature \ Benefits Services	Investment Services	Transactional	Entertainment	Monitoring	Totals
Have Equipment					
Must Purchase Equipment					
Totals					

(place), often referred to as the "4 P's" of marketing. The firm selects a combination of these variables so as to best satisfy the needs of the target customer. They also try to have some elements of the marketing mix that are unique to the firm. This is referred to as the firm's "unique selling proposition". This is(are) the factor(s) which will cause the customer to pick their service over the competition. It is important to note that a unique distribution, pricing or promotion policy can be as effective in capturing customers as a unique product or service feature.

A product is defined as a means of providing need satisfying utilities to consumers. Two important points must be made concerning this definition. First, needs should be defined in generic terms. Thus, railways, airlines, truckers and buslines are all meeting the need for transportation. The product is not drill bits, its holes; its not cosmetics, its hope or looks; its not computer-communications services, it is knowledge, entertainment,

convenience, status, etc. A firm that recognizes the generic needs to be satisfied will be able to better recognize its competitors, better define its market and better define the range of products it should consider marketing in order to survive in the long run.

The second point is that the total product is defined by a bundle of need satisfying utilities. The product includes accessories, installation, instruction on use, the package, a brand image which reduces purchase risk and may fulfill some psychological needs, a warranty, maintenance service and assurances the product will not rapidly become obsolete. The total product may not include any physical product at all but be a pure service. A firm improves the effectiveness of its marketing strategy by ensuring that all the needs satisfying utilities are met, either through the firm's product, or in combination with complementary products and services.

Non-marketing oriented firms tend to start with a new technology and try to find a use for it. They may see the benefits of computer-communications technology in providing easy access to a wide range of up-to-date information, but may fail to realize that customers may be satisfied with existing services designed to meet the generic need and that they are only meeting part of the needs of their potential customers if they stop at that point. The result will be wasted resources because they appealed to too broad a market as opposed to only those segments that really need the service, and/or missed opportunities by trying to sell service packages that fail because they were not designed with the customers' total needs in mind.

When a firm designs its distribution policy, it must decide on the "channel" to be used, whether it will allow its product to be retailed alongside other products, the extent and exposure intensity of the distribution and the amount of vertical and horizontal integration there will be. The other main decision is who will take on the responsibility of "channel captain" for the various channels available.

Channel options for a computer-communications service would include:

1. public-switched telephone network
2. public carrier data network
3. private data lines
4. cable TV
5. discs/tapes distributed by mail
6. discs/tapes distributed through retail outlets.

The choice of channel or channels should depend on the costs associated with each channel as a proportion of the customer's total expenditure or the perceived value of the information to the customer, as well as its suitability for transmitting the service (e.g., two-way services require a two-way communication link). Also firms should attempt to develop competing, viable channels to give them more power in dealing with each channel and, therefore, lower prices for the use of the various channels.

The promotion component of a marketing mix includes all means of informative and persuasive communications to intermediate and final customers such as advertising, personal selling, sales promotion, public relations and publicity. Promotion is the main method the firm has of informing or persuading potential customers of the value of the firm's product. The objective of promotion is to both shift the demand curve and change its shape. Promotion should be able to shift the demand curve to the right by making the customers aware of the needs that could be met by the firm's product, and effect demand elasticity by making customers less sensitive to price increases and more sensitive to price decreases. The best promotion strategy uses the appropriate media to reach the target market at the right times with the right messages. Different media with different messages may be required for different customers at different stages in the purchase process or at different stages in the adoption curve.

Price is the final component of the marketing mix. Price decisions include the price level, whether one price will be charged all customers or not, the pricing unit (time, access or



information units), the method of arriving at an agreed price (price list, bidding or negotiation), the use of discounts (cash, trade, quantity or time based), allowances and promotions (prices, coupons and sales) and what will be included in the price (transportation, insurance, warranty, maintenance, etc.).

It is important that the marketer recognize that the price of a product is only one component of the cost to the customer when they adopt that product. As with a product where marketers must recognize the total bundle of benefits the customer is buying, they must also recognize that the cost to the customer is more than the price of the product and take this into account. The customer will purchase the new service when they are dissatisfied with their present service and when the perceived value of the new alternative is greater than the perceived cost with cost defined to take account of: initial price, time costs (search, training usage, etc.), psychological costs (difficulty in mastering usage, having a socially undesirable brand, etc.), opportunity costs (technology already invested in and technology on the horizon), space or storage costs, and other costs required to use the product but not included in the price (insurance, maintenance, training, etc.).

#### An Example

An information manufacturer considering the introduction of a new service would start by analyzing the customer's buyer behaviour. This would involve first examining the need structure of those likely to buy the service. What are the various needs, who has these needs and what are their characteristics (demographic and psychographic)? Second, they would examine the purchase behaviour of potential customers. What will trigger them to purchase the product? Where will they go for information to help with their decision? What equipment will they have to purchase?

Any product can act as a trigger for people to subscribe to a computer-communications service. Thus, almost all are trigger

services for some people. The computer-communications industry tends to talk about trigger and non-trigger services. If one thinks about the mass market in some monolithic sense as those services which will cause the majority of people to purchase terminal equipment and purchase a service, this makes some sense. From a viable marketing strategy point of view this makes no sense since a service may only trigger 2% of the population to purchase the service, but this represents a potential market of roughly 1,200,000 households in North America, more than enough for any single firm. Also, if there were a hundred such services with little overlap in customer demand then the market potential for these services as trigger services could be 50% of the North American market. The mass market then comes from the aggregation of the individual service markets.

Understanding buyer behaviour also requires an understanding of consumption behaviour and the determinants of customer satisfaction. (E.g., Do customers need or want colour graphics?) Some services are prone to churn, that is, a substantial proportion of the adopters will discontinue the service shortly after subscribing. They may stop using it because they become bored with it, they discover it doesn't really satisfy their needs or it may require too much of a change in their life style, etc. Entertainment services, such as pay TV, and home financing services that require people to keep track of their daily expenditures are particularly subject to churn.

Consumer behaviour analysis does not necessarily mean the firm has to do primary research. It does mean making sure they understand the likely behaviour of their customers and the potential impact on the success of their marketing strategy if they are wrong in their assumptions. Where there is doubt they should attempt to fill in the gaps of their knowledge as soon as possible.

As an example, assume a firm which presently produces the top selling magazine aimed at stamp collectors is considering the introduction of a computer-communications service aimed at stamp

collectors. Further, assume this firm has recently done some research into stamp collecting in North America. The research might show that stamp collectors tend to be from upper-middle and lower-middle class households with upper-scale incomes. There are two million households in North America with adult stamp collectors, of which twenty percent spend more than \$500 a year to collect stamps. The main needs of this group of collectors are to make contact with other collectors and stamp retailers who wish to sell stamps and to determine the going price of these stamps. There may be some interest in seeing pictures of the stamps as a means of identifying them but it is not known how important this need is.

The firm's research shows that these people are three times as likely to own personal computers as the average person, and given the estimated number of personal computers in North America this would mean that 30% (120,000) of the potential market have personal computers, therefore 280,000 would have to purchase a personal computer and modem to have the service. Of those who have personal computers roughly 25% have modems (30,000), and of those that have modems about 15% (4,500) presently have some form of computer-communications service which this firm could use as a gateway to their target market.

The firm feels that churn may be a problem with many people trying the service and discovering they don't use it enough to justify the cost. They feel, however, there will be less problem with people who spend \$500 or more each year. Also, their marketing mix will be designed to reduce churn by making the service an integral part of stamp collecting, offering new benefits such as club membership, a monthly newsletter and reduced prices on some types of stamps.

The target markets are chosen based on the results of the consumer analysis and keeping in mind present and potential competitors as well as its own strengths and weaknesses. Once target markets are chosen, the firm selects a marketing mix which will maximize their effectiveness in competing for that segment's

business.

In our example the firm may decide to segment the market first by expenditure on stamp collecting and then by cost associated with adopting their service (in terms of equipment required). They would then select their target markets and marketing mixes (see Figure 2.7).

Descriptions of specific marketing strategies would be quite long and detailed. However, to illustrate what they might look like in this example, the outline of two marketing strategies are presented below.

I. Target market - The 4500 households who spend over \$500 a year on stamp collecting and presently subscribe to a computer-communications service.

Product - Want-ads for stamp sellers and buyers, stamp prices catalogs, electronic messaging among stamp collectors, electronic newsletter, club membership, discount purchase options on some stamps.

Price - Monthly membership fee of \$6.00 for all services.

Promotion - Listing in service index and two advertisements in the three major stamp collector magazines.

Distribution - Compuserv.

II. Target Market - The 25,500 households that spend over \$500 a year on stamp collecting but do not presently have a computer-communications service.

Product - The same.

Price - The same plus the first three months free on Compuserv.

Promotion - Monthly advertising in the five major stamp collector magazines.

Distribution - The same.

Each of these strategies proceeds from a marketing-oriented approach. They both share the same product definition which is

**Figure 2.7**

An Example of a Hypothetical Segmentation  
of the Stamp Collector Market

Expenditure Required to obtain Stamp Service	Expenditure on Stamp Collecting		
	0	\$1 - \$500	\$500
PC + Modem + CC Service + Stamp Service	52,200,000 (Households)	1,360,000	280,000
Modem + CC Service + Stamp Service	4,930,000	192,000	90,000
CC Service + Stamp Service	739,500	46,100	25,500
Stamp Service	130,500	7,200	4,500

aimed directly at satisfying the needs of the target market. They differ most substantially in the choice of the target market. For strategy II to succeed, the benefits of the service will have to be greater than for strategy I since the cost of joining includes the cost of the computer-communications service used as a gateway to the stamp service. This is partially mitigated by offering the first three months of the gateway service free. Strategy I suffers in the size of the market being targeted. The choice between these relative merits would be based preferably on more detailed market research.

**Conclusion**

The marketing principles described in this chapter represent

a framework of analysis for investigating viable marketing strategies for computer-communications services.

The principles that have been explored proceed from a first, very basic distinction between micro-marketing, where the service is seen as a distinct product offering within a generic product class and macro-marketing, where it is explicitly recognized that it is computer-communications-based services, not computer-communications, that is being sold.

The theory discussed here places the greatest emphasis on the buyer side of the market as an influence on the marketing behaviour of firms. The discussion to this point has not emphasized to any major extent the structural/institutional environment as an influence in the marketing strategy. For computer-communications services, however, this structural/institutional environment or what may be termed production-side influences, will be of particular importance. Chapter Three examines this structural/institutional environment.

Chapter Three

THE STRUCTURAL/INSTITUTIONAL ENVIRONMENT

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In terms of the mass market as we have defined it here, several factors relating to the structural/institutional character of the computer-communications services market will influence both the extent of and pace of market development and the range of feasible marketing strategies. These are:

1. technological factors
2. competitive forces
3. distribution systems/costs
4. financing/price structure
5. market structure
6. support services
7. government policy

A discussion of government policy will be deferred until Chapter Six. The other factors just listed will be examined here.

#### Technological Factors

The whole field of computer communications services is a technology spin-off industry. It has come about because of rapid advances in a wide range of computer and communication technologies and the rate of advancement is increasing.

Several points can be made concerning the general impact of the technological environment.

1. These advances are likely to continue on all fronts since they have immediate applications—in the areas of computing and communications. Thus, most of these

advances (except for specialized terminals) are independent of developments in the computer-communications market. Improvements will be made both in the quality and the cost of the services to the consumer which should increase the demand for these services.

2. The computer-communications industry over the next ten years could be subject to major technical advances which could radically alter its structure. For example, videodisc and satellite communications technology could radically affect the dependence on local telephone lines.
3. Because of the highly technical nature of computer-communications service, most of the field trials of services have been conducted for technical rather than marketing reasons. Also, the people involved have been technically oriented.
4. Computer-communications technology is a spin-off from a large number of hi-tech industries, with application in an even larger number. It has therefore attracted large companies, both from the development side and the application side, interested in adding some aspect of computer-communications to their portfolio (both as a means of generating profits and as a means of recovering research development costs). With companies such as IBM, Sears, AT&T and the major banks interested in developing the computer-communications industry, if there is any chance for it to survive and prosper, it will.
5. Most of these firms are computerizing their entire business, including inventory control, accounting systems, and management information systems. The added investment in management training and hardware to become involved in computer-communications may be minimal given their involvement in the technology already.

These points lead to the following general conclusions concerning the impact of technology on marketing strategies.

1. Computer-communications firms will have to be flexible in



the technology they use to provide service. Reliance on a single type of terminal, communications protocol, information storage system, etc., may lead to a non-competitive strategy within a few years.

2. Flexibility will require investment on an ongoing basis. New services will have to be well capitalized to cover several years of development.
3. Technical improvements will make these services more profitable but may cause a problem with cash flow causing some otherwise viable firms to go bankrupt.
4. Computer-communications services will survive longer if they have a close relationship with a source of innovation, for example a computer/terminal manufacturer or communications firm. This should lead to partnerships from diverse industries.
5. Consumers may reach a stage of satisfaction with services where improvements in technology do little to improve the quality of service in their perception (e.g., increasing baud rates from 12000 to 24000). Firms that do not carefully assess the impact of technological improvements or consumer satisfaction may over-invest in new technology.
6. People from the accounting or management information areas may be put in charge of the development of these services with minimal involvement of marketing managers.

At a more detailed and specific level, technological considerations also impact very directly on choices regarding individual service characteristics.

Computer-communications services firms have a number of technological options available to them in packaging their product. Choices are available regarding the degree of interactivity to be allowed, the provision of graphics, the structure of the data base, the choice of distribution system, the type of terminal equipment, and so on.

The options which service firms choose in each of these cases

will have necessary and, in some cases at least, major implications for the product offering.

The full range of possible combinations of technological options is too long to present here. Some observations on relevant factors influencing the various choices will be offered, however. These are:

1. technology per se is of no importance by itself; it acquires meaning only insofar as it allows the product(s) to better meet consumer needs.
2. following from 1., technology choices which do not enhance consumer satisfaction, i.e., do not better satisfy consumer needs, will not add to the product offering and may detract from it.
3. technology choices may have significant cost implications; where they do, however, the minimum cost option should not necessarily or always be chosen -- consumer or user needs may not be met as well by cheaper technologies.
4. following from 3., the cost of alternative technologies should be a determining factor only relative to consumer needs, i.e., consumer or user preferences. Choices which add to costs, and hence prices, must, however be justifiable in terms of greater consumer satisfaction, hence willingness to pay a higher price.
5. following from 4., detailed marketing research which identifies consumer needs, preferences and budget constraints is required before technology choices are made. A decision to adopt Telidon technology, for example, should be based on a knowledge of consumers' need for a high level graphics capability. If there is no such need, users will be unwilling to pay the higher price such a technology implies.
6. choices which both enhance user benefits and cut costs (to users and/or producers) are obviously desirable. The use of dedicated terminal equipment with no programmable

processing capability, for example, means that users must buy the terminal to use the service and that the terminal is single function. By contrast, a service which uses personal computers (with a communications capability) provides the user with additional functionality and, for existing personal computer owners, saves the cost of buying the terminal; for new terminal buyers the personal computer could still cost less than a dedicated piece of equipment and, even if this is not the case, the greater capability of the pc means that the justification of the cost is not borne by any single function.

The general message for the marketing strategy which emerges from this discussion of specific technology options is that technology in and of itself doesn't matter. It acquires meaning only relative to user needs which users are prepared to pay for. Technology choices should proceed from an identification of the target market, research on the desired service characteristics of the target market and a matching of technological options with those desired characteristics.

### Competition

There are two major types of computer-communications services that are developing in the marketplace. The competitive environment is very different for the two, mainly because their reasons for providing the service are very different. Figure 2.1 illustrates that there are those services which are a component of an existing marketing strategy (e.g., banks, retailers and the telephone companies) and those that are complete independent marketing systems.

The motivations for services that complement existing strategies are:

1. To attract and hold on to customers since there is the potential for computer-communications services to give banks and retail stores a competitive advantage. Banks that have started a service have increased the number of

accounts by 20%-100%. Specifically, introducing such a service will:

- (a) Provide exposure/communications to potential customers as part of the promotional strategy.
  - (b) Create an image of a healthy, modern and growing firm as part of the promotional strategy.
  - (c) Provide the opportunity to offer improved services as part of the product strategy.
2. To reduce transactional costs. Banks, retailers and the telephone company can substantially reduce paper and clerical costs through the introduction of computer-communications services.
  3. To reduce errors in transactions. Sears first experimented with this type of service because there were errors made in 50% of orders taken by telephone.
  4. The computer-communications technology is basically the same as technology being adopted by banks and retailers for inventory control, accounting, management control and internal communications. They will be able to make more efficient use of their investment in hardware and management staff if they can successfully introduce a computer-communications service built on this same hardware/personnel base.

These motivations will force most banks to offer some forms of computer-communications banking service in the next ten years. Retailers have shown a strong interest, but the effectiveness of computer-communications as a competitive tool in retailing has yet to be proven. In Canada the banks and major retailers are large enough, and have enough power in the marketing system, to offer computer-communications services without the need for middlemen. Also, they will be trying to improve the attractiveness, and reduce the cost, of their service by offering other services and gateways. They may in the end be more profitable than pure computer-communications services because of their established customer base and lack of dependence on revenue generated directly

by the service (e.g., user and information provider fees).

In the case of pure computer-communications services these are the new organizations introducing services in areas such as information, entertainment, computing, monitoring, etc., whose reason for existence is to generate revenues from the service itself. To understand the potential effect of the competitive environment these organizations must be broken down by the major functions of information providers or manufacturers and service providers.

There are likely to be a large number of organizations manufacturing information, entertainment, computing software, etc., that will in turn be offered by service providers. The cost of entering the industry at this stage is relatively low and there is little opportunity for establishing a lasting competitive advantage which would exclude new competitors. The effectiveness of the marketing strategy of these firms will be a function of exclusivity and creativity of their product as well as the quality of their packaging to middlemen and the final consumer. These organizations will be able to supply either pure computer-communications services or services set up by banks or retailers and will therefore survive no matter which market structure predominates in the future.

There are likely to be relatively few pure computer-communications service organizations. Entry into the market can be fairly expensive, not only in terms of hardware, but also in the costs of developing a large enough customer base to make the service profitable. These firms will rely on promotion and advertising to tap the demand and position themselves within the marketplace. Effective positioning will reduce the chances of competitors entering the market.

For these organizations to be viable (cost efficient) middlemen for the national retailers they will have to have enough subscribers in total to make the system pay. Most retailers and Canadian banks will not be competing on a basis that will make their market share of computer-communications generated sales that

much different from their normal sales. Thus, if twenty per cent of the population normally shop at a particular store, twenty per cent of the service subscribers are likely to do so as well. To be viable then, the service will have to be large enough such that twenty per cent of its subscribers will generate enough revenue for the retail store or bank to pay for their investment in the service.

For stores serving a local market the critical factor will be the number of local subscribers. This will be critical for most American banks who are frequently restricted to local markets. They will therefore not be able to effectively use the national computer-communications services because of low local penetration and will be forced to develop their own services.

The result may be that pure computer-communications services will have to rely on other sources of services (including sales of low-priced shopping goods in competition with major retailers) to help them grow to a viable size and compete effectively against bank and retail-based services.

Two principal conclusions emerge from this discussion:

1. The computer-communications service industry may be developed more by banks and retailers (and perhaps some information providers) as complements to existing marketing strategies, rather than by services primarily designed for and supported by revenues from computer-communications. The size and growth rate of the industry would in that case depend on the usefulness of computer-communications as a competitive tool in marketing strategies.
2. The nature and extent of competition is likely to be quite different at different levels of the marketing system. These differences in the competitive environment will be caused by differences in ease of entry into the market, the role of innovation, the firm's ability to position itself in the marketplace and develop a customer franchise, the role of economies of scale, sources of

financing and the need for revenue, etc.

From a slightly different vantage point, the issue of competition involves the question of how many market participants there are in each segment of the supply side of the market. Several factors make this an important issue from a marketing perspective:

1. the greater the number of service providers, the greater the scope for tailoring or customizing services to individual market segments, i.e., the more finely "target" markets can be identified and served.
2. the number of competitors in the market will influence the average level of prices; all other things equal, the greater the number of firms, the lower the average level of prices.
3. the number of competitors will influence the market share of each firm; all other things equal, the greater the number of firms, the smaller the market share of each firm.
4. following from 3., the greater the number of firms, the greater the possibility of overly fragmenting the market; on the other hand, the greater incentive to firms in this case to identify and capture a market niche for themselves will make firms more aggressive.
5. large firms may be able to achieve some economies of scale or scope, or, by virtue of serving a larger number of subscribers (i.e., by having a larger share of the available market, on average), may be better able to spread out the high fixed costs characteristic of data base systems. The greater the level of competition, the smaller the size of firms will be, on average, and hence, the less of these advantages will be realized. This may have implications for price.
6. on the other hand, the existence of lower unit costs for large firms has not yet been demonstrated. More importantly, the implications of such economies are not

obvious; as noted in the preceding section on technology options, costs must be viewed relative to consumer needs and willingness to pay to satisfy those needs. The real problem is in finding a "valid" product.

7. in this regard, it is instructive to note that the specialized on-line data base market has been characterized to this point by a relatively large number of relatively small firms. There are some relatively large firms but one of the distinctive features of this market has been the relative ease of entry for small producers and the relative success of many of these firms.
8. following from 7., it is the case for the specialized on-line data-base market that competition has been an important factor in promoting successful product innovation; a comparable result in the mass market is a real possibility.

The general thrust of this argument regarding the level of competition vis-a-vis marketing effort is quite simple: competition will make marketing more important as firms are forced to struggle harder to maintain (or establish) a viable market share through more effective targeting, improved product definition and improved promotion and a more responsive pricing policy. As the earlier, more general discussion of the competitive environment demonstrated, however, the ability for stand-alone firms to successfully break into the market may not be great. Moreover, the nature and extent of competition is likely to be quite different at different levels of the market.

### Market Structure

Several distinct segments of the production process can be identified ranging from information providers to storage providers to service providers (or system operators) to distribution providers. The question of market integration is essentially a question of the relative merits of a given firm participating in



more than one of these market segments.

There may be several motivations for market integration.

These are:

- a. control of resources - service providers may integrate vertically backwards in order to maintain the quality and availability of information necessary for their marketing strategy.
- b. assurance of distribution - manufacturers and service providers may integrate vertically forward in order to secure the distribution of their product. Examples would be the government setting up a service to insure proper distribution of its information, or service providers purchasing private data lines.
- c. economies of scale - computer-communications services may integrate horizontally (merge) if economies of scale can be achieved.
- d. investment opportunities - many firms see the investment in suppliers and distributors as the safest form of investment since it is in an industry their management is familiar with and the new organization's activities will compliment the firm's existing activities.

The degree of integration will depend to some extent on channel characteristics, of which the most important are:

- a. power - the relative power of organizations in the system will determine the need for integration. As noted in Chapter Two, the firm that has the greatest power in the channel tends to reap any available profits. There would be no need therefore for computer-communications services to integrate with information providers if they were more powerful, as the profits would likely accrue to them without the added investment and effort needed for integration. Where adjacent organizations in the channel have equal power vertical integration is one means of capturing profits that would normally accrue to the other channel member.

- b. roles - where one channel member has (or wishes to have) responsibility for market strategy development they may have to integrate vertically to achieve the necessary control over product development, promotion, distribution and price.
- c. conflict - conflict in a channel where power is evenly distributed will cause firms to integrate in order to achieve a degree of coordination within the channel. The computer-communications industry is made up of firms from diverse industries and may therefore be subject to a high degree of conflict.

Computer-communication service providers, whether they are a component of an existing marketing strategy or not, will be limited in their ability to integrate vertically into the information provider end of the channel. The need for market positioning means that some firms could invest in the manufacture of certain types of services as part of their marketing strategy. They may, for example, invest in the ability to provide financial information, consumer price information or hobby related information as a means of differentiating their service from competitors. However, the cost of developing all types of services would be prohibitive so that, for the most part, they will have to rely on independent suppliers. Thus the likelihood of fully integrated full-range systems developing is remote, even though computer-communications service providers are likely to move into some manufacturing of services as an aid to positioning in the marketplace.

The consequences or implications of integration for the marketing strategy include the following:

1. backward integration by carriers, (i.e., distribution providers), into information (content) provision or service provision may place other information providers or service providers at a marketing disadvantage since they will be forced to compete with a firm which may also be their carrier.

2. service providers, even if they do not directly provide content, i.e., are not directly information providers to their own system, must necessarily have some level of control over content if they pursue a target marketing approach or strategy.
3. even if a target marketing approach is not explicitly adopted, offering a "valid" product which responds to consumer needs will require some level of content control by service providers; "packaging" is an important aspect of a marketing strategy.
4. a fully integrated service approach ranging from own-content provision through to own-distribution system is a marketing strategy in its own right. Hardware production could also be included in this. If, for the moment we set aside the hardware segment, the weakest link in the full integration scenario to this point has been in distribution systems. As communications technologies continue to evolve, however, it is becoming far more possible to consider undertaking one's own distribution or, at least, participating in the development of alternative distribution technologies. Obviously, large firms will have an advantage in their ability to mount a fully integrated service offering. As such a fully integrated service marketing strategy will produce a bias in the market towards large firms. As noted earlier, however, such fully integrated services are not likely to be full-range services.
5. the firms most likely to establish a fully integrated service approach are those who enter the computer-communications services market to support an existing activity. For example, hardware manufacturers may decide to build a service based on use of their hardware; or carriers may develop services to carry over their distribution system; or large retailers may develop fully integrated transactions services to support their

existing retail marketing efforts or as a new marketing channel for delivery of existing products.

6. the reasoning just presented in 5., is not necessarily limited to fully integrated services. Firms may integrate forward or backward in the market, without going all the way in both directions, however, in order to maximize the benefits (profitability) of existing activities. From a marketing perspective this could be very important to such things as product packaging, content, delivery systems, hardware choices and pricing policy/structure.
7. in the absence of fully integrated services, market segments will continue to be interdependent. Information providers will have to "sell" themselves to service providers and vice versa. Service providers will have to "sell" themselves to carriers or distribution providers and vice versa. Marketing, in other words, involves more than deciding on the package and terms to be presented to the end-user. Intermediaries on the production side of the market will be engaged in marketing themselves (i.e., their services) to one another and, in some cases at least, they may not even be involved directly with end-users.
8. gateway services may create an appearance of integration even if this integration is not real. From a marketing perspective, successful gateway services may constrain service providers' ability to market directly to users. It may also constrain their ability to build up user loyalty to a particular service, particularly if the gateway service is transparent in nature. This effect will become even more pronounced if the billing function is carried out by the gateway operator rather than directly by the service provider. A corollary of this last point could be the loss by the service provider of its proprietary interest in its customer list and

customers' usage patterns.

The integration issue is a complex one from a marketing point of view. The basic point, however, is this: the particular relationships which exist between different segments of the production side of the market will influence or constrain the marketing options available to firms and/or the combinations of elements of the marketing strategy adopted.

### Distribution Systems

Three general options for distribution exist at the present time: telephone carriers, cable TV networks and off-air broadcasting. In addition, other options such as FM-radio, satellite distribution and various forms of private systems (e.g., leased telephone network data lines) represent other alternatives. These other alternatives will not be discussed here except in very general terms. The discussion, therefore, will focus on the general options listed above. In this regard, several observations can be made:

1. the distribution system chosen may have significant implications for the product definition. For example, VBI broadcast services are limited to approximately 200 "pages" or frames of content. Broadcast services more generally are only one-way and thus cannot provide two-way interactive services except through some form of hybrid distribution system. Cable services, given the present technology of the cable plant, are also limited to one-way.
2. following from 1., the range and depth of service offerings will be influenced, if not, in some cases, determined, by the distribution system chosen.
3. certain technological or hardware characteristics of the service will be unique to the different distribution systems; thus, a given service may not be able to utilize more than one distribution technology without adding-on to the capital plant employed in the service.

4. different distribution technologies may differ in the audience which they are able to reach. Broadcast and telephone are the most universal technologies in this regard, given the market penetration ratios of broadcast receivers and telephone service. Cable, however, is limited both by a slightly lower level of residential penetration especially outside urban areas but, more importantly, a very low, and in some cases non-existent, penetration of the business market.
5. the existing audience of each of the alternative carrier options may not represent that large an advantage on which to base the marketing strategy for the computer-communications service. The fact that someone already has a television or a telephone or cable TV service does not, in and of itself, imply a willingness to use these reception devices for the computer-communications service. The fact that those devices are already in place also implies that they already have defined uses. To use a television for broadcast or cable delivered services will deny those other uses in multi-person households or establishments. In other words, an additional terminal/receiving device is likely to be a necessary feature for users and this fact should be recognized in the market strategy adopted. For telephone-based services, it should be noted that this may imply not only additional handsets (or equivalent) but an additional connection (i.e., a separate line) to the network. For cable, however, no additional connection would be required.
6. Hybrid distribution systems may represent viable options for overcoming the limitations of any single distribution system. For example, satellites are at present limited in their use for direct distribution of services. And cable systems per se are best suited to local distribution of services since cable systems are not

networked at a national level like telephone systems are. But a satellite distribution service to deliver signals to the cable head-end and local distribution through the cable system represents a hybrid of the two which could represent a viable means of achieving a national distribution alternative, which neither system by itself can offer. Another example would be a hybrid telephony/cable system for interactive services where the downlink is provided by cable and the uplink by telephone. Such a system could offer a means of overcoming the present cable problem of having been engineered as a one-way system.

7. telephony has a major advantage from a marketing perspective over other distribution technologies in being the only truly two-way technology and the only switched technology at the present time. Insofar as transactions services and messaging services may represent the most viable content focus for new services for the residential market, the two-way feature and the switching characteristic of telephony gives it a definite edge over the alternatives. Its higher penetration of the business market as well as the requirement for interactivity and greater depth by business users adds further to this advantage.
8. a major disadvantage of telephony systems is the higher cost for any long-distance communications component of the service which they imply. As long as telephone rate structures do not employ usage-sensitive pricing at the local level, however, there is an offsetting advantage in the opposite direction.
9. a potentially important decision forming part of a firm's marketing strategy could be the method of charging for communications costs. Specifically, whether communications costs are an explicit charge to the user or are implicit in the price of the service could have major

implications for market area and levels of usage.

### **Financing**

There are five primary sources of funds which might be drawn upon for financing computer-communications services, i.e., underwriting the costs of the service and returning a profit to the producers. These are:

1. user fees
2. advertising/sponsored programming
3. information-provider charges
4. government
5. internal funds

Government funding is not an option within the discretionary control of the service operator except in terms of the decision to accept funding under an existing government program or to lobby for government funding programs to be established. Government payments for use of services and/or to "put up" its own data bases simply fall within the general framework adopted by the service provider regarding user fees, IP charges or advertising/sponsored content.

Internal funds, as a source of financing, represent funds which can be diverted to finance the service because of savings in existing operations (paper, clerical work, promotion, distribution costs, transactional costs) made possible by the adoption of computer-communications technology as a marketing channel for an existing product line. From the perspective of firms providing computer-communications services as a complement to existing marketing strategies, internally generated funds may be very large and could be the major source of financing, i.e., operating revenues (user fees, advertising revenues/sponsored programming, information provider charges) could be simply "icing on the cake".

Internal funds could also represent a form of venture capital on the part of large firms who use the computer-communications service as a development tool for the technology or as a kind of



"loss leader" for other facets of the company's operations. Some external funds could also be contributed by external investors for these same reasons.

Overall, as noted above, internal funds may be a very important source of financing for firms whose service(s) is a complement to existing activities/strategies. For stand-alone service firms, however, the revenue generated sources of financing will determine the profitability of the service. For all firms, of both types, the revenue generated funds will be linked intrinsically to the marketing strategy adopted. Thus, the balance of this discussion of financing will focus on revenue considerations.

All other things equal, a service provider will obviously be best off if it can maximize revenues from all sources. But the use of one kind of revenue funding may not be independent from the use of others and the way in which revenue funding sources get combined is not a simple additive process. In other words, all other things may not be equal. Thus a number of considerations must be taken into account:

1. certain content orientations lend themselves more readily to certain funding sources and vice versa. Thus, for example, major retailers will be most interested in advertising and/or sponsored content, particularly within a transactions-oriented service offering. From the opposite perspective, transactions services particularly lend themselves to advertising/sponsored content/on-line transactions for which retailers/manufacturers will be willing to pay to participate.
2. so-called "persuasive" advertising is probably not well-suited to the computer-communications services medium. Even with colour and graphics, it will be hard to compete in this form with the persuasive qualities of TV and magazine (print) advertising.
3. other forms of advertising such as catalogues, product information, classifieds, transactions, etc., are suited

to the medium and, in the context of the content orientation of the service, represent a potential important source of financing.

4. advertising/sponsored type uses, in general, will succeed, from a marketing perspective, only insofar as the service operator can "deliver" a large enough number of users and/or the right type of users to satisfy the sponsor's needs. This may have obvious implications for content, for target audience selection, for hardware choices and, very importantly, for the level and structure of prices.
5. Transactions-oriented information providers may bring with them, when they go electronic, an already established clientele which the service provider may be able to capitalize on in terms of its marketing approach overall.
6. For certain types of content and/or for certain users, advertising or sponsored messages could well be regarded as intrusive and hence, objectionable. In this case, an over reliance, or indeed perhaps any reliance, on advertiser financing, could be damaging to long-run market growth for the individual service providers in this position.
7. IP charges, insofar as they are distinguishable from advertising revenue, would involve such items as data base storage charges or listing fees. Such charges are in part a question of market structure. Will service providers, for example, provide data base storage or will they simply act as a gateway connector to third party computers or both? Third party connections raise an important marketing question vis-a-vis the exclusivity of the IP service-provider relationship. So too do listing fees. Listing fees raise a further even more important issue regarding price structure which is discussed below in the section on pricing.

These considerations point out that while there are several financing options available, they are not necessarily equal in terms of marketing strategy. In other words, how the system is financed has necessary implications for content, target audience, etc. and vice versa, content orientation, target audience, etc. have necessary implications for the financing options selected. More specifically, there may be a trade-off between advertising and consumer acceptance for non-transactions services. Insofar as advertising revenues may reduce user fees, this trade-off may, however, be partially mitigated.

### Pricing

The issue of pricing involves, essentially, the question of the level and structure of user fees, assuming there are to be some direct user charges. This would not be true for a wholly advertiser/IP financed service.

From a marketing point of view, user fees, both their level and their structure, are a crucial variable to be considered. The general options available are threefold:

1. usage-sensitive prices, with sensitivity based on volume of use, type of use, specific content, or combinations of these;
2. flat-rate, non-usage-sensitive price, flat-rate subscription fees with unlimited usage; and,
3. combinations of 1. and 2.

In deciding between these options, several considerations are relevant:

1. tolerable price levels for computer-communications services will depend on the value of the service(s) to users, within users' budget constraints. In other words, it is not necessarily true that the optimum strategy is to price as low as possible so as to maximize customers. If the service delivers sufficient value per dollar of user expenditure, users will tolerate higher prices without any necessary decrease in numbers of

subscribers. Alternatively, higher priced services with a lower number of users may still be a better option for an individual service provider.

2. the pricing question should not, in any case, be treated independently of the question of costs of production.
3. available evidence suggests that users have a preference for flat-rate, subscription fees with unlimited usage. A non-usage-sensitive pricing scheme will promote usage and, all other things equal, increase the number of subscribers. Both of these results may greatly increase the attractiveness of the medium for advertising/sponsored content purposes. As noted in the preceding section, no financing option should be viewed independently, including pricing or user fees.
4. following from 2. and 3., account must be taken, however, of the cost implications of unlimited usage pricing. Such a scheme may have implications, for example, for network architecture (capacity, communication ports, etc.), with resulting cost increases which are proportionately larger than any revenue gains.
5. flat rate subscription fees, as a marketing device, might help to "lock-in" users, who, for budget reasons, or value of service reasons, might not be willing or able to subscribe on this basis to more than one service.
6. business-oriented services are likely to require usage-sensitive prices.
7. for residential users, usage-sensitive prices do not fit well with advertising/sponsored content, all other things equal. If the level of fees is obviously lower because of the revenue contribution of advertisers, this could make it more acceptable but users must consciously accept this trade-off; perceptions are what matter in this instance.
8. charging for certain kinds of information or service may meet with a considerable amount of resistance on the part

of users because they are not used to paying for these things and/or because they are otherwise available, through other media, at lower or zero cost. Subscription fees or usage-sensitive fees based on time, i.e., connect time charges, may escape these problems because they are non-specific.

9. from a service-provider's point of view, usage-sensitive pricing will work best where there is a relatively inelastic demand segment or a very high usage segment.

In general terms, the choice between a flat rate subscription pricing scheme and a pure usage-sensitive scheme cannot be made in the absence of detailed concrete market information. Nor should combinations of the two, in a tiered content offering, be ruled out. Such an option may in fact be the optimal one from a marketing perspective.

### **Support Services**

Support services encompass a number of items extending both backward and forward in the market from the service provider. Assistance with data base construction, content design, content focus, data base storage, etc., are possible support services back to information providers. In the forward direction to users, equipment (terminal) sales, equipment servicing, bill paying services, etc., represent possible support services.

The provision of support services to each end of the market and which support services are extended all represent variables in the marketing strategy. Some service providers, for example, might wish to offer a fully integrated service to users, including equipment and equipment servicing. Others, on the other hand, may see the equipment market as distinct and elect to stay out of it entirely. The choice of terminal equipment may be one of the variables in this decision. A choice to develop the existing pc market base as the target or focus group for the service, for example, would probably imply a decision to stay out of the equipment market. A decision to go with a dedicated terminal, on

the other hand, would probably imply the reverse.

Backward market support services will be influenced heavily by the market structure which evolves and the positioning of the particular service provider within that structure.

A fully integrated service provider, i.e., one who is providing their own content creation through to direct sale of their own services, may not provide any support services of the type being discussed here, since such a system may not be open to third party IP's. Alternatively, not providing such services may be a way of limiting the ability of third party or independent IP's to participate even though, nominally, it is possible to do so. A service which by design is an assembly of data bases from a variety of independent IP's will have to provide support services almost as a necessity.

### **Conclusion**

The theoretical discussion of Chapter Two has highlighted marketing issues to be taken into account primarily in terms of the demand side of the market. The structural/institutional environment discussion of this chapter (Chapter Three) has essentially added to this a supply-side perspective - factors on the production side which also represent variables in the marketing equation. We now move on in Chapter Four to an examination of how service providers have been proceeding in practice to date.



