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TELIDON MARKETING

Background Study

Etude de base

PROGRAM EVALUATION DIVISION DE L'EVALUATION DES PROGRAMMES

TELIDON MARKETING

MARCH, 1985

DOC

PROGRAM EVALUATION SERIES

This is one of five Background Studies on the Canadian Videotex industry that form part of the evaluation of the Telidon Program.

The Study was conducted by Abt Associates of Canada, Social Research Consultants for the Program Evaluation Division of the Department of Communications, Canada.

The views expressed herein are those of the author and do not necessarily represent the views or policies of the Department of Communications.

Abt Associates of Canada
Social Research Consultants

Project Report

EVALUATION STUDY OF THE TELIDON PROGRAM:

~~Background Study No. 3~~
Telidon Marketing

- Final Report -

Prepared for

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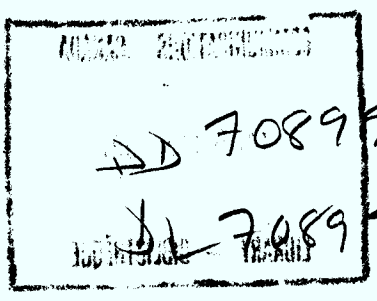

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EXECUTIVE SUMMARY

A. BACKGROUND TO THE STUDY

In compliance with the Department of Communications' requirement to evaluate the Telidon Program, five background studies were initiated to explore a range of issues. Background Study No. 3 -- Telidon Marketing -- examines the effectiveness of government support for the marketing of Telidon domestically and internationally. This evaluation was based on:

- a review of selected marketing literature;
- examination of all relevant documentation on the rationale and objectives of government marketing efforts;
- analysis of available data regarding Telidon marketing stategies and budgets; and
- interviews with government officials and industry representatives responsible for marketing.

The study is constrained by the lack of documentation by both industry and government on the resources specifically allocated to marketing activities and on the implementation and outcomes of those activities.

B. MARKETING INNOVATIVE PRODUCTS: AN ANALYTICAL FRAMEWORK

The marketing of products or services involves identifying a need and responding to the related demand with the objective of utimately selling the product. Considerable market research is required before a marketing program can be successful. Market research should assess such critical factors as market awareness, buyer segmentation, needs and decision processes, and effective promotional approaches. As well, new product success must begin with objective targets, adequate financial support, good management judgement and willingness to take risks.

New technical products often present additional challenges. In particular, the buyer community may not be familiar with the product or its benefits. To market an innovative product like Telidon, a number of specific activities should be undertaken, including:

- identifying the market position of the firm;
- establishing short and long-term marketing and selling budgets;

- conducting market research; and

- conducting the marketing program, including such activities as brochure publication, seminars, trade journal advertising, trade shows, newsletters and personal selling.

The individuals who carry out these activities should have capabilities and experience in the user/application area and marketing.

C. MARKETING TELIDON: GOVERNMENT INITIATIVES

The Department of Communications (DOC) and External Affairs have implemented a range of activities to support the marketing of Telidon. Until 1983, DOC was primarily responsible for both domestic and international marketing. Approval of the Telidon Exploitation Program allocated additional funding to External Affairs and DOC to help ensure a place for Canada in what was expected to be a $3 billion market in North America alone by 1985.

Canadian companies faced stiff competition for the sale of videotex products and services. In particular, Britain and France had mounted heavily subsidized, world-wide marketing efforts. American and Japanese companies were becoming strong contenders as well. Penetration of the U.S. market was considered vital for the survival of the Telidon standard.

Under the Telidon Exploitation Program, External Affairs and DOC were allocated a total of $3.7 million for export marketing for fiscal years 1983-84 and 1984-85. Specifically, the intent was to devise and implement a world-wide marketing plan for Telidon goods and services, coordinating marketing efforts with industry.

The Telidon marketing function at DOC has recently been geared towards providing support to External Affairs for international marketing. Prior to this, DOC/Telidon Program staff had carried out a number of marketing-oriented activities, but without a formal marketing plan or strategy, geared towards promoting awareness and having the Telidon standard accepted. These activities included presentations, demonstrations, participation at trade shows, conferences, and publications. As well, the DOC promotional strategy relied heavily on media publicity.

The Telidon Systems Section of External Affairs, in its efforts to create awareness of Canadian videotex technology, implemented a marketing program that included brochure development and advertising, a direct mail campaign, trade show coordination, seminars, and continuation of an embassy/consulate project initiated by DOC.

The study reviewed a number of government marketing initiatives in more detail, specifically:

- **Brochure development and direct mail campaign** - the Telidon Systems group at External Affairs prepared 10 marketing brochures at a cost of approximately $100,000 along with a catalogue of Canadian videotex suppliers for distribution by direct mail and through trade shows and selected periodicals. Overall, 50,000 brochures and 25,000 catalogues have been distributed. These activities were intended to promote Canadian suppliers to target markets. As a result of response, a potential client list of approximately 8,000 names has been developed for use by the industry.

- **The embassy and consulate project** - the Department of External Affairs with support from DOC has installed approximately 40 Telidon systems in embassies and consulates around the world. The goal of this project was to facilitate the world-wide marketing of Telidon. Trade officers look for specific opportunities for Canadian industry. And the industry has been encouraged to use the facilities for sales meetings, conferences, etc. The project attempted to solve the problems of transporting equipment around the world. However, some technical problems resulted because installations often represented the first time that international packet switching networks were used in the respective countries. To date, a number of the terminals have been used both by trade officers and Canadian companies, facilitating contact with potential buyers and generating a number of potential sales opportunities.

- **Trade shows and presentations** - Both DOC and the Department of External Affairs have supported and participated in a wide range of trade shows in support of the Canadian videotex industry. Often, an information booth is established and government officials help to set up meetings and press conferences, directing potential clients to Canadian companies. Telidon is used at shows and conferences as an audio-visual tool and to demonstrate the technology to enchance public awareness. Overall, trade shows have created a presence for Telidon and for the Canadian industry.

D. MARKETING TELIDON: AN INDUSTRY PROFILE

The results of our interviews suggest that the Canadian Telidon/videotex industry is extremely diversified. Available products and services cover every aspect of the videotex market place. Size of firm also varies considerably from one-person software development companies to firms employing more than 100 persons.

Companies rely heavily on attendance at trade affairs and conventions for establishing sales contacts, and on advertising in trade and industry journals to inform readers of their products and services.

None of the company representatives interviewed have followed a formal marketing plan, although some have recently started to do so. Most firms feel they are (or were) too small to dedicate the time and resources necessary to conduct market research. Instead, they have functioned in a largely ad hoc manner.

Most of the interviewees could not distinguish clearly between the two concepts of marketing and selling. By "marketing" we mean determining the needs of the target market in order to deliver the required product effectively and efficiently. This function includes a range of activities: from market research to identify buyer needs and price sensitivity to packaging and advertising. "Sales" refers to the explicit attempts by the seller to transfer existing products and services to the purchaser. Because of the obscuring of these two roles, and the reluctance or inability of our respondents to provide us with data on marketing expenditures, we could not determine precisely the ratio of marketing expenditures to sales and revenues for the participants.

All the firms interviewed use a direct marketing approach: only their own staff promote and sell their products or services. This trend appears to result from the size the firm and the nature of their products: a significant educational factor is associated with the marketing of Telidon-based products.

Although our response rate with respect to sales was quite low, the majority of the respondent companies report sales below $250,000 annually. Most firms anticipate a healthy growth rate for 1985.

E. GOVERNMENT MARKETING OF TELIDON: THE INDUSTRY PERSPECTIVE

Eighteen of the 24 companies interviewed have received assistance for marketing from the federal government. The most common form of assistance was financial in the form of grants to underwrite some of the costs of travel to trade shows and conventions. Of almost equal importance were development grants (for software and hardware) and information regarding other companies. Approximately 25% of respondents (7 of 24) reported that the federal government did not provide any help at all in the marketing of Telidon, either domestically or internationally.

Participants who have received marketing assistance from the federal government suggested a number of resulting benefits, including:

- creation of general awareness of the technology and Canadian companies;
- information co-ordination and transfer;
- assistance in direct mail marketing;
- generation of sales leads;
- trade show support; and
- enchanced credibility of smaller firms by developing a united front, especially internationally.

Approximately one-third of our respondents suggest that the government should not have provided special assistance to the videotex industry. Rather, these firms would prefer to receive assistance such as tax incentives for research and development and assistance for export marketing. Other comments suggest that the government should have employed personnel with different qualifications and demonstrated a clearer understanding of the technology and existing and potential markets. With the benefit of hindsight, participants also feel that the federal government's emphasis on marketing Telidon as a home computer was inappropriate because of the high costs of decoders, the lack of software and Telidon pages to maintain consumer interest, and the relative ignorance of consumers regarding the potential value of Telidon in the home. However, all of our respondents do feel that home service using videotex will come in the future.

Respondents feel that the primary opportunity for commercial expansion is in the United States. The existence of a standard protocol and the driving forces of such industrial giants as AT&T have created a higher awareness in the United States than in other parts of the world.

In summary, many of our respondents agree that the commercial market place is much more complex than originally anticipated. More time is required for firms to gain experience using the technology and to evaluate its associated benefits. The two major barriers to successful marketing of Telidon in Canada and abroad currently are the price and reliability of decoders, and the continuing lack of awareness among potential buyers of the specific benefits of videotex as a cost-effective tool.

F. MARKETING ACTIVITIES OF COMPETING TECHNOLOGIES

The total expenditure of the British and French on the international marketing of their videotex and teletext technologies from 1978 to 1984 has been over $55 million. Of that sum, approximately 90% was spent on efforts to establish these technologies in the United States market. However, neither the French nor the British can point to any significant success after a seven year presence in the United States.

Most British government expenditures on promoting Prestel videotex hardware and software were through British Telecom. Some government funding also came from the Department of Industry for telextext marketing. British Telecom had two marketing strategies. The first was to take advantage of contacts with other European and Commonwealth public telecommunications organizations (PTTs), and the second was to license a British company with an international marketing presence to sell Prestel. The first strategy was very successful and accounted for all of the sales of Prestel systems to PTTs in other countries. The second strategy, employed primarily in the United States, failed due to the lack of a clear marketing strategy and incompatability with U.S. hardware. The Department of Industry's attempts to promote teletext met with some success in the United States and relatively more success in Europe and Australia.

The French strategy in marketing its videotex and teletext technology consisted of several different and sometimes conflicting approaches. Like the British, the French identified the United States as the principal market, and established companies and personnel in the United States. Marketing efforts in other countries were directed from Paris.

The first strategy was to attempt to influence standards development in other countries. The second was to set up trials of French equipment, often giving away hardware and software. Third, government support was provided to allow individual French companies to do their own marketing. And fourth, a strong company was established in North America to represent French industry interests.

The standards battle was effectively lost by the French in North America. The other strategies resulted in confusion in the market place. The French were successful in establishing several teletext trials in North America. However, none of these trials led to the implementation of a commercial service. Because the French could never offer a coordinated turn-key product, there were always missing elements in any system that they attempted to sell.

The strategy of giving support to individual French companies led to confusion and conflict in the market place, particularly in the United States. In an effort to solve this problem, Videographic Systems of America was established with the intent of coordinating all French marketing efforts in the United States, but achieved very limited success.

Overall, the British government allocated approximately $32.5 million (U.S.) to international marketing and the French government, $26.5 million over the period 1978-1984.

G. TELIDON MARKETING: ANALYSIS AND CONCLUSIONS

A number of activities are traditionally implemented in developing and marketing new products including:

- assessment of new product feasibility;
- assessment of consumer acceptability through market research; and
- implementation of marketing activities.

The sample of firms contacted in our study reported that inadequate resources prevented them from implementing a comprehensive marketing strategy. With the exception of the larger firms, marketing and selling were mainly carried out on an ad hoc basis by the principal(s) of the companies, whose background and expertise were usually technical. Overall targets, when acknowledged at all, drew primarily on the industry forecasts sponsored or cited by government.

Our analysis of the roles government and industry could have been expected to play at each stage of the marketing cycle shows that the traditional marketing model was not closely followed. Neither the government nor industry can be said to have provided a fostering environment in terms of appropriate financing, objective targets, product/organizational compatibility or marketing capabilities. Similarly, neither sector implemented the expected steps in the product development and market research process, either on a generic or product-specific basis. Both government and industry did implement a number of direct marketing efforts and individual firms, as expected, engaged in selling activities.

The absence of clearly defined targets and follow-up research prevents us from attributing any direct outcomes to specific marketing interventions. However, indirect measures such as trade show presence and some success in the U.S. market suggest that the respective public and private goals have been achieved to some extent.

In the context of competing videotex technologies, we have noted that Britain and France failed to succeed in the international market in a significant way in spite of approximately $59 million dollars spent by both countries to market their respective technologies. In comparison, we suggest that the approximately $5 million spent by the Canadian government on marketing appear to have achieved greater returns in terms of market impact. However, the extent to which the success of Canadian firms in the United States market can be directly attributed to federal government initiatives in marketing Telidon is difficult to determine.

In summary, the marketing of Telidon has gone through two phases. The first phase involved familiarizing the domestic and international markets with Telidon and promoting the Telidon standard. In this respect, it appears that the activities of government have been successful. The second phase, the Telidon Exploitation Program, proceeded with the goal to help Canadian companies break into the international market. Although the export marketing program has not been objectively measured, marketing staff point to contacts made, feedback from Canadian firms, and success in the United States market place.

With respect to government's role in support of industry, members of the Canadian videotex industry prefer to be treated like other components of the high technology sector. Specifically, representatives suggest that the best approach is for government to provide assistance to companies with a clear focus on some part of the market, allowing them to proceed in the marketing direction they choose to undertake. Initiatives like the Program for Export Market Development receive strong support. In general, the industry strongly encourages the government to continue support to the industry through its trade promotion program.

SOMMAIRE-RECOMMANDATION

A. HISTORIQUE DE L'ÉTUDE

Conformément au mandat du ministère des Communications, chargé d'évaluer le programme Télidon, cinq études de documentation ont été effectuées afin d'examiner en profondeur une grande variété de questions. La troisième étude de documentation -- Commercialisation de Télidon -- examine l'efficacité de l'appui que le gouvernement accorde à la question de la commercialisation du Télidon à l'échelle nationale et internationale. Cette évaluation reposait sur les éléments suivants :

- l'étude de certains documents relatifs à la commercialisation;
- l'examen de toute la documentation pertinente exposant les motifs et objectifs des efforts de commercialisation du gouvernement;
- l'analyse des données disponibles concernant les stratégies et les budgets en matière de commercialisation de Télidon; et
- des entrevues avec les représentants du gouvernement et de l'industrie, chargés de la commercialisation de ce système.

La portée de l'étude est limitée par l'absence, au sein du gouvernement et de l'industrie, de documentation concernant les ressources spécialement affectées aux activités de commercialisation ainsi que la mise en oeuvre et le résultat de ces activités.

B. COMMERCIALISATION DE PRODUITS NOVATEURS : CADRE ANALYTIQUE

Pour commercialiser des produits ou des services, il faut déterminer le besoin et répondre à la demande dans le but de vendre le produit. Pour assurer le succès d'un programme de commercialisation, il faut effectuer d'importantes études de marché. Ces études doivent porter sur certains facteurs cruciaux comme la sensibilisation du marché, la segmentation des acheteurs, les besoins et les processus de prise de décisions, et les techniques de promotion. En outre, pour assurer le succès de l'implantation d'un nouveau produit il faut avoir des buts objectifs, un appui financier adéquat, de bonnes pratiques de gestion, un jugement éclairé et être prêt à prendre des risques.

Les nouveaux produits techniques présentent souvent des défis supplémentaires. Notamment, il arrive parfois que l'ensemble des acheteurs ne connaissent pas le produit ni les avantages qu'il offre. Pour commercialiser un produit novateur comme Télidon, un certain nombre d'activités précises doivent être orchestrées. Il faut entre autres :

- déterminer la position commerciale de l'entreprise;
- établir des budgets à court et à long termes pour la commercialisation et les ventes;
- faire des études de marché; et
- exécuter un programme de commercialisation incluant des activités comme la publication de brochures, la tenue de colloques, la publicité dans les revues spécialisées, la participation aux foires commerciales, la rédaction de bulletins et la vente personnelle.

Les personnes chargées de ces activités doivent posséder les aptitudes et l'expérience voulues en ce qui concerne les applications et la commercialisation.

C. COMMERCIALISATION DE TÉLIDON : PROJETS GOUVERNEMENTAUX

Le ministère des Communications (MDC) et le ministère des Affaires extérieures (MAE) ont mis en oeuvre un ensemble d'activités en vue d'aider la commercialisation de Télidon. Jusqu'en 1983, le MDC s'occupait principalement de la commercialisation à l'échelle nationale et internationale. Par suite de l'approbation du programme d'exploitation de Télidon, des crédits supplémentaires ont été attribués au MAE et au MDC pour garantir au Canada une place sur ce qui devait être, rien qu'en Amérique du Nord, un marché de 3 milliards de dollars en 1985.

Les entreprises canadiennes ont dû subir une très forte concurrence très forte en ce qui a trait à la vente des produits et services de vidéotex. Plus particulèrement, la Grande-Bretagne et la France ont monté des campagnes de commercialisation à l'échelle mondiale et elles y ont consacré de très grosses subventions. Les entreprises américaines et japonaises sont devenues également de puissants concurrents. La pénétration du marché américain était considérée un élément essentiel de la survie de la norme Télidon.

En vertu du programme d'exploitation de Télidon, le MAE et le MDC ont reçu des crédits totalisant 3,7 millions de dollars pour la commercialisation des exportations au cours des années financières 1983-1984 et 1984-1985. Plus précisément, le programme visait à élaborer et à mettre en oeuvre un plan mondial de commercialisation des biens et services de Télidon et à coordonner les activités de commercialisation de l'industrie.

Au MDC, l'orientation de la fonction de commercialisation du Télidon s'est récemment modifiée et le Ministère appuie désormais le MAE et la commercialisation internationale. Auparavant, les employés du programme d'exploitation de Télidon du MDC s'acquittaient d'un certain nombre d'activités de commercialisation, mais comme il n'y avait pas de plan ou de stratégie de commercialisation officiels, leur but était surtout de sensibiliser les clients et de faire accepter la norme Télidon. Ces activités incluaient des exposés, des démonstrations, la participation à des foires commerciales, des conférences et des publications. La stratégie promotionnelle du MDC avait également largement recours à la publicité par les médias.

La section des systèmes Télidon du MAE, chargée de susciter une prise de conscience à l'égard de la technologie canadienne du vidéotex, a mis en oeuvre un programme de commercialisation qui incluait la rédaction d'une brochure et l'achat de publicité, une campagne de publicité par courrier individuel, la

coordination de présentations aux foires commerciales, des colloques et la poursuite d'un projet à l'intention des ambassades et consulats lancé par le MDC.

L'étude portait plus particulièrement sur un certain nombre de projets de commercialisation du gouvernement, entre autres :

- **Rédaction d'une brochure et campagne de publicité par courrier individuel** - le groupe des systèmes Télidon du MAE a rédigé à des fins de commercialisation 10 brochures qui ont coûté environ 100 000 $, ainsi qu'un catalogue des fournisseurs canadiens d'équipement vidéotex destiné à être distribué par courrier individuel et lors de foires commerciales ou encore inséré dans certaines revues. En gros, 50 000 brochures et 25 000 catalogues ont été distribués. Ces activités avaient pour but de faire connaître les fournisseurs canadiens sur les marchés visés et ont permis, en retour, de dresser une liste regroupant environ 8 000 noms de clients éventuels à l'intention de l'industrie.

- **Projet des ambassades et consultats** - En collaboration avec le MDC, le MAE a installé environ 40 systèmes Télidon dans les ambassades et consultats canadiens dans le monde afin de faciliter la commercialisation de Télidon sur le plan mondial. Les agents commerciaux tentent de trouver des débouchés pour l'industrie canadienne et cette dernière a été incitée à utiliser les systèmes Télidon des ambassades et consulats pour les réunions destinées à mousser les ventes, les conférences, etc. On a essayé aussi de trouver une solution aux problèmes que présente le transport du matériel dans le monde. Toutefois, certains problèmes techniques se sont produits car c'était souvent la première fois que des réseaux internationaux de commutation de paquets étaient utilisés dans ces pays. Jusqu'à maintenant, un certain nombre de terminaux ont été utilisés par les agents commerciaux et les entreprises canadiennes, ce qui a facilité les contacts avec les acheteurs éventuels et a créé un certain nombre d'occasions de faire des ventes.
- **Foires commerciales et présentations** - Le MDC et le MAE ont donné leur appui et participé à un très grand nombre de foires commerciales dans le domaine de l'industrie canadienne du vidéotex. Souvent, un guichet d'information est installé et les représentants gouvernementaux aident à organiser des réunions et des conférences de presse et orientent les clients éventuels vers les entreprises canadiennes. Télidon est utilisé dans le cadre de foires et de conférences, à titre d'outil audiovisuel, pour démontrer les progrès de la technologie et sensibiliser le public. Dans l'ensemble, les foires commerciales ont servi à mettre en lumière le système Télidon et l'industrie canadienne.

D. COMMERCIALISATION DE TÉLIDON : UN PROFIL DE L'INDUSTRIE

Les résultats de nos entrevues laissent supposer que l'industrie canadienne du Télidon et du vidéotex est extrêment diversifiée. Les produits et services disponibles englobent tous les aspects du monde commercial du vidéotex. La taille des entreprises varie également beaucoup; il y a des compagnies qui ne comptent qu'une seule personne affectée au développement de logiciel alors que d'autres emploient plus de 100 personnes.

Les entreprises comptent beaucoup sur la participation aux foires commerciales et aux congrès pour rencontrer d'éventuels acheteurs et sur la publicité dans les revues spécialisées et industrielles pour informer les lecteurs au sujet de leurs produits et services.

Aucun des représentants des entreprises interrogées n'avait adopté de plan de commercialisation officiel, même si certains venaient de commencer à le faire. La plupart des entreprises estiment qu'elles sont (ou qu'elles étaient trop petites) pour pouvoir consacrer le temps et les ressources nécessaires à la réalisation d'études de marché. Elles ont plutôt agi en fonction de la demande.

La plupart des personnes interviewées ne pouvaient établir de distinction claire entre le concept de commercialisation et celui de vente. Le terme "commercialisation" que nous utilisons correspond à l'établissement des besoins du marché cible afin d'assurer la livraison efficace et efficiente du produit requis. Cette fonction englobe plusieurs activités qui vont des études de marché, visant à identifier les besoins de l'acheteur et sa réaction au prix demandé, à l'emballage et la publicité. Le terme "vente" correspond à des efforts explicites de la part du vendeur afin de transférer les produits et services existants à des acheteurs. Compte tenu de la définition assez obscure de ces deux rôles et de l'hésitation ou de l'incapacité de nos répondants à nous fournir des données sur les dépenses au chapitre de la commercialisation, nous n'avons pu déterminer avec précision le rapport entre les dépenses de commercialisation et les ventes et revenus des participants.

Toutes les entreprises interrogées utilisent une méthode directe de commercialisation; elles ne confient la promotion et la vente de leurs produits ou services qu'à leurs propres employés. Cette tendance semble s'expliquer par la taille de l'entreprise et la nature des produits qu'elle offre : le niveau d'instruction joue un rôle important lorsqu'il s'agit de commercialisation des produits qui s'inspirent des systèmes du Télidon.

Même si le taux de réponse aux questions applicables aux ventes était assez faible, la majorité des entreprises ayant répondu signalent des ventes de moins de 250 000 $ par année. La plupart des entreprises prévoient connaître un taux de croissance encourageant en 1985.

E. COMMERCIALISATION DE TÉLIDON PAR LE GOUVERNEMENT : POINT DE VUE DE L'INDUSTRIE

Dix-huit des 24 entreprises interrogées ont bénéficié de l'aide du gouvernement fédéral pour leur commercialisation. La forme d'aide la plus répandue est à caractère financier, sous forme de subventions visant à rembourser certains frais de déplacement pour la participation aux foires commerciales et aux congrès. Les subventions d'aide au développement de logiciel et de matériel ont joué un rôle également important, tout comme les renseignements relatifs à d'autres entreprises. Environ 25 p. 100 des répondants (7 sur 24) ont signalé que le gouvernement fédéral ne les avait pas aidés du tout pour la commercialisation de Télidon, que ce soit à l'échelle nationale ou internationale.

Les participants qui ont reçu l'aide du gouvernement fédéral pour leur commercialisation font état d'un certain nombre des bénéfices qu'ils en ont retiré, entre autres :

- le début d'une sensibilisation générale à l'égard de la technologie et des entreprises canadiennes;
- la coordination et le transfert de l'information;
- une aide en matière de commercialisation par courrier individuel;
- la production d'une liste des clients éventuels;
- une aide pour la participation aux foires commerciales; et
- la crédibilité accrue des petites entreprises ayant réussi à faire front commun, surtout au niveau international.

Environ un tiers des répondants signalent que le gouvernement n'aurait pas dû accorder d'aide spéciale à l'industrie du vidéotex. En effet, ces entreprises préféraient recevoir de l'aide sous forme de mesures d'incitation fiscale pour la recherche et le développement ainsi que d'aide pour la commercialisation des exportations. D'autres ont invoqué que le gouvernement aurait dû embauchés des employés possédant des titres et qualités différents et faisant preuve d'une meilleure compréhension de la technologie et des marchés actuels et éventuels. Après coup, les participants étaient également d'avis que le gouvernement fédéral avait tort de mettre l'accent sur la commercialisation de Télidon à titre d'ordinateur domestique parce que les décodeurs coûtent très chers, qu'il n'y pas suffisamment de logiciels et de pages Télidon pour soutenir l'intérêt des consommateurs et que ces derniers ignorent pratiquement les avantages qu'ils pourraient retirer du service Télidon dans leur foyer. Mais, toutes les personnes que nous avons interrogées étaient d'avis que le service de vidéotex grand public serait un jour offert sur le marché.

Les répondants étaient d'avis que les États-Unis constituaient le principal débouché pour l'essor commercial de Télidon. L'existence d'un protocole normalisé et les contraintes impérieuses de certains géants industriels comme l'AT&T ont suscité une prise de conscience plus grande aux États-Unis que dans les autres parties du monde.

Bref, un bon nombre de répondants conviennent que le milieu commercial est beaucoup plus complexe qu'ils ne le pensaient. Les entreprises devront consacrer plus de temps à acquérir de l'expérience en faisant appel à la technologie et à l'évaluation des avantages qu'elle offre. Les deux principaux obstacles au succès de la commercialisation de Télidon au Canada et à l'étranger sont actuellement le prix et la fiabilité des décodeurs et le manque de sensibilisation dont continuent de faire preuve les acheteurs éventuels à l'égard des avantages précis que présente le vidéotex à titre d'outil de rentabilité des activités.

F. ACTIVITÉS DE COMMERCIALISATION DES TECHNOLOGIES CONCURRENTIELLES

Entre 1978 et 1984, les gouvernements britanniques et français ont dépensé un total de 55 millions de dollars pour la commercialisation de leur technologie du vidéotex et du télétexte sur le marché international. Sur ce montant,

environ 90 p. 100 ont été consacrés à l'implantation de ces technologies sur le marché américain. Toutefois, ni les Français ni les Britanniques ne peuvent affirmer avoir connu de succès importants au cours de cette période de sept ans aux États-Unis.

La plupart des dépenses que le gouvernement britannique a consacrées à la promotion du logiciel et du matériel du système vidéotex Prestel ont été effectuées par l'intermédiaire de la British Telecom. Certains crédits gouvernementaux ont également été fournis par le ministère de l'Industrie en vue de la commercialisation du télétexte. La British Telecom a eu recours à deux stratégies de commercialisation. La première consistait à tirer profit des contacts que la Grande-Bretagne avait avec les autres organismes de télécommunications publiques en Europe et dans les pays du Commonwealth, et la deuxième consistait à retenir les services d'une société britannique jouissant d'une réputation internationale dans le domaine de la commercialisation, pour vendre Prestel. La première stratégie a connu un grand succès et a été à l'origine de toutes les ventes de systèmes Prestel faites à des organismes de télécommunications publiques dans les autres pays. La deuxième stratégie, utilisée principalement aux États-Unis, a échoué parce qu'on n'a pas adopté de stratégie de commercialisation claire et que le matériel était incompatible avec le logiciel des États-Unis. Les efforts du ministère de l'Industrie en vue de la promotion du télétexte ont connu quelques succès aux États-Unis et un succès relativement plus grand en Europe et en Australie.

La stratégie par le gouvernement français pour la commercialisation de ses technologies du vidéotex et du télétexte comportait des approches diverses et souvent contradictoires. Comme les Britanniques, les Français ont déterminé que les États-Unis étaient leur marché principal, et il y ont implanté des sociétés et embauché des employés. Les activités de commercialisation dans les autres pays étaient coordonnées à de Paris.

La première stratégie consistait à tenter d'influencer l'élaboration des normes dans les autres pays. La deuxième se limitait à faire essayer le matériel français, souvent en donnant gratuitement du matériel et du logiciel. La troisième comprenait une aide gouvernementale afin de permettre aux entreprises françaises d'assurer leur propre commercialisation. En quatrième lieu, une entreprise solide a été établie en Amérique du Nord afin de représenter les intérêts de l'industrie française.

Les Français ont bel et bien perdu la bataille qu'ils livraient en matière de normes en Amérique du Nord. Les autres stratégies ont contribué à créer de la confusion sur le marché. Les Français ont réussi à mener à bien plusieurs essais de systèmes télétexte en Amérique du Nord, mais aucun de ces essais n'a donné lieu à l'implantation d'un service commercial. Comme les Français ne pouvaient jamais offrir un produit "clé en main", les systèmes qu'ils essayaient de vendre présentaient toujours une ou plusieurs lacunes.

La stratégie d'aide aux entreprises françaises a créé de la confusion et des conflits sur le marché, surtout aux États-Unis. Pour tenter de résoudre ce problème, Vidéographic Systems of America a été mis sur pied dans le but de coordonner tous les efforts de commercialisation du gouvernement français aux États-Unis, mais cet organisme a connu un succès très mitigé.

Dans l'ensemble, entre 1978 et 1984, le gouvernement britannique a consacré environ 32,5 millions de dollars (US) à la commercialisation internationale de ses systèmes alors que le gouvernement français y consacrait 26,5 millions de dollars.

G. COMMERCIALISATION DU TÉLIDON : ANALYSE ET CONCLUSIONS

La mise au point et la commercialisation de nouveaux produits donnent généralement lieu à un certain nombre d'activités :

- évaluation de la faisabilité des nouveaux produits;
- évaluation de l'acceptation du consommateur à l'aide d'études de marché; et
- implantation des activités de commercialisation.

Les entreprises interrogées dans le cadre de notre étude ont signalé que l'insuffisance de leurs ressources les avaient empêchées de mettre en oeuvre une stratégie détaillée de commercialisation. A l'exception des grosses entreprises, les activités de commercialisation et de vente étaient surtout confiées, selon les besoins, au(x) dirigeant(s) des entreprises en question, dont la formation et l'expérience sont habituellement techniques. Les objectifs globaux, lorsque les entreprises reconnaissaient qu'elles en avaient, s'inspiraient principalement des prévisions industrielles visées ou citées par le gouvernement.

Notre analyse des rôles que le gouvernement et l'industrie pourraient être appelés à jouer à chaque étape du processus de commercialisation démontre que le modèle traditionnel de commercialisation n'était pas rigoureusement respecté. Ni le gouvernement ni l'industrie n'ont pu fournir d'environnement favorable en ce qui concerne le caractère le financement, l'objectivité des buts fixés, la comptabilité du produit et de l'organisation ou les compétences en matière de commercialisation. Dans le même ordre d'idée, ni l'un ni l'autre n'a pris les mesures attendues pour la mise au point des produits et les études du marché soit sur le plan général ou en fonction d'un produit particulier. Le gouvernement et l'industrie ont réalisé un certain nombre d'activités de commercialisation directe et, comme il fallait s'y attendre, des entreprises privées se sont occupées de la vente.

L'absence d'objectifs clairement définis et de suivi nous a empêchés de déterminer les résultats directs de certaines interventions particulières en matière de commercialisation. Toutefois, des mesures indirectes comme la présence aux foires commerciales et une certaine percée sur le marché américain laissent sous-entendre que les buts que s'étaient fixés les secteurs public et privé ont été atteints dans une certaine mesure.

En ce qui concerne les technologies concurrentielles du vidéotex, nous avons remarqué que la Grande-Bretagne et la France n'avaient pu réussir à percer sur le marché international malgré des investissements d'environ 59 millions de dollars au chapitre de la commercialisation de leurs technologies respectives. Par comparaison, il semble que le montant d'environ 5 millions de dollars que le gouvernement canadien a consacré à la commercialisation a permis d'obtenir de meilleurs résultats en ce qui a trait à la pénétration du marché. Toutefois, il est difficile de déterminer dans quelles mesures le succès des entreprises canadiennes aux États-Unis est attribuable aux initiatives du gouvernement fédéral relativement à la commercialisation de Télidon.

Bref, la commercialisation de Télidon a franchi deux étapes. La première étape consistait à faire connaître Télidon sur le marché national et les marchés internationaux et à promouvoir la norme Télidon. A cet égard, il semble que les activités du gouvernement aient été couronnées de succès. La deuxième étape, le programme d'exploitation de Télidon, visait à aider les entreprises canadiennes à percer sur le marché international. Même si le programme de commercialisation des exportations n'a pas fait l'objet d'une évaluation objective, les préposés à la commercialisation ont fait remarquer que des contacts ont été établis, que les entreprises canadiennes ont fait part de leurs réactions, et qu'une certaine percée a été effectuée sur le marché américain.

Pour ce qui est du rôle du gouvernement relativement au soutien de l'industrie, les membres de l'industrie canadienne du vidéotex préfèrent être traités comme tous leurs collègues du secteur de la haute technologie. Plus particulièrement, ces derniers indiquent que le gouvernement devrait aider les entreprises qui se spécialisent dans un créneau particulier du marché, en leur permettant d'adopter la stratégie de commercialisation de leur choix. L'industrie encourage fortement des projets comme le Programme de développement du marché des exportations; en général, elle encourage grandement le gouvernement à continuer d'appuyer l'industrie à l'aide de son programme de promotion commerciale.

I

INTRODUCTION

A. BACKGROUND TO THE STUDY

The Telidon Program represents the focus of the Canadian government's efforts to foster a commercially viable videotex industry. The program operates within the Application Programs Branch of the Technology and Industry Sector, Department of Communications (DOC). A "sunset" program initially funded in 1978, the Telidon Program was originally intended to terminate on March 31, 1983. However, approval for a new Telidon Exploitation Program extended the program to March 31, 1985 and added $23 million to its original budget of $40 million.

The **Evaluation Assessment Study of the Telidon Program** completed in 1983 discusses activity areas and identifies outputs and related research questions. In compliance with the department's requirement to evaluate the program, the Program Evaluation Division of DOC initiated five background studies to address these issues. This report presents the findings of Background Study No. 3 -- Telidon Marketing. Specifically, the purpose of this study was "to determine the effectiveness of Telidon Program support for the marketing of Telidon both domestically and throughout the world" by addressing a number of evaluation issues.

B. EVALUATION ISSUES, APPROACH AND LIMITATIONS

Exhibit A-1 (Appendix A) shows the evaluation issues that guided the study. Exhibit A-2 expands on these issues, showing related research questions and data

sources. The study assessed the effectiveness of what government and private firms have done to promote the use of Telidon based on:

- Review of selected literature on marketing innovative products;
- Examination of available documentation on the rationale and objectives of government marketing efforts;
- Analysis of available data regarding Telidon and competing technologies' marketing strategies and budgets; and
- Interviews with government officials and industry representatives responsible for marketing.

Appendix A outlines the study methodology in greater detail. The scope of the study did not allow for direct measurement of the impacts of marketing efforts on the target markets. Consequently, our analysis relies primarily on the perceptions of public and private sector participants and other indirect measures such as distribution of marketing literature.

A second factor limiting our evaluation findings was the lack of documentation on Telidon marketing by the firms interviewed and within the government departments involved, in particular the absence of a consistent, complete set of expenditure data and activity reports (e.g., following major trade shows). In spite of our attempts to obtain or reconstruct this information, our report contains little or no data in some of these areas. This lack of documentation particularly constrains our in-depth analysis of selected government marketing activities.

C. OUTLINE OF THE REPORT

The following chapters present our analytical framework and findings. Specifically:

- Chapter II develops a framework for analyzing Telidon marketing efforts by outlining generally accepted approaches to marketing new products in general and innovative products in particular;

- Chapter III summarizes government initiatives in marketing Telidon and provides a more in-depth analysis of selected activities;
- Chapter IV presents a profile of the industry sample interviewed and summarizes marketing activities for Telidon-related products and services;
- Chapter V presents the industry perspective on government's support to Telidon marketing;
- Chapter VI describes the marketing approaches of two competing technologies; and
- Chapter VII analyzes efforts to market Telidon in the context of the analytical framework developed in Chapter II and in comparison with competing technologies.

II

MARKETING INNOVATIVE PRODUCTS: AN ANALYTICAL FRAMEWORK

A. GENERAL MARKETING CONCEPTS

The marketing of products or services involves identifying a need and responding to the related demand among a specifically targeted population with the objective of ultimately selling the product. The product must be carefully designed so that it offers the desired capabilities and features. Marketing must also create an awareness of the product through packaging and advertising.

Considerable market research is required before a marketing program can be successful. Competitive forces and buyer skepticism will usually ensure that only the best designed and marketed products are successful. In order to develop a finely tuned marketing strategy, good market research is necessary to assess such critical factors as general market awareness, price sensitivity, those segments of the potential market most likely to buy, product alternatives and promotional strategies.

B. MARKETING NEW PRODUCTS: HIGHLIGHTS FROM MARKETING LITERATURE

1. New products

In a review of literature on new product development, Goulding (1983) suggests that a successful "new" new product can be defined as one which satisfies new or previously unsatisifed needs or desires, demonstrates outstanding performance characteristics and benefits from a combination of good product design and marketing. In other words, such products can claim both the

dimensions of usefulness and originality. This definition obviously excludes a potential range of new products. For example, some organizations with a heavy research bias might develop a product based on technological applications for which there is no clearly identifiable need.

Based on his review, Goulding also suggests that management attitudes are of major importance to successful new product development, possibly to the exclusion of many other factors. Senior management must ensure the financial support for the product and demonstrate good judgement and the willingness to take risks. Conversely, new product failure can result from unreal targets and an overall lack of objectivity due to vested interests on the part of employees concerned with the development project.

Sometimes new products are developed for reasons relating to the current business environment -- for example, to use excess capacity or as by-products of existing offerings. In such cases, the new product must fit the organization. That is, the product and the organization must be compatible.

2. The consumer

Looking at the consumer and new product development, Goulding cites literature to suggest that companies should define their marketing environment from the consumer perspective -- in terms of need fulfillment. Firms should assume that consumers seek generic benefits more than specific products, and will assess various means of meeting the same need. New products should be presented in the context of these needs, and must also overcome any initial inhibition when the new benefit is unfamiliar or involves a behavioural change.

3. The new product development process

A sequential approach to new product development includes:

- deciding to study a broad market;
- investigation of commerical opportunities;
- assessment of product feasibility;
- assessment of consumer acceptability and brand development;
- final assessment prior to test market;
- test marketing;
- overall assessment. (Goulding, p. 12-13)

Product testing involves measuring consumer judgments about the physical product being developed in order to identify likely problem areas. Otherwise, misconstructions in the concept, product, price, marketing mix and targetting can be costly.

C. MARKETING INNOVATIVE PRODUCTS

New technical products often present additional challenges. In particular, the buyer community may not be familiar with the product or its benefits and hence has no previous experience or framework against which to evaluate the product.

No matter how revolutionary the product or how convinced the developer is of the product's usefulness, the marketplace will often not accept it until an application has been demonstrated to fit buyers' exact needs. Consequently, good market research is typically much more crucial in technical/innovative

areas than with more traditional consumer or industrial products. Many innovations have failed because developers assumed the product would sell itself. But products do not sell -- only their perceived solutions to specific problems sell.

Therefore, the marketing program in a technical area must be preceded by high quality research in order to design a product to fit real needs. This research is also necessary to open dialogue with the technical or buying community so that the buying group will begin to refine its thinking and consider new ways of applying the product. In this way, potential users will be ready for the product when it arrives.

D. MARKET RESEARCH FOR INNOVATIVE PRODUCTS

More (1984) points out that failure to carry out effective market research has increasingly been linked to new product failure. Given the high level of risk frequently associated with such ventures and the complex organization adoption process, market research is a way to reduce situational uncertainty.

Research conducted for new products requires a specialized approach. The market researcher is looking for markets that do no yet exist, for benefits that have not yet been observed. The researcher must assess real needs, to the extent possible, rather than perceived needs.

In general, the approach to be followed is primarily one of intensive interviewing with a variety of potential users. Although literature is filled with potential applications of new technology, little detail is available on the actual costs and benefits of specific applications. The researcher must therefore invest a considerable amount of time to find out what users really need and what other options are open that might competitively serve that need. The results of the

researcher's investigations should be a comprehensive report on potential application areas, reflecting all of the factors noted earlier -- buyer segments, buyer knowledge, product attributes, etc.

In addition, the research must include scenarios on "futures" in which the findings are applicable. Because so much of the response often depends upon other developments and conditions, the context within which the findings have validity should be outlined.

In short, the research should establish a need, followed by a product concept, and then a product. It the product is developed first, its chances of success are low.

By product we mean the full set of specific attributes and options that accompany the general product. The development of a generalized product, even though truly innovative, may struggle to find a role and acceptance by a marketplace that is seeking specific solutions. In fact, the construction of the generalized product may not be nearly so demanding as establishing what specific attachments must accompany that product to make it useable and cost-effective.

E. MARKETING TELIDON: A HYPOTHETICAL APPROACH

Below we outline some of the specific activities that should be undertaken to market an innovative product like Telidon. Following a description of the activities, we indicate the types of capabilities required to do this marketing.

1. Marketing activities

(a) Identify market position

This initial exploratory phase should address such questions as:

- Does a technological lead exist? For how long?
- For what potential applications might the technology be suitable? Who are the potential customers?
- Can the potential applications be rank ordered in terms of potential sales, ease of entry and number of potential customers?

The results of this process should enable the firm to agree on the market segments and potential cutomers to be approached first.

(b) Agree on short-term and long-term marketing and selling budgets.

Marketing and selling budgets will be highly variable and determined by maturity and type of product, location of markets and number of potential customers.

For a new, innovative product launch, marketing budgets are high because of the extensive market research and promotional requirements.

Budget levels are usually set by a profit maximization process. This maximization will generally be over a two or three year period, depending on the assumed technological leadership or patent protection on the product. First, assumed effects of the marketing activity must be postulated, in terms of revenues and gross profits. Revenues and gross profit will typically follow an "S" curve, as a function of marketing effort. As profits eventually begin to flatten because of inherent limits to markets and/or market share, marketing activity will decrease in cost-effectiveness.

Annual budgets for a product launch for an innovative product like Telidon may be well over half of the expected annual revenue of later years. In early months, most of the budget will be devoted to marketing --research, definition of customer needs, product re-definition and promotion. As the product matures, more of the effort may go into selling -- making sales calls and demonstrating product capabilities.

For the first year or two, annual marketing and selling costs may each be as much as 10% of the total revenues generated by a product like Telidon. After three or four years, these costs may drop substantially, probably to half the former levels, as industry becomes familar with the product or process.

(c) Conduct market research

Next, potential customers in the major application area(s) should be contacted to define their needs. This step is crucial: the buying community will not accept the product until the benefits of the product are clear. This research is necessary to configure the eventual product, help to design user interfaces and to decide how to promote the product.

In the technology sector, many other alternatives may be available to solve the customer's problem. Potential users will not adopt the technology unless the ultimate benefits and costs, many of which may be very subtle, are perceived to be superior to alternatives.

Interviews may be preceded by a series of focus group discussions to determine current problems, ideal solutions and acceptable costs.

(d) Conduct marketing program

Following the market research, a number of activities might be undertaken to help create awareness and demand for the product. Such activities include:

- Brochure publication.
- Meetings with users.
- Seminars.
- Trade journal advertising.
- Trade shows.
- Newsletters.
- Personal selling.

The exact combination of this "marketing mix" will depend upon the extent to which the product is generally understood, number of potential users, number of decision-makers in each application area, etc. The particular information provided, quality of information, format and individuals involved will be determined by the market research. The expenditure on such activity should be described and justified, and tied to specific findings in the research or from experience.

2. Marketing capabilities

The individuals who carry out the marketing function in a firm should have the following qualifications:

- User/application area experience.
- Qualifications and experience in marketing practice, including market research.
- Technical qualifications.

Application area experience is often more valuable even than marketing knowledge in promoting/selling to an individual application area. Buyers in a given application area (e.g., stockbrokers using videotex display) will give credibility to a system that is designed for their particular business requirements and is promoted by people who understand and can communicate with them about their needs and applications.

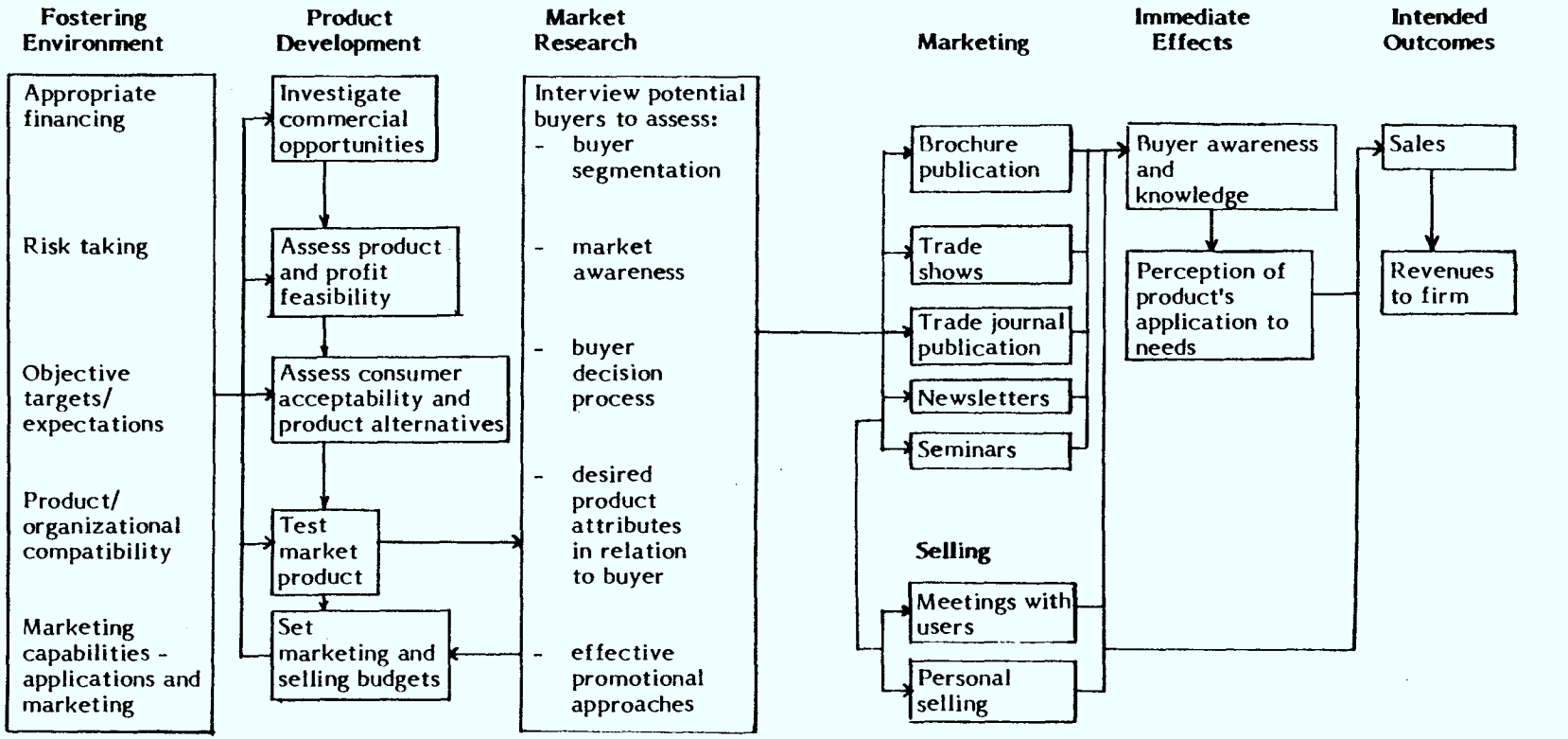
Understanding of marketing principles is a major asset in segmenting markets and researching the product design as described above. Too often these aspects are undertaken by non-professionals, and key elements of the marketing design are overlooked or findings misinterpreted.

Capability in the technology of the original product design is important in the product development stage, but usually less of a requirement during the marketing phase of the product.

3. A marketing model

Exhibit II-1 presents a theoretical model based on the discussion of marketing approaches above. It represents the various phases an organization marketing an innovative technology/product might be expected to proceed through. Chapter VI discusses whether and how this model can be applied to the marketing of Telidon by the Canadian government and industry.

Exhibit II-1 **A Marketing Model**



III

MARKETING TELIDON: GOVERNMENT INITIATIVES

A. GOVERNMENT MARKETING STRATEGIES: AN OVERVIEW

1. The mandate for marketing Telidon

Cabinet approval of the Telidon Program provided support for the development of a graphic software system which in time would develop into a commerically viable product. The intention was for the program to be a cooperative effort between the federal government and the fledgling videotex industry. To date, more than $67 million has been allocated by the federal government to developing this innovative product and finding and exploring new markets for its exploitation. As early as 1970, the stated objective was to develop a range of Telidon-based products and services to ensure proliferation of Telidon in the national and international markets. In terms of the international market place, it was clear by the mid 1970s that Canada would be competing against both French and British systems.

Between 1978 and 1982, research and development made up almost 40% of the annual budgets for the Telidon Program, while industrial stimulation and support initiatives accounted for more than 25%. By contrast, 12% of the budget was reserved for marketing which largely included efforts to have Telidon accepted by various international bodies as the industry standard.

Three federal government departments have been involved in the marketing of Telidon. The Department of Communications (DOC) and the Department of External Affairs have implemented a range of activities in direct support of marketing. The Department of Supply and Services (DSS) has attempted to use and to promote Telidon within the federal government.

Marketing initiatives of the Telidon Program have taken several forms. On a broad level, several of the activities undertaken within the program can be conceived of as promotional. National and international field trials have been supported to demonstrate the viability of the technology and to create a market. Promotion of the Telidon standard to various standards setting bodies also constitutes a form of marketing, as does the Industrial Investment Stimulation Program and the Government of Canada's own application of the technology -- CANTEL -- providing information about federal programs and services.

However, the federal government's direct support to marketing has primarily been implemented through DOC and the Department of External Affairs. Until 1983, DOC was responsible for both domestic and international marketing. Specifically, $2.5 million allocated to "Market Development and Standards" was to be directed towards an aggressive marketing thrust by DOC; Industry, Trade and Commerce and External Affairs in response to competition. Provision was made for marketing missions, advertising, demonstration equipment and market research, as well as actions in the official international and national standards fora. As discussed below, a further $3.7 million was allocated to External Affairs and DOC to support similar activities under the Telidon Exploitation Program.

2. Market estimates

Several attempts have been made to predict the size and rate of penetration of the market by videotex products and services. A discussion paper prior to the initiation of the Telidon Exploitation Program (July 1982) stated that after three years of experience with the program a general consensus was developing:

- That the industry must wait at least another two years before the mass public market would start to develop;

- That the primary markets for the next two to three years would be for business and industry applications;

- In two to three years most micro-computers would include a videotex capability; and

- The installed base of videotex terminals in North America in 1985 would be one million terminals growing to a least ten million by 1990. The sale of these terminals would be accompanied by the production and sale of associated information services and systems (p. 11).

The estimated videotex market in North America at the time (1982) is shown below:

	1985		1990	
Terminals	$ 800	million	$2400	million
Content, software and associated hardware	2400		6000	
TOTAL	$3200		$8400	

(Discussion Paper, p. G3)

Videotex here is used in its broadest sense to include two-way videotex service, teletext, cabletex and other related services.

As well, the Discussion Paper predicted that:

"The Canadian market will probably represent 10 to 20% of the total North American market, but if Canadian manufacturers and system and service suppliers are aggressive they should be able to capture a very large percentage of the Canadian market and make considerable penetration into the U.S. market. A reasonable and obtainable target for Canadian companies would be to capture most of the Canadian market for terminals and associated services, 15% of the U.S. terminal market and 5% of the systems and service market in the U.S. This would result in sales of at least 270,000 terminals in 1985, which with these associated services would have a value of approximately $300 million. Assuming that at least one half of this U.S. market share can be maintained, sales for Canadian companies would grow to approximatley $1 billion by 1990. This market forecast has been examined from several different perspectives and appears very reasonable both from the share of the U.S. market obtainable by Canadian companies and the growth that these companies could cope with over the next eight years."

Although Canadian companies were starting to attack the domestic and international markets, they faced stiff competition for the sale of videotex systems, products and services, particularly from Britain and France who had mounted heavily subsidized, world-wide marketing efforts.

3. Marketing strategies

The Discussion Paper preceding the Telidon Exploitation Program also reviewed strategies for marketing Telidon (pp. 12-14). Recognizing that Telidon technology has a wide variety of applications and a large number of industry components, a number of general strategies were considered necessary.

European countries had attempted to address the mass information market with the strength of goverment-controlled telephone and broadcast utilities. However, this strategy had not been adopted in North America. Rather, the strategy was to identify a specific market, develop appropriate application software and implement a system configuration, testing the market with a modest number of customers. Each application would be designed for integration into mass market services as they developed.

The Canadian strategy towards the development of the mass market was to try to convince mass communication and media companies (television and radio broadcasters, cable companies, publishers, and telephone companies) to use the Telidon standard for the introduction of new videotex services and whenever possible, to purchase the equipment and services required from Canadian companies.

Penetration of the U.S. market for Telidon products was considered vital for the survival of the Telidon standard to ensure that competing systems with alternate coding schemes did not gain a foothold. Similarly, sales in European countries were considered important so that neither the British nor the French systems would completely dominate those markets. The principal thrust

in these areas was being made by negotiating licensing arrangements between Canadian and European companies for Telidon technology (e.g., Switzerland). Marketing efforts in the rest of the world had been conducted on an ad hoc basic with Canadian companies responding to requirements.

Overall, the discussion paper concluded that "government involvement in the development of viable marketing strategies, in fostering coordination of Canadian industry marketing efforts and in providing support and assistance to industry as appropriate" continued to be vital.

4. The Telidon Exploitation Program: marketing mandate and resources

When the original Telidon program was augmented with an additional infusion of $25.96 million in February 1981, a small Telidon Marketing Secretariat was established within the Trade Commissioner Service of Industry, Trade and Commerce (ITC), the Secretariat now forming a part of External Affairs. At the time it started to function (September 1981), it was expected that a Telidon Systems Corporation would be established as a private sector organization supported by government to carry out most of the promotion of Telidon goods and services in export markets. The initial capitilization for the company was to be $50 million with a staff of 65 people. However, the Telidon Systems Corporation never materialized and the main responsibility for Telidon marketing remained with the federal government.

The Telidon Marketing Secretariat's mandate was:

- to coordinate the federal government's efforts to promote the export of Telidon equipment and services;
- to plan, organize and implement a marketing strategy assisted by other branches of External Affairs and by the Departments of Communications, Regional and Industrial Expansion and Supply and Services; and

- to serve as the focal point within the federal government regarding export marketing for all Canadian Telidon-related organizations.

It was to be assisted in this area by the Marketing and Industrial Strategy Sub-Committee of the Canadian Videotex Consultative Committee (see Appendix B). However, the resources of the Secretariat were considered too modest to enable it to carry out its full mandate in the absence of the Telidon Systems Corporation. The Secretariat had a staffing level of three PYs and a budget of $355,000 for fiscal year 1982-83.

The main competitors for the Canadian videotex industry at the time were seen to be the British and the French, although it was clear that the Americans and the Japanese were becoming strong contenders as well. The Europeans had well-financed marketing organizations in the major markets of the world -- the U.S., Western Europe, Australia and several countries in the Middle East, Latin America and Asia. Consequently, Cabinet was asked to continue to support the industry in its crucial stages of Telidon marketing by approving an allocation of $3.4 million and 16 person years over the period 1982-83 to 1984-85. The Telidon Marketing Secretariat, with support from DOC's Telidon Program would be able to:

- Plan and organize seminars in key countries in the world to promote a better understanding of Telidon's capabilities and potential;
- Participate with industry in a greater number of important international trade shows, exhibitions and conferences;
- Establish and maintain closer relations with decision makers in selected countries; and
- Acquire equipment to demonstrate the large variety of Telidon capabilities to potential buyers.

The Telidon Systems Section of the Special Marketing Division took over the mandate and responsibilities of the Telidon Marketing Secretariat of

External Affairs -- specifically to devise and implement a world-wide marketing plan for Telidon goods and services, coordinating the activities of the industry and other federal and provincial departments and agencies. In order to press the perceived technological advantages of the Telidon technology before losing to the actions of competitors in the U.S.A., Europe and Japan, the most immediate need was to develop a comprehensive export marketing plan. The Telidon Systems Section would also be responsible for keeping a two-way flow of information with the industry on international developments. As well, the group would be responsible for meeting with industry frequently to assist in developing individual marketing strategies and to ensure that resources were used to maximum effect in helping firms reach their marketing objectives (Treasury Board, "Telidon Export Marketing", May 1983).

Under the Telidon Exploitation Program, the Department of External Affairs was allocated $1.5 million in 1983-84 and $1 million in 1984-85 to promote Telidon equipment, software and services in export markets. The Supplementary Estimates in 1983-84 approved 10 person years in addition to the three existing person years. This funding was to come from the $23 million allocated to the Telidon Program by the Cabinet Committee on Economic and Regional Development in February 1983 -- $13 million in 1983-84 and $10 million in 1984-85 for DOC, DSS and External Affairs.

The Secretariat has seven professional staff and four support staff, although some are not always fully allocated to marketing Telidon. This does not include people hired on a contract basis (e.g., to develop brochures). Officers have both functional (e.g., market analysis, standards) and geographical responsibilities with some overlap between geographic areas.

To support Telidon Export Marketing by External Affairs, the Department of Communications was allocated five person years and $800,000 in 1983-84, and three person years and $400,000 in 1984-85. Activities to be

supported included marketing sessions with trade commissioners, trade shows, seminars, conferences, meetings and incoming and outgoing missions. As well, publicity and public affairs activities at DOC would continue to contribute to the overall marketing effort. The total resources for international marketing are shown in Appendix C. Specifically, Exhibits C-1 and C-2 show budgeted operating costs other than salaries and capital costs for Telidon Export Marketing (by External Affairs) for fiscal years 1983-84 and 1984-85 respectively.

B. DEPARTMENT OF COMMUNICATIONS: TELIDON MARKETING STRATEGY

Currently, the Telidon marketing function at the Department of Communications is geared towards providing support to External Affairs for international marketing. Prior to this, DOC/Telidon program staff carried out a number of marketing oriented activities, but without a formal marketing plan or strategy. Our interviews revealed that the demands on available staff meant that they could typically just respond to requests for information, give demonstrations and attend trade shows and conferences. A great deal of time was spent giving presentations. Staff would also get involved to some extent in follow-up activities, trying to match firms to potential buyers. As well, program staff worked with the Information Services function at DOC and with the media. Publications were developed and booths arranged for trade shows.

Appendix D contains a partial summary of marketing activities undertaken by the Telidon Program/DOC. As well as trade shows and demonstrations, these activities included contracts for international marketing and missions.

Initially, DOC officials felt their role was to explain the technology. Then it became a matter of referring potential buyers to individual companies. In terms of the market place, the main concentration was on the United States, particularly during the time that the North American standard was being

developed. Other markets included Europe, U.S., Australia and Asia. A specific budget allocation for marketing could not be identified for this period. The English and French systems were seen as the key rivals. Japan was not considered a major competitor.

Marketing activities over the last two years, as mentioned above, have mainly included continuing support to External Affairs. As well, the regional offices of DOC have terminals and are responsible for providing literature and information and directing potential buyers to companies in the area. DOC also originated the idea for the Embassy and Consulate Project (described in Chapter III) provided the terminals and training and subsequently handed the project over to External Affairs.

Aside from Information Services staff, resources allocated to marketing in the Telidon Program have, on average, consisted of one or two full-time staff.

The Information Services Branch (ISB) of DOC undertook several initiatives to promote Telidon. Twelve issues of a newsletter, **Telidon Reports**, have been published for the industry and field trial participants. Maximum circulation for the newsletter has reached 6,000, but averaged 3000-4000 through mailings, conferences and presentations. Content has included program announcements, developments within the field trials and announcements by industry of new products and important sales. As well, source material from other countries has been used. The final issue (scheduled to be published in March 1985) is to provide a summary of Telidon accomplishments and discuss implications for the future.

The department's promotional strategy relied largely on media relations as opposed to advertising. Departmental information staff kept close contact with journalists on the premise that they understood the potential of information technology.

However, the client-service provider relationship between the Telidon Program and the Information Services Branch experienced some difficulties in terms of differing expectations and approaches. Information Services had a broad mandate to promote Telidon and limited resources. The Telidon Program preferred to use resources to meet potential users. Information Services opted for the more immediate impact of creating the media perception of an international videotex battle to stimulate enthusiasm among the Canadian public.

Information Services supported activities at major trade shows, ensuring that promotional material was on-hand. Although no budget was available for ISB advertising, Telidon Program resources were spent between 1980-82 on brochures. The objective was to provide a marketing tool to compete with the glossy promotional packages of Prestel and Antiope. For example, a large brochure highlighting differences in videotex technologies and why the Telidon standard was superior was developed by ISB at approximately $10 per copy for distribution at Videotex '81. The impact of such a publication was judged by feedback from companies -- e.g., questions regarding the content or requests for copies. The fact that stock was constantly depleted suggested some degree of positive reception.

The department also produced a Telidon Directory, a directory of Telidon field trials and services, pamphlets on the NAPLPS standard, commercial systems and milestones (approximately 10-20,000 printed) and three issues of **Telidon Today** -- 25-50,000 copies in a magazine format, highlighting Canadian technology and applications and distributed to posts, embassies, and users in Canada and the United States. Each of these publications had particular goals -- e.g., to promote Canadian companies, to use in standards negotiations, etc.

After some unsuccessful attempts at videotapes, ISB produced a video on Telidon featuring David Suzuki in 1981. This was borrowed at a rate of five copies per day. Other film/videotape initiatives (not sponsored by ISB)

included the filming of Telidon at the Economic Summit (by the Germans, Italians and Japanese) and a special feature on Manitoba's Grassroots project on the CBS program "60 Minutes".

In 1981, an audit of the ISB recommended that a marketing plan be done for Telidon. However, due to a turnover in senior management, the recommendation was not implemented.

When ITC began to assume responsibility for international marketing in 1981, ISB provided ITC with marketing material funded by DOC. The intent was that trade staff would use such promotional literature for establishing contacts, then allow industry to conduct the actual negotiations. From that point forward, particularly when External Affairs initiated its advertising campaign, the mandate for marketing within Canada seemed to disappear. Indeed, marketing efforts comparable to the direct mail campaign by External Affairs have never been implemented in Canada. The brochures developed by External Affairs were not translated into French (i.e., for Canadian distribution).

ISB then tried to incorporate the promotion of Telidon into other activities. For example, Telidon was used to promote the Special Program of Cultural Initiatives for the Arts and Culture Branch of DOC. Similarly, approximately $500 thousand was invested by the Canadian Unity Information Office to promote Telidon on the theme of Canadian excellence. However, Telidon's potential was not sold to possible Canadian users.

ISB constantly recognized the value of news space through their media relations. Press releases were solicited from the Minister and companies to benefit from media exposure. As well, a media relations person was sent to trade shows to arrange interviews and write or edit press releases. Attempts to coordinate joint advertising and media efforts by members of the industry met with variable success. Firms resisted cooperative advertising due to the

implications of using the labels "Telidon" or "Canadian" following the Monaghan Bill in the U.S. Similarly, attempts to coordinate press conferences met with failure one year, but considerable success another.

These obstacles created frustration given the perception by ISB that Canadian firms were not advertising themselves. With the exception of an eight-page colour brochure supplement in the Toronto Star by Infomart for Teleguide, no serious advertising has been undertaken by any Canadian-Telidon company (other than local publications). Internationally, Infomart, Genesys and Norpak co-sponsored an eight-page supplement in the largest circulation paper in Japan, but this was largely paid for by their Japanese partner.

C. DEPARTMENT OF EXTERNAL AFFAIRS: TELIDON MARKETING STRATEGY

The objective of the Telidon marketing group at External Affairs was to promote Telidon abroad as part of promotional efforts to support Canadian technology in general. Specifically, the objective was to create awareness of Canadian videotex technology -- hardware, software and services. The focus was 90% on the U.S. market place with an overall objective of obtaining 10% of the total market for Canadian products. In the long run, it was felt that Canadian products would likely establish and defend a specialized market niche.

In developing their marketing plan, the Telidon Systems Section at External Affairs identified a series of marketing problems in the Canadian Telidon industry:

- "**Distribution channels** -- Most Canadian Telidon companies lack an established distribution and marketing network to sell in North America, let alone internationally. No international marketing

efforts will succeed until Canadian companies develop local sales and service capability.

- **Marketing Skills** -- Most Canadian Telidon companies are new and rapidly growing companies and as a result their marketing personnel are few in number and poorly trained. They lack marketing skills and abilities.

- **Cash Flow** -- Canadian companies are in serious cash flow difficulties. Many companies have invested heavily in R&D which they had hoped to start to recuperate in 1983. This is not happening because of the stage of market development and slow standards development.

- **Market Development** -- Currently the market for videotex teletext services is about one year behind predictions. There is a very small installed base of terminals. The terminal prices that we expected to see fall rapidly haven't fallen because of standards difficulties and slow development of VLSI chips required for mass market penetration of videotex and teletext in the home. This slowdown may cause us our technological lead. AT&T may be engineering this slowdown.

- **A Unique and Costly Sales Process** -- Canadian companies have found that selling Telidon requires face-to-face demonstrations. This labour intensive process has forced Canadian companies to alter their sales approach and has resulted in high sales costs and slow sales.

- **Telidon Systems' Roles in the International Marketing of Telidon** -- Telidon Systems' (primary) role is to assist the Canadian companies with the export marketing of Telidon. Our second role is to generically promote Telidon Videotex and Teletext technology in the international market place. Success will be measured by our customers' awareness of Telidon suppliers."

The marketing plan developed by the Telidon Systems attempted to respond to these marketing problems with the following elements:

- Brochures
- Trade publications
- Trade shows coordination
- Seminar program

- The embassy and consultate project
- Advertising
- Demonstration systems.

(See Appendix E for a historical summary of these activities.)

The resulting strategy targetted a market of hardware suppliers, software developers and information providers on the supply side; and corporate buyers (primarily the Fortune 500) including vendors such as IBM and networks such as CBS. The United States comprised the key market, although some effort was directed towards the European and Japanese market places. Marketing efforts primarily addressed industrial sectors such as banking and cable companies. Over time, it developed into a segmentation of ten markets as reflected in a series of brochures produced, based on successful Canadian-based applications. The intent was to make potential buyers aware of Canadian firms, but to allow the firms themselves to do the selling of products or services.

A detailed analysis of the competitive environment was not carried out, but rather left to the individual companies. The rationale was that the individual firms were better equipped to analyze the competitive nature of the environment, given their product offerings. Again, the strategy was simply one of awareness -- that the products and services of Canadian companies would be best promoted through awareness of the applications and technology.

The overall strategy was one of promoting awareness of the superior nature of the technology and applications inherent to Telidon in the face of the marketing strategies for the competing videotex suppliers internationally. As a price leader in decoders, AT&T used the concept of forward pricing to minimize the end-user costs. The French promoted their system primarily by trying to give it away and through deals with fighter aircraft, etc. The British tried to penetrate the market primarily on cost. Canada on the other hand, sold products based on applications, experience and superior technology.

D. REVIEW OF SELECTED GOVERNMENT MARKETING INITIATIVES

1. Brochure development and direct mail campaign

Following a presentation made to industry representatives in 1983, External Affairs identified three main geographic target markets -- the U.S., Japan and Europe. The Telidon Systems group then prepared ten marketing brochures which were mailed, along with a general catalogue of suppliers, to target companies. The brochures (listed below) describe applications developed largely as a result of government investment.

- Videotex: A Thousand and One Applications
- Videotex and Government
- Videotex: New Tool for the Retailer
- Videotex and Personal Computers
- Videotex and Publishing
- Videotex and Education
- Videotex and Cable T.V.
- Videotex and Electronic Publishing
- Videotex: New Tool for the Travel Industry
- Videotex and the World of Business
- Videotex and Banking

The catalogue of Canadian Telidon/NAPLPS videotex suppliers includes an applications directory, a company profile for 52 Canadian companies and a systems directory showing which firms offer the various elements of a videotex system. A brochure was also developed to promote teletext entitled "Reaching New Markets." The teletext brochure was mailed directly to the owners of all U.S. television stations in September 1983.

The firms listed in the brochures were chosen primarily based on size, revenue of more than $500,000, an employee base greater than three, a capability to export, and the exclusion of consultants and page creation companies. The stipulations with respect to size and revenue recognized physical limits to a firm's ability to develop an export product.

The mailing list was developed from lists collected from industry and included most of the Fortune 500. Development of the mailing list also involved searching data bases like Dialogue (e.g., to identify 100 banks). Of the 20,000 contacts, 10 to 15% were Canadian companies and the rest U.S. and other international organizations. To supplement the direct mailing of brochures, advertisements asked interested firms to request the material, primarily in the United States through periodicals such as **Datamation** and **Time International.** Overall, 50,000 brochures and 25,000 catalogues have been distributed by mail, as well as at shows like Videotex '84, through T.V. Ontario, CANTEL, and by the companies themselves. Approximately 10,000 brochures were taken to Videotex '84. The publication **Videotex World** has mailed some directly. Consequently, a number of companies have received multiple copies.

Two editorial supplements to **Videotex World** (formerly **Videotex Canada**) highlighting Canadian companies were also funded. As well as providing information on Canadian firms, the intent was to attract subscribers to the magazine, which would be an ongoing source of information on Canadian companies.

Overall, these activities have been aimed at promoting Canadian suppliers to target markets, providing enough information to initiate contact. On the basis of response to these mailouts, a list of prospective buyers has been sent to approximately 25 major companies in the Canadian industry. The list sent to date has about 5,000 names; the total will be approximately 8,000 when the final list is complete. Some industry representatives suggest, however, that the list of contacts developed is too long and unqualified to be useful to individual firms.

Departmental marketing staff feel that this marketing initiative was successful because recipients know about Canadian applications and Canadian suppliers. A number have reacted either by contacting the Telidon marketing group at External Affairs or the firm directly. Response to the direct mail

campaign has also provided a source of market intelligence. However, the mail-out to television stations did not generate any significant response.

2. The embasssy and consulate project

The Department of External Affairs, with support from DOC, has installed over 30 Telidon systems capable of accessing Canadian databases in embassies and consulates around the world. The goal of this project was to facilitate the world-wide marketing of Telidon.

In order to meet this goal, External Affairs officials have been expected to make every effort possible to demonstrate the usefulness of Telidon to business representatives in their host countries in order to generate sales. For example, trade officers have looked for specific requests for proposals that could be forwarded to Canadian companies for bidding. As well, industry has been encouraged to use the facilities of the consulates and embassies for sales meetings, conferences, etc. The Department of Communications has publicized this offer to all Canadian Telidon industry representatives, financed the equipment costs for monitors and decoders and underwritten all associated long-distance charges.

The terminals installed have covered posts in the U.S., Europe, Australia, Japan and Hong Kong. Sites were chosen by External Affairs based on market assessment. The installations include a Norpak decoder, an Electrohome decoder and a Microtel integrated terminal, demonstrating approximately seven services. The systems have access to INET through an international switching system and to Telidon data bases through Infomart. One of the public data bases available has been CANTEL, providing information on Canadian government programs and services. (This database has recently been cancelled but might be continued by a private sector firm.)

Training sessions for trade commissioner staff were held in Washington and London, and a refresher course was given in New York. These three training sessions took place in 1981. Our respondents noted that the turn-over in trade commissioners since that time has presented a problem in keeping people trained in the locations with terminals.

The project attempted to solve the problems of transporting equipment around the world to give demonstrations. However, it often represented the first time that international packet switching networks were used in the respective countries and technical problems often resulted. Getting modem approval continues to be a problem (i.e., getting Canadian equipment approved for use).

What has the experience been to date? A number of the terminals have been used by government officials. Some trade officers have been responsive, enthusiastic and active in giving demonstrations. However, others have not properly understood the purpose of the Telidon Program and as a consequence, have been somewhat inactive in promoting the product abroad. Apparently, some confusion exists over the priority to be assigned to promoting Telidon. Resources have not been provided by DOC or External Affairs to support this activity. According to the Telidon marketing staff at External Affairs, a lack of resources in the program has contrained efforts to keep more constantly in touch with the trade officers.

Canadian companies have also used the installations to give seminars to the press and potential distributors and customers. In conjunction with DOC, such firms as Electrohome, Infomart, Manitoba Tel and Cableshare have used the installations for this purpose. For example, a demonstration was given in Los Angeles to the L.A. Times and Apple Computer. As well, seminars were held in Chicago and New York, giving demonstrations to the Chase Manhattan Bank, American Express and IBM.

The local presence of Telidon terminals has contributed to awareness among the trade commissioners and has facilitated setting up appointments for Canadian companies. But the extent to which sales have resulted from the project is not really clear. The number of leads provided to specific companies has depended on the location. For example the Faxtel terminal in New York has proven to be a useful marketing tool for that company. As well, Canadian companies were considered for a consulting study contracted by the New York Port Authority, a request for proposal was received from Belgium, and demonstrations to Mitsui in Japan led to sales and a mission. Frequently, potential buyers have often been to a videotex show and/or have received brochures or catalogues, so some contact may already have been made either with External Affairs or with the firm directly.

Overall, some requests for proposals have developed, demonstrations have been given and firms have received support for their marketing activities. The main output of the project, then, has been assistance with marketing and sales through local contacts.

After March 1985, the posts will have to assume the cost of the project but none of the locations have decided to withdraw to date. Ongoing funding will be required to maintain training and keep equipment up-to-date. Successful continuation of the project requires people with experience and knowledge of the equipment and telephone lines. Marketing staff suggest that useful information should be made available on the system for External Affairs staff so that Telidon becomes a working tool for them. For example, a proposal has reportedly been made by Infomart to establish a trading database (e.g., financial data, markets, Statistics Canada data, etc).

3. Trade shows and presentations

The marketing plan for the Telidon Systems group included the objective that at least one Canadian Telidon company should attend major trade

shows in each of the target application areas. The companies would represent the Telidon industry generically, as well as promoting their own products.

The government's participation in trade shows has varied. Sometimes terminals have been installed in a conference area providing information on the conference itself to allow people to use it as a tool. Staff are typically available to answer questions. In other cases, the intent is to raise general awareness by having the terminals at an information booth. Trade show activities in general involve support to Canadian companies, setting up meetings and press conferences, and directing potential clients to companies.

Government marketing staff have also conducted several presentations to conferences and groups using Telidon as an audio-visual tool. Examples of the variety of groups to whom Telidon marketing staff from both DOC and External Affairs have given presentations include the:

- Canadian Information Processing Society
- Television Bureau of Canada
- SMPTE (The Society of Motion Picture and Television Executives)
- Canadian Research Institution for the Advancement of Women
- Media Club
- Computer Communications Networks Group
- New York State Department of Commerce
- International Telecommunications Union in Geneva
- 1982 Association for Educational Communications and Technology National Convention in Dallas, Texas
- Learned Societies Conference
- Cooperative Future Directions Congress

- National Tourism Conference

The use of Telidon as an information system for delegates at a conference and as an audio-visual tool has included such events as the:

- 1984 European Management Forum's Annual Meeting in Davos, Switzerland
- World Conference on Captioning
- Eighth International Symposium on Small Business
- International Urban Transit Expo '81 in Chicago
- The 1981 Economic Summit held in Ottawa.

Shows and conferences using Telidon as an exhibit for enhancing public awareness and to support Canadian companies include:

- International Federation of Library Assocations Conference
- Computer Culture Exposition in Toronto
- Biennial Conference in Sao Paulo, Brazil
- Pacific National Exhibition in Vancouver
- Canadian National Exhibition in Toronto
- Telecom '83 in Geneva, Switzerland
- Viewdata '81 in London, England
- Vidcom '82 and '84 in Cannes, France
- Videotex '81, '82, '83 and '84 in Toronto, New York and Chicago.

The key trade shows for Telidon marketing staff have been the Videotex Conferences. Videotex '81 was the first Videotex show. Activities were largely directed towards explaining the concept of Telidon and providing demonstrations of applications. The Canadian government occupied a large central floor location with Canadian companies on the side in order to establish a Canadian presence.

The same sort of arrangement has been implemented at most Videotex shows except Videotex '84. Videotex '82 in New York again assembled all Canadian companies in one room with a central theme in the middle describing Telidon and its various applications. The government paid for a block of floor space and was reimbursed by companies. The government also chaired a committee to organize the other physical aspects of the show, arranged press releases and held a cocktail party at the consulate.

Videotex '83 in New York had a somewhat lower profile. The government provided media people, held a cocktail party and offered assistance from the post, but did not host a booth.

Videotex '84 in Chicago included a government booth showing applications (e.g., Statistics Canada, CANTEL) and brochures. The booth also provided space for literature for firms without a booth, which was very well received and used. Although Videotex '84 was preceded by some bad press (i.e., AT&T was suggesting that Telidon was "dead"), American companies were using Canadian decoders in the their booths and a lot of enthusiasm was generated for Telidon. The Canadian presence was not as integrated as in the past, but potential buyers were directed to companies by government representatives. Government also provided media support, although the press conference was considered unsuccessful (making too many announcements and being scheduled at the same time as the IBM speaker.) As well, a reception was held at the Chicago consulate for approximately 150 people and a promotional film was broadcast on television in hotel rooms.

In other instances, the Department of External Affairs has paid for companies to attend a show (e.g., COMDEX) with the intent that the company would promote the industry in general, as well as their own specific products or services.

Trade commissioners, specifically the Trade Fairs and Missions group at External Affairs, have also used terminals in trade shows to provide

information on Canadian firms selling products and services such as sports equipment and transportation (i.e., not videotex.)

How effective have trade shows been? Overall the perception is that they create an image and presence. In particular, marketing staff feel that Canadian firms were considered very impressive in Chicago. As well, the shows have confirmed the government's backing of the industry. However, a number of our respondents suggested that the strong emphasis on the "Canadian" identification of firms was inappropriate and at times embarassing. They prefer to establish their presence as a good supplier, rather than be primarily identified as a Canadian company.

IV

MARKETING TELIDON: AN INDUSTRY PROFILE

A. PROFILE OF PARTICIPANT FIRMS

1. Products and Services

The results of our interviews suggest that the Canadian Telidon-videotex industry is extremely diversified. Available products and services cover every aspect of the videotex marketplace. Software capability and page creation services exist along with hardware products to meet market needs. The industry has grown in a multi-faceted way. Companies react to emerging market forces by creating innovative services and state-of-the-art software and hardware products for both content creation and delivery. The only common link shared by these companies is their use of Telidon. For example:

- Cableshare's "touch and shop" service uses point of sale display and transaction terminals.
- InfoNorth's public subscription service allows full channel telextext access via Commodore 64 computers.
- Limicon produces display capability for personal computers and page creation software.
- MacLeod, Young, Weir offers "Technachart" software using NAPLPS to chart stock prices and volumes as a technical analysis tool.
- Electrohome sells hardware and software decoders primarily to commercial OEM markets.
- Marketfax provides on-line financial information services to the business community.

- Infomart offers on-line agricultural data to subscribing farmers and operates free-standing entertainment and related information centres in hotels and convention centres.
- Fenn Company sells advertising space on NAPLPS terminals in large commerical centres such as the Eaton Centre in Toronto.
- New Media Technology writes decoding software for VTX208 terminals.
- Info Age in Montreal is using NAPLPS to test applicants for a driver's licence.
- Cape Videotex creates pages for NAPLPS terminals.
- Ashdune is preparing an integrated text standard for personal computers.

2. Characteristics of the Industry

Size of firm also varies considerably from one-person software development companies to firms employing more than 100 persons. Some of the larger firms are self-financing. Others receive funding from well established parent firms or venture partners while others, especially smaller firms, appear to rely almost exclusively on government grants to survive.

Characteristic of an immature industry, many of the key personnel move quite readily from one firm to another as companies close and others are created in response to new markets and evolving technology. At this point, it appears that the industry as a collectivity is still experiencing "growing pains" as its various components search for their respective market niches.

A feature of this industry which distinguishes it from other high technology industries is the way in which videotex systems are being sold to prospective clients. According to some of our respondents, clients are often not interested in knowing much about the software or hardware that goes into the development of the system or service being offered. Rather, their interest lies

in ensuring that the product is compatible with other hardware. In other high technology industries, product identification usually forms a critical part of the marketing strategy. Particularly in the microcomputer industry (e.g., Apple and IBM PC) and to a lesser extent in the videocassette recorder industry, manufacturers have attempted to sell products based on brand name identification since most consumers usually are unable to distinguish any differences in quality among the products. This anomaly may suggest that the videotex industry in Canada is still at the stage where company identification is not a very useful marketing tool.

We were often reminded that videotex is a supplement to whatever service or product is being offered. As a consequence, it frequently does not often comprise the most critical part of marketing efforts.

B. MARKETING STRATEGIES

1. Target Markets

Telidon products or services tend not to be concentrated in one target market. In general, these markets are either horizontal (i.e., geographical) or vertical (i.e., sectoral applications). Most firms are targetting their efforts toward different commercial marketplaces, with some overlap of interest in the educational and government sectors.

Since the sample size itself is small, there was no opportunity to carry out complex analyses. We conducted our analysis primarily on the basis of type of company, with size as a secondary variable. Telephone respondents were divided into one of four groups: hardware companies and, small, medium sized, and large "software" companies. The "software" category includes software, page creation, consulting and systems firms (i.e., all non-

hardware- only providers). Firms that reported sales of more than $1 million were labelled large software firms, those between $250,000 and $1 million were considered medium-sized and those with billings of less than $250,000 were considered small. All three hardware firms fall into the "large" category. Those repondents who did not report sales were not included in the analysis, although their comments are incorporated in the text for illustrative purposes.

As can be seen in Exhibit IV-1, the markets of particular interest vary considerably for the four industry groups. The hardware manufacturers clearly show a preference for markets which would result in a large number of orders. The software companies, regardless of size, appear ready to tackle a wide range of markets. As a general rule, most of the companies responding to the questionnaire indicated a preference for continuing in the market which they now occupy, although some (notably the larger firms) express interest in some horizontal integration of their product.

Respondents perceive a strong demand in the educational marketplace and are directing some of their efforts to this market, as well as to their prime vertical markets:

- Automobile manufacturers;
- Banking;
- Cable television companies.

Penetration into these markets at this time appears to be limited, but most companies plan to leverage their success in initial markets into broader commercial usage.

Exhibit IV-1 **Target markets**

Hardware

commercial users in any field (2)*
companies which specialize in public information
point of purchase consumers

Software

Large
- in-home consumers
- banking organizations
- retail outlets

Medium
- television companies
- retailers
- cable companies
- advertisers
- educational institutions (3)
- electronic publishing (2)
- communications companies
- hotels and convention centres
- insurance companies
- automobile manufacturers

Small
- audio visual departments (2)
- in-home consumers
- televison stations (2)
- cable companies
- federal or provincial governments (5)
- educational institutions (3)
- publishing houses
- public advertising (3)
- decoder industry
- senior management in any industry
- pension fund management
- sales training programs

*indicates the number of companies giving the same response

2. Marketing Activities

Companies rely heavily on attendance at trade fairs and conventions for establishing sales contacts, and on advertising in trade and industry journals to inform readers of their products and services (see Exhibit IV-2). Almost all of the respondents reported more than one marketing activity for their firm. As one might expect from an industry with so much mobility, personal contact is the most important means according to our respondents of establishing sales opportunities.

None of the company representatives interviewed in our telephone survey have followed a formal marketing plan, athough the larger firms have recently done so. Most firms feel that they are too small to dedicate the time and resources necessary to conduct market research. Instead, they appear to function in an ad hoc manner. Another proposed reason for ignoring the more traditional marketing approaches is the complexity of the market; it changes so rapidly that it is impossible to capture an enduring snapshot of its characteristics. Participants report that the the videotex industry is a particularly difficult environment to operate in because firms must simultaneously develop their own product, identify or create the market, and finally, overcome competition from other companies which may be operating in centres with substantially lower production and labour costs.

The industry is generally made up of small suppliers selling limited applications to a small market. Consequently, the primary marketing tools are direct contact supported by demonstrations at small special-purpose conferences and seminars. Mass market promotion through the media tends not to be used at this time. Only with the emergence of larger, general purpose Telidon markets will such promotion be engaged in.

Exhibit IV-2 **Marketing Activities**

Hardware

seminars (2)
direct mail campaigns
attendance at trade fairs and conventions (3)
personal contacts (3)
advertising in trade journals

Software

Large

attendance at tra, they appear tde fairs and conventions (2)
personal contacts
direct mail campaigns
advertising in trade journals

Medium

public speeches
contact with members of computer clubs
attendance at trade fairs and conventions (5)
direct mail (6)
personal contacts (5)
advertising in trade journals (3)

Small

personal contacts (5)
demonstrations to interested buyers (3)
direct mail campaigns (3)
advertising in trade journals (3)
attendance at trade fairs and conventions (3)
sponsoring public seminars

3. Resources Allocated to Marketing

As discussed above, "marketing" involves determining the needs of target markets, and designing and promoting the desired product effectively and efficiently. "Sales" refers to the explicit attempts by the seller to transfer products or services to the purchaser. Most of the interviewees did not clearly distinguish between these two concepts. Consequently, the following data on resource allocation combines the two functions.

As shown in Exhibit IV-3, marketing expenditures do not vary according to the size of the firm. According to our estimates (which are based on a 50% response rate) hardware firms spend an average of approximately $300 thousand dollars for marketing-related activities (vaguely defined) on an annual basis not including Norpak. The small software firms spend a little more than $10,000 on marketing, while the medium sized firms have average expenditures of $90,000. The one respondent in our large software category reported annual costs for marketing to be $325,000. Because of the confidentiality of the data and the rather diffuse way marketing is defined and carried out in the industry, we cannot offer reliable data on the ratios of marketing expenditures to sales and revenues for our industry categories.

Exhibit IV-3 Marketing Costs

	Hardware	Software		
		Small	Medium	Large
Average costs	$300,000	$10,800	$90,000	$325,000
Number of companies				
Primary responses	3	6	2	1
Don't know	0	4	2	0
Refused	1	2	2	1
Total	4	12	6	2

Size of firm is directly related to the average number of persons who are involved in sales and marketing of the Telidon service or product (Exhibit IV-4). The hardware firms assign an average of 3.5 person years to marketing and sales while the large software companies devote amost 5 person years to the same activity. Medium-sized companies and small software companies allocate 3.4 and 1.4 person years respectively.

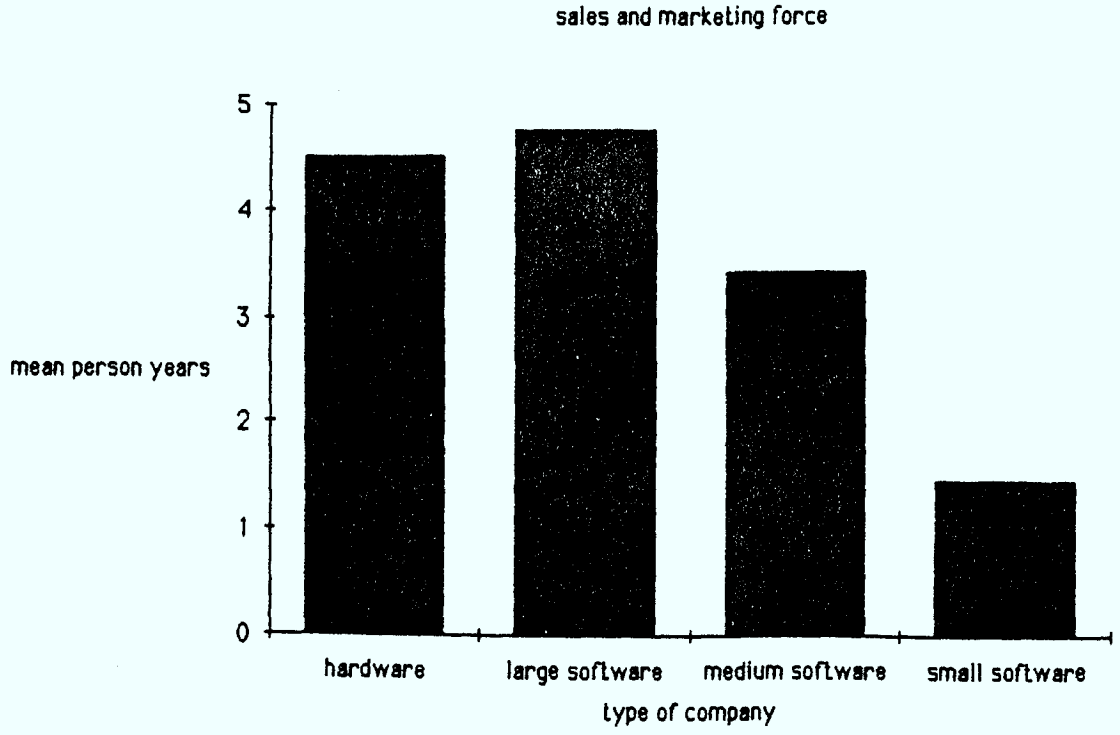
4. Channels of Distribution

All the firms interiewed use a direct marketing approach: only their own staff promote and sell their products or services. This trend appears to result from the size of the firms themselves and the limited size of their target markets. Further, a significant educational factor is associated with the promotion of Telidon-based products. As a result, well-trained in-house specialists tend to be required in the sales cycle, thus limiting the feasibility of indirect sales channels.

5. Annual Sales Growth

Although our response rate with respect to sales was quite low, the majority of the respondent companies report sales below $250,000 annually. Only Norpak, Electrohome and Cableshare report current and anticipated sales in the multi-million dollar range. When asked about sales plans for 1985, most firms indicated that they anticipate a growth well over 20%. While some of these projections seem optimistic, past performance often shows reasonable growth.

Exhibit IV-4 Sales and Marketing Force



V

GOVERNMENT MARKETING OF TELIDON: THE INDUSTRY PERSPECTIVE

A. INTRODUCTION

The following section of the report is based on the focus groups and telephone survey of industry representatives described in Appendix A. Each of the questions in this section was open-ended, giving respondents an opportunity to elaborate on their answers. The responses have been categorized to facilitate their interpretation. The questions were asked in the following order:

- How did the government Telidon marketing activities assist you?
- What could the government have done better to assist your Telidon marketing efforts?
- Was Telidon ready to be marketed?
- What are the best markets for Telidon -- domestic, international, government or private industry?
- What future market demands for Telidon do you expect to see and which of those do you plan to supply?
- What are the principal factors affecting the Telidon industry?

B. GOVERNMENT ASSISTANCE

Eighteen of the 24 companies in the sample have received some assistance for marketing from the federal government. Exhibit V-1 shows that the most common form of assistance was financial in the form of grants to underwrite some of the costs of travel to trade shows and conventions. Of almost equal importance were the more general development grants (for software and hardware) and information regarding the other companies in the

Exhibit V-1 Government Marketing Assistance: Number of responses by type of company

	Hardware	Software			
		Small	Medium	Large	Total
1. Provided information about market	1	3	2	1	7
2. Development assistance	1	1	4	2	8
3. Travel assistance	2	3	3	1	9
4. Public awareness (brochures, displays)	1	3	2	0	6
5. Information on industry	0	5	2	1	8
6. No help at all	1	3	2	1	7
	6	18	15	6	
N =	3	7	6	2	

industry. The focus group representatives considered the value of establishing solid and reliable information networks to be a critical contribution of the federal government to the marketing of Telidon.

Approximately 25% of respondents (7 of 24) reported that the federal government (both DOC and External Affairs) did not provide any direct help at all in the marketing of Telidon either domestically or internationally.

Some differentiation exists among respondents by type of company. Among the three hardware providers, travel assistance was the most frequent form of assistance. For the small software companies, industry information was the most frequent and for the medium and large software firms, development assistance grants.

C. ASSESSMENT OF THE FEDERAL GOVERNMENT'S MARKETING STRATEGY

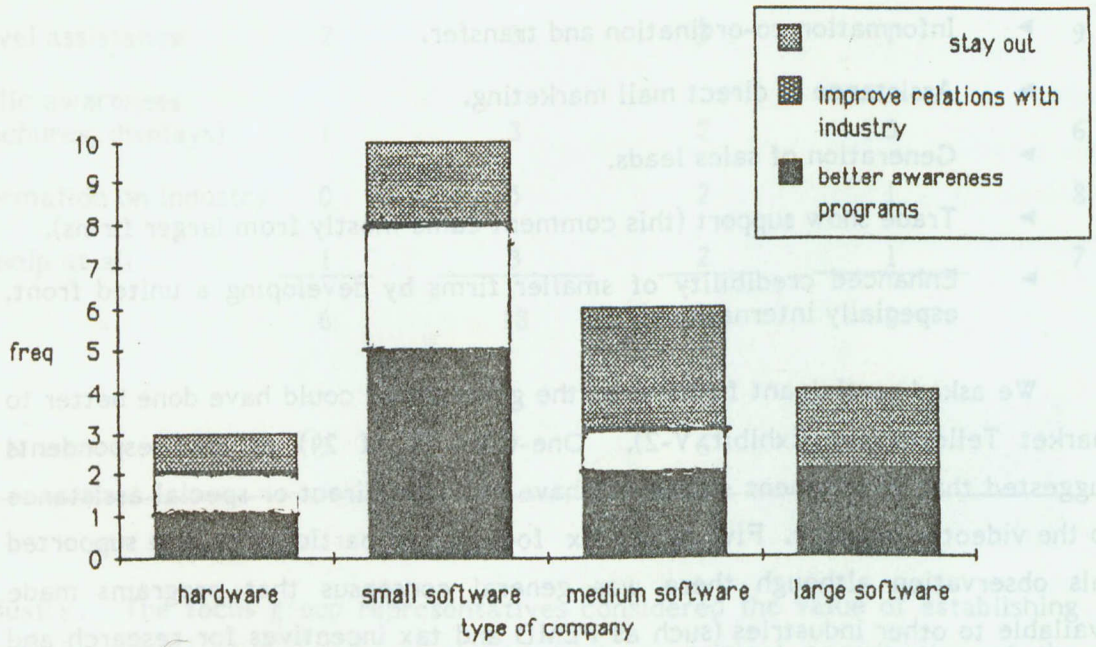
Participants who had received marketing assistance from the federal government (approximately 75%) suggested a number of resulting benefits, for example:

- Creation of general awareness of the technology and Canadian companies.
- Information co-ordination and transfer.
- Assistance in direct mail marketing.
- Generation of sales leads.
- Trade show support (this comment came mostly from larger firms).
- Enhanced credibility of smaller firms by developing a united front, especially internationally.

We asked participant firms what the government could have done better to market Telidon (see Exhibit V-2). One-third (8 of 24) of our respondents suggested that government should not have provided direct or special assistance to the videotex industry. Five of our six focus group participants also supported this observation although there was general consensus that programs made available to other industries (such as PEMD and tax incentives for research and development) should be continued. The general thrust of the opinions was that the special treatment and attention accorded the videotex industry may have served to encourage the growth of marginally commercial companies and may have also moved companies into ventures with a low probability of success.

Presented below is a sample of some specific comments volunteered by respondents to our telephone survey:

Exhibit V-2 What could government have done better?



- The word Telidon should not have been used once the NAPLPS Standard had been developed. This caused confusion. (3)
- The government should have employed people with a better understanding of both marketing and the technology. (1)
- The government failed to understand what Telidon and NAPLPS really was. (1)
- The government should have focused more effort on the education of the marketplace with respect to NAPLPS. (1)
- The government should have recognized that the current market for Telidon is a diffuse industrial market. (1)
- The government should have used procurement strategies to generate more business. (1)
- More dispersed field trial efforts should have been implemented with small and large businesses rather than concentrating on large trials which were of little benefit to much of the industry. (1)
- The government should have more strenuously marketed the technology to the vendors of data processing and graphics-based products. (1)
- The government should have considered working with large public relations companies in an effort to reach some target markets. (1)
- It appears that the marketing effort was too little too late with only the last 18 months having any effect. (1)

Overall, the critical comments were that the government should have employed personnel with different qualifications and demonstrated a clearer understanding of the technology and existing and potential markets. Regarding the role of government officials in implementing federal industrial strategy, most focus group participants also suggested that although these officials were correctly motivated and conscientious, they did not have the right skills to administer the Telidon Program and did not understand the nature of the industry (i.e., high risk and entrepreneurial). In general, more than two-thirds of respondents indicated that government officials were "not entrepreneurs at heart," took too long to decide important matters and failed to listen to the

advice of the industry when it was consulted. Moreover, these participants feel that the administrative procedures in place to approve the various requests from industry were too slow to respond to industry's demands.

Looking back with the benefit of greater market knowledge, fifteen of the 19 respondents suggest that the federal government moved too quickly in attempting to market Telidon (see Exhibit V-3). These respondents feel that the federal government tried to create a market that did not exist in 1980, that the public servants who administered the programs were naive about how difficult marketing Telidon would be, and that the federal government inappropriately tried to direct its Telidon marketing efforts to home consumers (see Exhibit V-4). Despite its acknowledged superiority as a videotex system in comparison with competing systems, four of the six focus group participants feel that the federal government's emphasis on marketing Telidon as a home computer was a grave error which distracted the industry away from its more natural markets. In the view of our respondents, the home market was inappropriate because of the high costs of decoders, the lack of software and Telidon pages to maintain consumer interest, and the relative ignorance of consumers regarding the potential value of Telidon in the home. All of our respondents do feel that home service using videotex is an eventuality -- only the timing is in doubt.

In addition, four software respondents expressed concern that some of the larger hardware producers became "chosen instruments" of the federal government in an effort to encourage the development of a Canadian manufacturing industry.

Exhibit V-3 Was Telidon ready for the market?

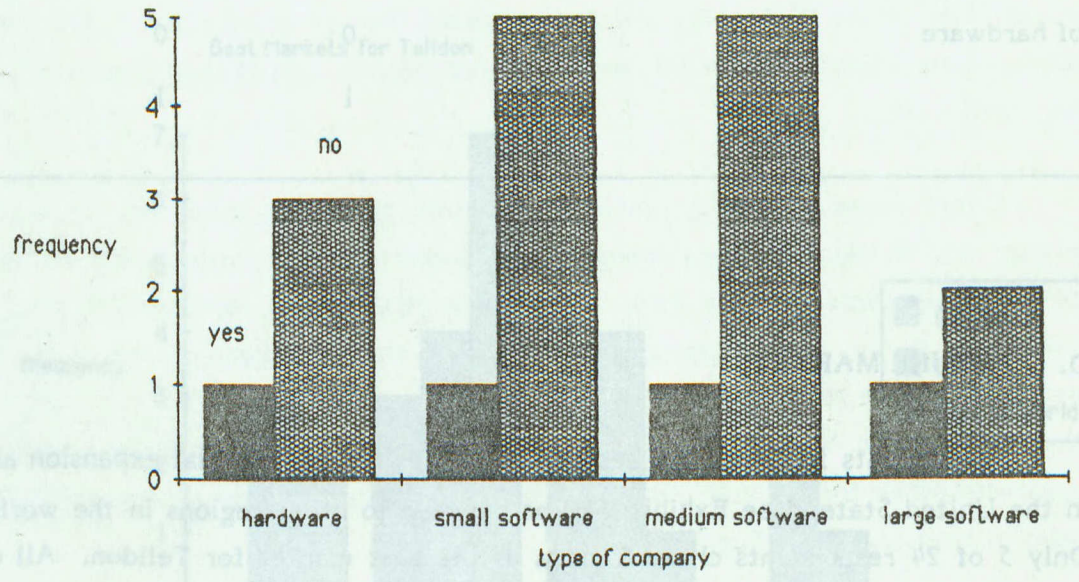


Exhibit V-4 Reasons for Telidon not being ready to market

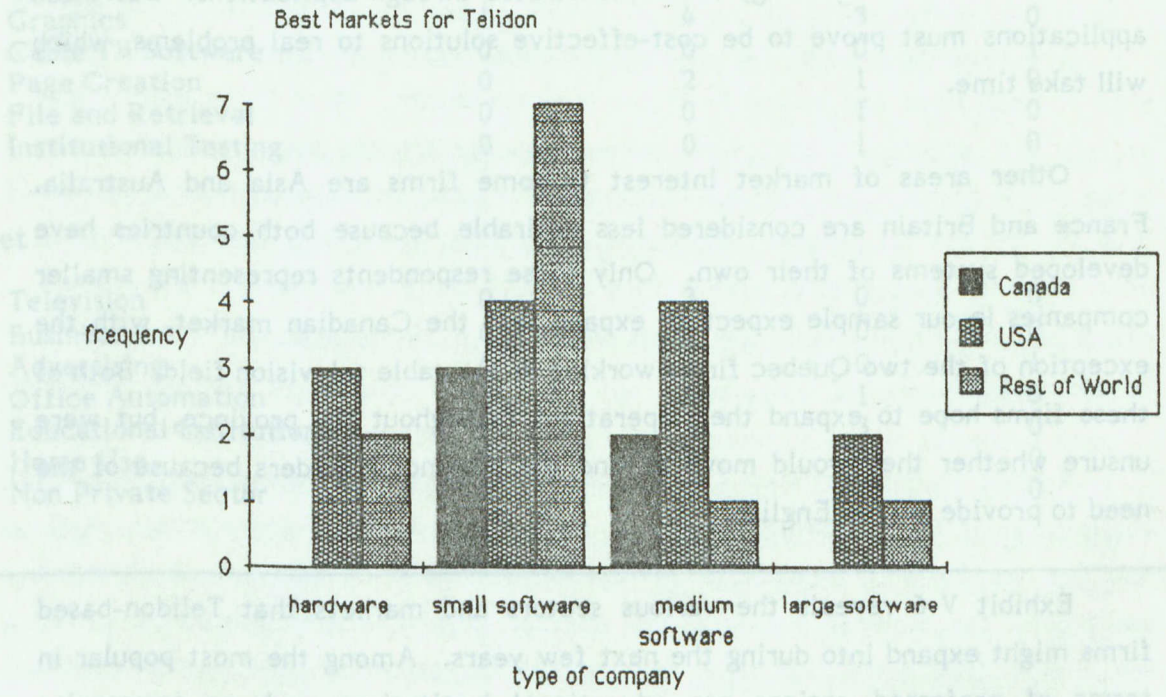
	Hardware	Software			
		Small	Medium	Large	Total
No consumer market	3	2	2	3	10
No commercial market	2	1	1	1	5
Poor government marketing awareness/capability	0	1	4	1	6
Price of hardware	0	2	0	0	2
Other	1	2	1	1	5

D. FUTURE MARKETS

Respondents feel that the best opportunities for commercial expansion are in the United States (see Exhibit V-5) as opposed to other regions in the world. Only 5 of 24 respondents chose Canada as the best market for Telidon. All of these respondents represent companies in the small and medium-sized software sector. Not suprisingly, Europe is not considered to be a particularly attractive market because of competition from France and Great Britain.

The existence of a standard protocol and the driving forces of such industrial giants as AT&T have created awareness, especially among potential business users, that is relatively higher in the United States than in other areas of the world. Some companies are experiencing reasonable demand from the U.S. market for special-purpose Telidon-based products and services. The major markets in the U.S. mentioned by respondents included:

Exhibit V-5 What are the best markets for Telidon?



- Education
- Medicine
- Environmental graphics
- Tourism
- Advertising
- Pharmaceutical.

Respondents generally agree that new markets will open up as the capabilities of the technology are demonstrated through applications. But these applications must prove to be cost-effective solutions to real problems, which will take time.

Other areas of market interest to some firms are Asia and Australia. France and Britain are considered less desirable because both countries have developed systems of their own. Only those respondents representing smaller companies in our sample expect to expand into the Canadian market, with the exception of the two Quebec firms working in the cable television field. Both of these firms hope to expand their operations throughout the province, but were unsure whether they would move beyond the provincial borders because of the need to provide text in English.

Exhibit V-6 reveals the various sectors and markets that Telidon-based firms might expand into during the next few years. Among the most popular in terms of preferred options are educational institutions such as community colleges and universities for learning systems. Advertising and information systems (which might also include advertising components) were the next most popular targets for growth. Surprisingly, government was not seen as a likely source for growth.

Exhibit V-6 What are the expected demands for Telidon?

	Hardware	Software			
		Small	Medium	Large	Total
Product or Service					
Dedicated Display Systems	1	0	0	0	1
Information Systems (Tourist, Financial)	1	2	1	0	4
Terminals	2	0	0	0	2
Graphics	1	4	3	0	0
Cable TV Software	0	0	0	1	1
Page Creation	0	2	1	0	3
File and Retrieval	0	0	1	0	1
Institutional Testing	0	0	1	0	1
Market					
Television	0	3	0	0	3
Business	0	3	0	0	3
Advertising	0	3	0	1	4
Office Automation	0	0	1	0	1
Educational Institutions	0	3	3	0	6
Home Use	0	2	2	0	4
Non Private Sector	0	0	1	0	1

In summary, many of our respondents agreed that the commercial marketplace is much more complex than originally anticipated. More time is required for firms to gain experience using the technology and to evaluate its associated benefits. Broader support among computer vendors and the availability of relatively inexpensive hardware decoders will assist the growth of the market. However, the consensus was that the whole market is not yet ready for major growth, particularly the consumer market. Growth in the business market should enhance awareness and acceptance in the consumer market, but the latter will definitely lag behind the business market for a number of years.

The existing market has demonstrated a reasonable rate of growth but from a small base and primarily in the business sector. Most firms believe this growth will accelerate and even companies unprofitable today feel they can make major gains in the future. The companies surveyed agreed that the market is driven by special purpose applications, and that these will demonstrate the most growth. Specifically, applications in which the graphics ability and storage efficiency of Telidon add the most value to a product or service will be developed first.

Rather than identifying specific markets, most respondents discussed the capabilities of Telidon being integrated into existing business operations -- e.g., the use of Telidon technology in the development of audio-visual support equipment for general business and general graphics communication. Also mentioned frequently was the use of Telidon graphics in the educational marketplace. Although few respondents could predict where and how this market would develop, all indicated that they would be ready to service sectors of it as it grew. In general, respondents feel that as users require more information availability than text databases can deliver, the demand for graphics to add value to information will increase.

All of the respondents felt that Telidon as a protocol has only tapped the surface of its potential in the videotex industry. Many commented that the

recent announcement by IBM, AT&T and Sears as partners in a co-venture would strengthen the industry tremendously and open up new business opportunities for Canadian firms in the U.S.

E. BARRIERS TO GROWTH

Two dominant themes emerged as barriers to the successful marketing of Telidon in Canada and abroad (see Exhibit V-7). First, the price and reliability of decoders were seen as a major deterrent to marketplace acceptance of videotex.

Some industry representatives noted the lack of reliable hardware suppliers to produce inexpensive decoders. Expensive decoders and poor operating manuals create operational and maintenance difficulties for users.

Secondly, respondents feel that the marketplace in general, and the home consumer market especially, have not been adequately informed about the benefits of videotex and how the Telidon protocol could be a cost effective tool. The biggest barrier to marketing Telidon products is still the lack of awareness among potential buyers. Since buyers do not fully understand the potential, they are not likely to approach one of Canada's Telidon companies with orders. Thus a continuing objective in marketing Telidon should be to educate users. Indeed, the industry feels that it may have a credibility problem with potential buyers caused primarily by the federal government's phasing out of Telidon program support activities.

Exhibit V-7 What are the barriers to the successful marketing of Telidon?

	Hardware	Software			
		Small	Medium	Large	Total
Conservatism of investors	1	0	0	0	1
Price of decoders	1	3	3	1	8
Lack of awareness	1	5	2	0	8
Quality of graphics in pages	0	0	1	0	1
Quality of hardware	0	2	0	0	2
In-compatibility with other hardware	0	0	1	0	1
Too much government activity	0	2	0	0	2
Credibility of government	1	2	1	0	4

VI

MARKETING ACTIVITIES OF COMPETING TECHNOLOGIES

A. INTRODUCTION

The total expenditure of the British and French on the international marketing of their videotex and teletext technologies (1978-1984) has been over $55 million. Of that sum, about 90% was spent on efforts to establish these technologies in the United States market. However, neither the French nor the British can point to any significant success after a seven year presence in the United States.

This chapter provides an overview of the marketing strategies of both the British and French, a description of the institutional or corporate activities through which these strategies were pursued, and an estimate of the total expenditure incurred by each country. All expenditure estimates are based on LINK research -- a combination of desk research and telephone interviews with industry participants. Chapter VII compares these strategies and expenditure levels with our analysis of the Canadian government's efforts to support marketing of Telidon.

B. THE BRITISH VIDEOTEX MARKETING STRATEGY: AN OVERVIEW

Most British government expenditures on promoting Prestel videotex hardware and software were through British Telecom (BT) or the British Post Office as it was called until 1980. Some government funding also came from the Department of Industry (DOI), mainly for teletext marketing.

BT had two marketing strategies. The first was to take advantage of direct contacts it had with European and Commonwealth PTTs (public telecommunications organizations) to promote the idea of Prestel technology, and the second was to license a British company with an international marketing presence to sell Prestel software.

This first strategy was very successful and accounted for all of the sales of approximately 10 Prestel systems to PTTs in countries such as Germany to Australia.

The second strategy was employed primarily in the United States which the British identified as the market with the largest potential for videotex products and services. Several different attempts were made to establish a commercial presence in the United States for Prestel, all of which failed.

Two principal reasons can be cited for this failure. First, GTE -- the U.S. company selected to implement Prestel -- never seemed to develop a clear strategy for marketing the technology, but in the meantime prevented others from doing so. In effect this delayed the active marketing of Prestel in the U.S. for two critical years.

Second, the Prestel technology was not portable to U.S. hardware. The Prestel software originally ran only on GEC minicomputers and was written in the Babbage computer language. As well, the terminals usually incorporating televisions made for the British system were incompatible with NTCS. And the 1200/75 split-speed modems designed for the special Prestel network were incompatible with any American Value Added Network.

BT's expenditure on the development of DEC-based Prestel did lead to the success of Aregon in the private in-house videotex market, but this success was primarily in Britain rather than in the United States.

The Department of Industry's attempt to promote British teletext technology met with some success in the United States with Taft, Group W and Keycom (since withdrawn from teletext) starting commercial World System Teletext services. However, Logica was unsuccessful in its principle objective of persuading one of the three largest American broadcast networks to use the British technology.

A substantial amount of money was spent by the government in lobbying the FCC (Federal Communications Commission) and the EIA (Electrical Industry Association) to endorse the World System standard. These efforts were largely unsuccessful, with both institutions adopting a neutral stance with regard to teletext display technology.

Teletext marketing efforts were very successful in Europe and Australia at very low cost, where most marketing was done through the contacts of the British networks (BBC and ITV) with their counterparts in other countries.

C. BRITISH INTERNATIONAL MARKETING EFFORTS

1. Prestel International

In 1978, British Telecom awarded a contract worth $200-300 thousand to Logica, a major British telecommunications consulting company, to investigate the feasibility of offering Prestel service internationally.

Based on the results of this research, BT decided in June 1979, to attempt a limited trial of what became known as Prestel International. The total cost of the trial was around $3 million. About 200 terminals were placed in seven countries: Britain, Australia, Switzerland, West Germany, Sweden, the Netherlands and the United States. All these countries were seen as potential purchasers of viewdata systems.

The objective of Prestel International was to test the market for international business information. Initially this information would reside on a BT computer in London; if the trial proved successful, the plan was to eventually install a host computer in each of the participating countries. An equally important idea behind this trial was to use it as a method of getting companies and countries around the world interested in setting up their own Prestel videotex systems by demonstrating the usefulness of the system.

In order to market this trial service, Logica established a professional marketing force of about ten people to recruit users in the various countries, as well as to identify information providers and develop databases.

The trial lasted just over a year, but it was obvious long before its conclusion that the idea was not viable. The project foundered due to lack of cooperation and content from information providers.

The British information providers (IPs) who were to provide the core of the Prestel International database were not consulted about the development or implementation of PI until after it was announced. Many IPs resented the role of Logica as system operator and also resented the assumption that the IPs would provide information free of charge to the trial.

Logica and BT severely underestimated the expense and time required to develop databases, as well as the time required to recruit users of the service. Without sufficient content to attract paying users, the trial eventually deteriorated into a marketing device allowing Logica and BT clients to give demonstrations of videotex capabilities.

Following these developments, a Prestel computer center consisting of two GEC 4082s costing about $400,000 was opened in Boston in November 1981. The center was managed by Avco at a cost of about $200,000 per year. The center was closed in 1983.

2. Aregon

In the third quarter of 1979, BT granted an exclusive license to Aregon to market Prestel software internationally. This followed a license in the first quarter of that year to market Prestel in the United States. Aregon was initially known as Insac, a company founded by the British government-owned National Enterprise Board to market British software internationally. The initial capital for Aregon was approximately four million pounds. This agreement with Aregon lasted until 1981 when BT decided on a different approach to international marketing.

Between 1978 and 1982, Aregon received over $10 million dollars which went towards software development so that Prestel could run on non-GEC machines and towards marketing expenses (the majority of funds) primarily for the United States operations.

The results of this expenditure were meagre. In the United States, Aregon's strategy was to identify one very large (over $5 billion) company to develop the U.S. market for Prestel videotex.

In the second quarter of 1979, Aregon signed an agreement with GTE to buy its Prestel software adapted to run on DEC equipment. At the time it was thought that this deal would mean a breakthrough for Prestel in the United States. However, other than running a small trial with 25 corporations, GTE accomplished nothing with Prestel, while its agreement with Aregon precluded any other United States corporation from attempting to publicly launch a Prestel system.

BT eventually became disenchanted with the results of its agreement with Aregon and began looking for other marketing approaches. Aregon developed its private videotex software product -- IVS-3 -- based on its work for BT and was the second (after Rediffusion) leading marketer of such systems in the world from 1981 to 1984.

3. GEC

In January 1982, BT reached an agreement with GEC (still in effect) to handle the marketing of Prestel software worldwide except in the United States.

Evidence suggests that GEC receives approximately 300 thousand pounds a year for marketing expenses under this agreement. This represents a joint marketing agreement in terms of public videotex services in which both BT and GEC carry out sales functions, with GEC providing technical support for regional requirements. The combination of GEC and BT has proven effective in selling Prestel to former British colonies, particularly in Asia (Hong Kong, Singapore, Malaysia) and Australia.

4. BVT

In 1981, BVT was formed to take over the United States marketing of Prestel from Aregon and to promote the use of World System Teletext. BVT was jointly funded by British Telecom who financed videotex activities and the Department of Industry who financed teletext activities. BVT was run out of Logica's New York offices and managed by Logica personnel. For two years, BVT had a staff of about 15 people and had a budget in the region of $2 million per year.

BT decided in October 1982 that it would end its funding of BVT in February 1983. As a consequence, BVT announced that it would then concentrate on marketing teletext in North America, declaring that its Prestel mission was "accomplished" based on the fact that private videotex system vendors were beginning to make sales in the United States. This announcement in effect acknowledged that no American company or institution was interested in launching a consumer videotex system using Prestel. In February 1983, BVT was dissolved, with Logica continuing to receive some funding from the Department of Industry for its teletext marketing efforts.

5. Ameritex

In April 1983, the Department of Industry financed the establishment of Ameritex to continue the marketing of teletext technology in the United States. Still in existence today, Ameritex has one full-time employee and a budget of about $250,000.

6. British government expenditures on marketing videotex internationally

Exhibit IV-1 shows expenditures for the international marketing of Prestel technology.

Besides discrete ventures (e.g., Aregon, CEC, etc), BT has also spent considerable sums marketing Prestel directly, especially to other PTTs. LINK estimates that from 1978 to 1982, there were 10 full time BT personnel dedicated to international marketing with a budget of $2 million per year. This commitment was scaled down in 1983, but international marketing costs were still in the region of $1 million. This direct approach has been by far the most successful of the British marketing strategies, being directly responsible for the sale of Prestel to 10 PTTs.

Besides its direct involvement with BVT and Ameritex (see above) the bulk of DOI international marketing expenditure was to support British companies marketing teletext. Trade show expenditures were subsidized as well as some of the international marketing expenses of these companies. Total DOI expenditures, independent of BVT and Ameritex, have been in the region of $2 million.

Exhibit VI-1 British government expenditure on marketing videotex internationally 1978-1984

Where spent	Amount spent (in U.S. dollars)
Prestel International	$ 4 million
Aregon	10 million
GEC	1 million
BVT	4 million
Ameritex	0.5 million
BT's own intn'l marketing	11 million
DOI teletext marketing	2 million
Total	$32.5 million

D. FRENCH INTERNATIONAL MARKETING STRATEGY: OVERVIEW

The French strategy in marketing its videotex and teletext technology consisted of several different, sometimes conflicting approaches. Like the British, the French identified the United States as the market for their principal efforts, establishing companies and personnel in the United States permanently. Marketing efforts in other countries were directed from Paris.

The first strategy was to attempt to influence the establishment of standards by lobbying the governments of potential client countries. The second was to set up trials of French equipment, often giving away hardware and software. Third, government support was provided to allow individual French companies to do their own marketing. And finally, a strong company was established in North America to represent French industry interests.

The standards battle was effectively lost by the French in North America, although they continue to claim that the NABTS teletext standard is their own. In reality, the French component of NABTS consists of only parts of the session level.

Diverse strategies resulted in confusion in the market place. It was never possible, for example, for a company like Intelmatique to offer a complete, turnkey videotex or teletext product because competing French companies would not allow their own products to be bundled with those of a competitor.

The French were successful in establishing several teletext trials in North America and even temporarily won the endorsement of CBS for the Antiope teletext standard, an endorsement that switched to NABTS as the standards battle evolved. In addition, First Bank of Minneapolis used French technology in its First Hand videotex trial. However, none of these trials led to the implementation of a commercial service.

Because the French could never offer a coordinated turnkey product, there were always missing elements in any system that they endeavored to sell. Components -- software, page creation or user terminals -- were usually described as being available within a few months but inevitably appeared much later than initially promised, if at all. Thus the French, particularly in North America, developed a reputation for having good systems in theory but being unable to deliver either hardware or software products.

The strategy of giving support to individual French companies led to confusion and conflict in the marketplace, particularly in the United States. In an effort to solve this problem, VSA (Videographic Systems of America) was formed in 1983. This company was intended to coordinate all French marketing efforts in the United States. Unfortunately, VSA achieved very limited success -- only managing to sell teletext equipment to NBC which has subsequently

withdrawn from the teletext market. Because of the lack of French hardware, VSA was forced to market the AT&T Frame Creation Terminal as an adjunct to its head-end teletext equipment. In 1985, the cutback of staff at VSA and the company's move to smaller premises indicated a winding down of French marketing efforts in the United States.

E. THE FRENCH INTERNATIONAL MARKETING EFFORTS

1. Antiope Videotex Systems

AVS was established in 1980 to sell French teletext technology. It was funded by Sofratev and TDF (the French state-owned television broadcaster), had a staff of four people and a budget of $500,000 per year. In 1981, it was merged into Antiope and Telematique.

2. Antiope and Telematique

Antiope and Telematique was an expanded version of Antiope Videotex Services established in 1981 to sell videotex as well as teletext technology. It had a staff of eight people and a budget of approximately $2 million. It existed until 1983 when it was merged into VSA.

3. Alphatel

Alphatel was established in Virginia in 1982 to sell French teletext and videotex products and provide technical support to the Antiope teletext trials taking place there. It was a subsidiary of Cap Gemini, Sofratev (see above) and CFCT (Compagnie Francaise des Cables Telephoniques) and employed about five people -- mainly marketing personnel plus a few engineers. The company

had a budget of approximately $1 million a year. It was merged into VSA in 1983.

4. Videographic Systems of America

Videographic Systems of America (VSA) was formed in January 1983 in an attempt to coordinate the various marketing activities of French videotex and teletext organizations in the United States. The majority shareholder was state-owned Thomson CSF. Other partners included Cap Sogeti, Steria, CFCT, Sofratev, Les Echos, CCS and Unitel. The company was also intended to take over the marketing role of Intelmatique in the United States. Originally, Telesystems was also to join the consortium but decided to opt for its own, wholly owned U.S. marketing arm -- Videodial.

Based originally in New York City, with a technical support centre in Los Angeles, VSA at its peak employed 15 people and had an annual budget of about $2 million. In early 1985, VSA laid off more than half of its staff and moved to less expensive premises in Stamford Connecticut.

5. Intelmatique

Intelmatique is a subsidiary of the DGT, the French Government institution in charge of telecommunications. In 1980, Intelmatique was formed to market French videotex technology internationally. Staffed with 20 people, mainly marketers with some system engineers, the company had an annual budget of approximately $4 million. Although its marketing function in the U.S. was officially incorporated into VSA in 1983, Intelmatique continued to market French technology in the U.S. and was responsible for the development of the French-based Honeywell private videotex system currently being launched in America.

Intelmatique was also instrumental in the sale of a videotex system to Brazil (although this required French intervention at the ministerial level,

bundling the sale of videotex with, amongst other things, the sale of French Mirage jets).

6. Sofratev

Sofratev is the international marketing arm of the French broadcasting industry. It originally pioneered the selling of French technology internationally. Besides its involvement in the companies listed above, Sofratev itself is estimated to have spent approximately $2 million since 1978 on marketing French teletext technology internationally.

7. Marketing expenditures

Exhibit VI-2 shows expenditures by the French government to market the Antiope technology internationally from 1978-1984. All expenditures on North American subsidiary companies are included in this list since most of the French corporate shareholders in these companies were government-owned.

Exhibit VI-2 **French government expenditures on marketing videotex internationally (1978-1984)**

Where spent	Amount spent (in U.S. dollars)
Antiope Videotex Systems	$ .5 million
Antiope & Telematique	2 million
Alphatel	2 million
VSA	4 million
Intelmatique	16 million
Sofratev	2 million
Total	$26.5 million

VII

TELIDON MARKETING: ANALYSIS AND CONCLUSIONS

A. TELIDON MARKETING IN THE CONTEXT OF TRADITIONAL MARKETING APPROACHES

1. The marketing model

Chapter II identifies a number of activities traditionally implemented in developing and marketing new products. These activities are shown in schematic form in Exhibit II-1. In marketing innovative products, a firm would be expected to identify its market position, establish marketing budgets, conduct market research and carry out marketing programs with individuals having appropriate user application and marketing qualifications.

Chapters III and IV present the Telidon marketing initiatives of the Departments of Communications and External Affairs and those of the private sector firms in our sample. In this section, we examine each step of our hypothetical model for marketing Telidon in relation to these public and private sector activities. That is, we assess:

- Whether the elements of each component of the marketing cycle have been implemented;
- What roles government and industry could have been expected to play at each stage; and
- What the contributions of government and industry have been.

Comments with respect to government initiatives are made in the context of promoting the Telidon-related industry as opposed to individual products or services. The industry, on the other hand, is judged on the basis of trends among firms to market their respective offerings.

2. Providing a fostering environment

Environmental elements conducive to marketing an innovative product include:

- Appropriate financing and risk-taking.
- Objective targets/expectations.
- Product/organizational compatibility.
- Marketing capabilities.

In order to achieve its expressed objective of fostering and promoting the fledgling Canadian videotex industry, the federal government can reasonably have been expected to ensure that each of the factors above had been satisfied. Our findings suggest that they were not.

In comparison to competing and similar technologies, the level of resources allocated to supporting the marketing efforts of the Telidon industry was low. As discussed in Chapter VI, the British and French spent more than $55 million over a comparable period to market their videotex and teletext technologies internationally. And manufacturers such as Apple Computer and AT&T have invested considerably more to market individual products.

If we look at the marketing budget in relation to expected revenues, in light of the $1 billion market share estimated for Canadian companies by 1990 (ref. Cabinet Discussion Paper), the approximately $5 million allocated to marketing activities at the time this forecast was considered valid does not represent a proportionately significant investment for the government.

However, given that funds were directed through a sunset program due to end in 1985, developing a ratio of marketing expenditures to operating revenues (i.e., as opposed to sales) can be considered more reasonable. During

the last two years (i.e., the Telidon Exploitation Program), a clearly identifiable level of resources (10% in each year) was allocated to marketing. Previously, marketing efforts were defined rather loosely to include a wide range of promotional activities. The absence of a formally defined marketing program and budget from the Department of Communications prevents us from determining conclusively whether the ratio of marketing expenditures to overall revenues during the initial years was appropriate.

In the context of the total amount of resources committed over the life of the Telidon Program, promotional expenditures as a whole (i.e., marketing, standards) constitute less than 10%. Although no fixed standard ratios exist, our earlier discussion suggested that a higher proportion of resources would be allocated to marketing a new product in the early years.

As discussed above, government drew on a series of market forecasts for its expectations of industry growth. Both government and industry now recognize that these estimates were unrealistic and based on a vaguely conceived notion of what the product and market would be, particularly with respect to the home consumer market. The publicity strategy promoted these forecasts to generate public enthusiasm through the media. Nevertheless, these optimistic predictions were not adequately tested in the market place.

Initial enthusiasm for Telidon's potential stemmed largely from its creators and sponsors. However, the bridge between recognizing this potential and developing its market was not adequately constructed. Senior management and marketing officials from both departments point to a number of bureaucratic constraints to conducting a marketing function in the government environment. According to our interviewees, the program lacked the resources necessary to hire the appropriate staff (both in terms of numbers and qualifications) and to implement a carefully developed marketing plan. As a sunset program, attempts to access other resources or to increase resource levels met with little success. Bureaucratic procedures prevented marketing staff from acting or responding

quickly to promotional opportunities. Neither the staff assigned responsibility for marketing nor the organizational context in which they worked could exploit past experience in marketing a similar technology.

Similarly, the private sector did not offer the elements of an adequately fostering environment. Most of the firms included in our interviews were created to respond to government efforts to exploit Telidon technology. Many relied on government grants to undertake their development activities. We were unable to obtain the financial data necessary to determine whether appropriate levels of resources were allocated to product development and marketing. However, the majority of respondents reported that they did not have adequate resources to implement a traditional marketing strategy. Nor did they develop reliable targets and clearly specified expectations (except very recently among larger firms). Rather, they were guided, if at all, by forecasts endorsed by the federal government.

In terms of marketing capabilities, marketing was conducted by principals of these firms who were most often technical in their backgrounds. Because all the activities of these individuals were directed towards supplying a product, we cannot precisely assess whether the marketing proportion was adequate. However, we can suggest that the organizational resources set aside for marketing were not clearly defined and linked to expected sales, revenues and profits.

In summary, then, both government and industry appear to have launched their respective efforts to develop and promote an industry and its products without laying an adequate foundation for doing so. However, this assessment should be considered in the context of new as opposed to existing industries and firms introducing new products. That is, under-resourcing and inappropriate organizational conditions commonly characterize new high-risk ventures.

3. Product development and market research

In order to promote the concept and potential of Telidon, the federal government could have been expected to conduct a generic assessment of commerical opportunities and buyer needs and acceptance. This ideally would have been done to complement or lead to more specific market research by individual firms to define target markets and product features.

Overall, neither the federal government departments involved nor the industry proceeded through the traditional stages of product development and market research. The field trials supported by the Telidon Program did offer various firms the opportunity to test specific products and services, but only in a limited context and without the benefits of implementing the balance of the framework in which this normally occurs (see Exhibit II-1).

In attempting to ensure a Canadian industrial presence to compete with the British and French overtures to the Canadian market, the federal government appears to have adopted at least some of the same general market perceptions as these countries (i.e., the home consumer). As well, government representatives interviewed noted that specific market research was left to individual firms.

The product development cycle was largely reactive. That is, our study revealed no evidence that industry assessed product and profit feasibility, or consumer acceptability. Nor did firms initiate planning for marketing and product testing. Rather, development typically involved a response to a specific opportunity, often the result of a Telidon Program industry stimulation activity.

Similarly, the industry representatives participating in our study did not institute programs of market research to determine buyer needs and characteristics and to identify appropriate promotional approaches. Many accepted the publicized assumption that Canadian technology had a lead over

competitors, but virtually no formal analysis of the market place, required marketing resources or expected revenues and profits has been done until recently. Rather, most of the energies and resources of these (frequently start-up) firms went into servicing the initial customer/application. Low levels of capitalization meant that planning horizons were more short than long-term.

In summary, the companies involved with Telidon tended not to follow the traditional product development and marketing strategies outlined above. Indeed, few of the industry representatives interviewed conceive of product development in this way. Instead, almost all of the companies represented have adopted less formal approaches.

4. Marketing and selling

As discussed in Chapters III and IV, both public and private sector efforts to promote Telidon have involved a number of specific marketing activities such as brochure development, trade shows, trade journal publications, newsletters and seminars. However, the smaller firms have often not had sufficient resources to engage in more than trade journal promotion and trade shows.

The federal government's involvement in promoting Telidon ends before the selling stage. Since a publicly owned firm has never been established, the government has not had a specific product or service to sell and could not be expected to do so on behalf of private firms. However, the government has been instrumental in generating leads and facilitating contact between firms and potential buyers.

Private sector firms have relied a good deal on personal contact with these potential users in order to sell their products. In other words, their "marketing" efforts have tended to be mainly at the "selling" end of the cycle.

5. Achievement of marketing objectives

Buyer awareness and attitudes have not been measured, nor have the effects of specific marketing initiatives. Consequently, we cannot determine the extent to which sales, revenues or even general awareness can be attributed to marketing activities on the part of either the federal government or industry. Indirect indicators such as widespread distribution of brochures, Canadian presence at trade shows and the success of Canadian firms in the U.S. market suggest that the respective goals of government (i.e., to promote Telidon) and industry (i.e., to sell Telidon-related products or services) have been achieved to some extent. The absence of clearly defined targets and follow-up data prevents more conclusive statements.

B. CANADIAN GOVERNMENT EFFORTS IN THE CONTEXT OF COMPETING TECHNOLOGIES

In Chapter VI, we reviewed the strategies and activities of the British and French governments in marketing their videotex systems internationally. Their efforts serve as a useful counterpoint to those of the Canadian federal government's attempts to promote Telidon in the domestic and international markets.

The British government, through British Telecom, implemented two different marketing strategies. The first involved contacting other publicly owned telecommunciations organizations in Europe and among the Commonwealth nations to generate sales. The second marketing strategy attempted to sell Prestel software on a world-wide basis by licensing the product to a British firm.

Of the two marketing plans, the first met with some degree of success; the second one did not. Prestel was successfully sold to Australia and to three other former British colonies in Asia. Other international marketing efforts, especially in the United States, represented a dismal failure for Britain. It appears by the evidence provided to us that the British government misjudged the American market, and perhaps more importantly, chose to market a product that was not fully portable to U.S. hardware. These two problems severely hampered the British government's attempts to sell Prestel abroad despite the more than $32 million spent between 1978 and 1984 to do so.

The French government experienced similar results in its attempt to sell the Antiope system internationally. Unlike the British, the French government deployed a more diversified marketing strategy. Specifically, the French attempted to lobby the United States government, to offer free Antiope equipment to potential clients, to provide strong government marketing support especially in the United States, and to present a concerted effort to establish a sales presence in the United States. According to our sources, these efforts cost the French government more than $26 million from 1978 to 1984.

Overall, then, Britain and France have failed to succeed in the international market in a significant way in spite of the approximately $59 million spent by both countries to market their respective technologies.

In this context, we can suggest that the approximately $5 million spent by the Canadian government appear to have achieved greater returns in terms of market impact. However, the extent to which the inroads made by Canadian firms to the United States market in particular can be attributed to federal government initiatives in marketing Telidon is difficult to determine.

Canada enjoys the advantages of selling a product approved as a North American standard and close proximity to the (major) United States market. If we include the early educational and promotional efforts made by the Canadian

government that led to the acceptance of the Telidon-based standard, then Canada's marketing program emerges as more successful than those of competing countries. However, our evidence does not allow us to suggest whether a greater level of marketing resources might have ensured a greater share of the international market.

C. CONCLUDING COMMENTS

1. Marketing Telidon: achievements and constraints

Both private and public sector marketing efforts have struggled with the inherent difficulties of promoting an unknown concept. Firms typically have responded to opportunities, unable to adopt traditional marketing strategies due to the lack of financial and human resources and the absence of reliable market research from other sources. The government attempted to promote the concept and potential of Telidon technology to a wide range of markets with limited resources in comparison with competing countries, ~~in comparison with competing countries.~~

The array of marketing support activities did achieve some benefits: awareness of the technology, a source of information coordination, support to industry marketing efforts such as direct mail and trade shows, and enhancing the overall presence of (particularly smaller) Canadian firms. These achievements were gained under some constraints. Government marketing officials interviewed report that were required to work with limited resources in an organization that could not respond quickly to their needs. Moreover, when it came to delivering the product, technology interfered with marketing efforts. Specifically, AT&T changed the standard which delayed efforts in the Canadian industry. Finally, marketing officers constantly faced the "chicken and egg" problem with respect to content and terminals.

Although the market has developed quickly, it has not developed according to expectations. Marketing officials feel that initial targets were unrealistic. Our interviews with government officials revealed that they neither conducted nor were provided with market information that would have clearly led them to specific initiatives to help the industry or parts of it. The industry and the Canadian Government were flattered by international interest, but no-one really understood the market. The market research that was done was misinterpreted -- the buyer was not anxious to buy what was being offered.

The marketing of Telidon has gone through two phases. The first phase involved familiarizing the domestic and international markets with the concept of Telidon and promoting the Telidon standard. The rationale for the Telidon Exploitation Program the second phase, assumed that a market did exist and offered assistance to companies to break into the international market. The goal was exposure for Canadian companies. Marketing staff were trying to ensure that Canadian firms obtained a share of the market place.

The Telidon marketing program has not been objectively measured. However, the benefits listed above suggest that this goal has been achieved. As well, marketing staff have relied on indicators such as the contacts made and feedback from Canadian firms. For example, they point to some success with companies like IBM and Digital Equipment Company that have purchased products from Canadian firms such as Cableshare, Genesys and Norpak.

Various field trials have developed -- e.g., a project in Chicago in which Honeywell is using Electrohome terminals and various consulting services. Videotex America has purchased products from Norpak. The Grassroots field trial and the Teleguide System providing services to southern Ontario and San Francisco are using Infomart. Norpak has negotiated to sell a chip design to Rockwell for decoder chip production. Further, marketing staff feel that awareness has been generated in major companies like Digital Equipment and General Motors which are using the software internally, as are some Japanese systems.

2. The role of government in supporting the videotex industry

Confusion exists over the appropriate role of government in developing a new industry. In general, however, the larger firms suggest that government should not become too directly involved in industrial development. Ultimately, the rules and conditions attached to support packages can act as a disincentive to industry.

With a sunset program supporting technology development, directing funds towards marketing must be positioned in a short-term context. Our discussions with industry representatives suggest that the best approach is to provide direct assistance to companies with a clear focus on some part of the market, allowing them to proceed in the direction they choose to take. That is, government should require that firms demonstrate that they have clear marketing plans, and help them to implement them on an expanded scale. For example, this support could enable them to enter international markets which would otherwise be impossible. For this reason, participants in our study strongly support the Program for Export Market Development (PEMD). They approve the basic notion of matching dollars with firms to attend strategic trade shows, providing support, while leaving control with and requiring commitment from recipient firms. According to our respondents, this type of approach avoids the problem inherent to a number of government initiatives of inadvertently encouraging industry to distort their activities to meet the funding criteria.

More indirect tools for supporting industry, although not primarily focused on marketing, also received support. Specifically, respondents encourage government to continue vehicles such as the Scientific Research Tax Credit for investments in research and development (currently in moratorium).

The support industry has received from the Department of External Affairs through its trade promotion program earned strong praise. Respondents do not feel that the government has or should have a mandate to sell Canadian

products and services. Rather, Canadian trade officials can promote sales and be politically valuable in foreign markets where government-to-government negotiations are particularly important. This facilitating role is considered critical for the success of Canadian marketing abroad and our respondents strongly encourage the government to offer further support to export market development.

In general, industry representatives urge the government to recognize and accept the high risk nature of innovative industries such as videotex. And that trying to gain a threshold, let alone dominate such a market, demands considerable investment. Yet public opinion and the press reflect negative attitudes towards Telidon -- a reaction industry and government representatives feel is unwarranted given the approximately 80% failure rate in high-risk ventures and the fact that a number of Canadian firms are now positioned to succeed.

The excessively optimistic predictions early in the life of Telidon may account for some of this reaction. The notion of creating an entire industry and efforts to market an unknown concept with that goal in mind were not destined to be successful.

The benefits of hindsight suggest that the strategy should have been less ambitious and more grounded in supporting those areas in which Canadian firms could maintain an edge. But the knowledge of the nascent industry and market at the time did not permit such choices. On this basis, the marketing efforts of government to support Telidon necessarily represented more of a developmental, awareness campaign than a marketing strategy in the traditional sense.

The Telidon Program is nearing completion but government industrial and export marketing policy and programs will continue. Those firms who have

exploited Telidon technology tend to look for any future government support to be:

- Directed to them as members of Canada's high technology industry, not as part of a "Telidon" or videotex industry;
- Directed to them as companies offering valuable products or services, not as "Canadian" companies; and
- Unobtrusive, allowing them to proceed in their chosen direction but sharing some of the nessary risk.

APPENDIX A

STUDY METHODOLOGY

Exhibit A-2. Evaluation issues, questions and data sources

Evaluation Issues	Research Questions	Data Sources
Marketing Strategy (public and private)	1. What type of marketing plan was developed?	- Interviews, focus groups, survey
	2. How was the plan or strategy implemented?	- Interviews, focus groups, survey
	3. What was the marketing mix, i.e., various activities, locations timing?	- Interviews, survey, focus groups
	4. What marketing strategies were adopted by competing technologies and how was competition dealt with?	- Interviews, focus groups, review of literature (Link Resources)
	5. What is the industry's assessment of the marketing environment?	- Focus groups, survey
	6. How well did private and public marketing strategies complement each other?	- Focus gropus
Marketing Organization	1. How was marketing organized?	- Interviews with DOC and EA officials
	2. What resources were allocated to marketing?	- Financial data
	3. What resources were allocated to international marketing compared with domestic?	- Administrative data, survey, focus groups
	4. To whom were marketing efforts directed?	- Interviews, focus groups, survey
Communications	1. What were the communication themes?	- Focus groups Interviews
	2. How well received were the various communication products?	- Focus groups, survey, interviews

Exhibit A-2. **Evaluation issues, questions and data sources** (continued)

Evaluation Issues	Research Questions	Data Sources
Beneficiaries of Marketing	1. Who benefitted most from government marketing?	- Interviews, focus groups
	2. Were different strategies used for different target groups?	- Interviews, focus groups, documentation
Sales	1. Was the industry ready to meet demand created through marketing?	- Interviews, survey, focus groups
	2. Was marketing more successful in Canada or abroad?	- Survey, interviews, focus groups
	3. To what extent can sales be attributed to specific marketing efforts?	- Interviews, focus groups, survey
Improvements	1. Are there ways of improving public or industry marketing approaches?	- Focus groups, survey, interviews
	2. How can marketing activities contributed to the ongoing development of Telidon as a viable product?	- Focus groups, survey, interviews

a) **Review of documentation**

Documents reviewed included:

- "New Product Development: A Literature Review," Ian Goulding, European Journal of Marketing, Vol. 17, 1983.
- "Timing of Market Research in New Industrial Product Situations," Roger A. More, **Journal of Marketing** (Fall 1984).
- **New Products Management**, C.M. Crawford, (R.D. Irwin, Inc., 1983).
- Treasury Board document on Telidon Export Marketing (May 19, 1983).
- Discussion paper on the Telidon Exploitation Program (July 13, 1982).
- **Telidon Synthesis Study - Regulatory, Industrial, Marketing and Social Issues** (Volume IV), Wescom Limited, (March 1983).
- The Department of External Affairs' Telidon marketing plan and promotional brochures.
- Program documentation from both the Department of Communications and External Affairs -- e.g., files on the Marketing and Industrial Strategy Sub-committee of the Canadian Videotex Consultative Committee (CVCC) and departmental files on the External Affairs project to equip consulates and embassies with Telidon terminals.
- Summary report on the international marketing of the British and French competing videotex systems (prepared by Link Resources).

b) **Interviews with government officials**

Interviews were conducted with the both current and past officials responsible for Telidon management and marketing in the Department of Communications and the Department of External Affairs (see Exhibit A-3). These interviews addressed the departmental objectives, marketing plan and

Exhibit A-3 Federal government representatives interviewed

Department of Communications

Mr. Roy Marsh
Director, Telidon Program

Mr. Jim Feeley
(formerly) Director General, Informatics Application Management

Mr. Douglas Parkhill
(formerly) Assistant Deputy Minister, Research

Ms. Joanne Werner
Project Officer
Information Technology Applications
Telidon Program

Mr. Phil Kinsman
Director, Public Affairs
Information Services Branch

Department of External Affairs

Mr. Louis Bustos
Deputy Director, Technology and Services Division

Mr. Brian Casey
Technology and Services Division

Mr. Maurice Bernier
Trade Development Division, Western Europe I Bureau
(previously at Canadian Consulate, Paris)

Ms Suzanne Courtney
Canadian Consulate, Paris

Mr. George Edwards
Canadian Consulate, London

budget, specific marketing support initiatives, the success of these activities, competing technologies, the market for Telidon in Canada and abroad, the nature of the relationship between the private and public sectors in marketing Telidon, factors affecting the success of govenment marketing initiatives and perceptions of the industry and its future.

c) In-depth review of marketing activities

After our initial interviews with the key government officials responsible for Telidon marketing, we selected three major marketing initiatives for more in-depth review:

1. Brochure development and direct mail campaign.
2. The embassy/consulate and seminar program.
3. Trade shows and presentations.

Although we proposed to study five clearly defined initiatives, we included External Affairs' brochure development and direct mail campaign as one set of activities, as well as the program to install Telidon terminals in consulates and embassies and their use for trade seminars.

After selecting these marketing areas, we met again with the officials responsible and obtained a detailed summary of the activities and identified their effects to the extent possible.

d) Focus groups with industry sales representatives

Two focus group sessions were conducted with selected samples of Ottawa and Toronto based firms. Samples were drawn from an industry list provided by the Program Evaluation Division. An attempt was made to include major participants in the videotex industry, as well as to represent smaller firms and the range of services and products offered --i.e., hardware, software and complete systems. These sessions allowed us to explore in a more in-depth, qualitative way the same general types of issues that formed the basis of our

survey instrument for a broader industry survey. Exhibit A-4 shows the schedule of questions that guided our discussion in the focus groups.

A number of the firms that initially accepted our invitation to attend a focus group did not, particularly for the Ottawa session. Due to the rather "inbred" nature of the industry in this area, it seems that there was some reluctance among these individuals to discuss present and past marketing activities in a group context. Consequently, of nine firms invited to the Ottawa group, only two attended -Genesys Group and Infomart. Of the seven firms invited to the Toronto focus group, the following firms attended: Infomart, Marketfax, Videopress and Addison Information Systems. Most of the firms not represented at groups were subsequently interviewed either in person or by telephone.

e) Survey of industry sales representatives

We also conducted a telephone survey of 30 industry sales representatives (25 completions), excluding firms participating in the focus groups. Again, these firms were drawn from the population of firms involved in an active basis in the selling of Telidon-related products during the last two years. Exhibit A-4 lists the firms interviewed, their location and type of product or service offered. Exhibit A-6 contains the interview schedule used. The interview comprised two parts. The first part dealt with the specific products or services offered by the firm, along with related information about target markets and marketing strategies. The second part of the interview involved a discussion of government marketing activity.

In all cases, both for focus group participants and telephone interviewees, respondents were promised anonymity.

One of the major problems encountered during the interviews of industry representatives was the absence of any consistency regarding marketing

activities and product/sales applications. As we note in the report, the videotex industry is still in its infancy. More important to our investigation is the fact that few of the companies share common interests, corporate goals or target markets. While this finding reflects the applicability of Telidon in many different markets, it has limited us in terms of methodological reliability. As few of the companies surveyed had common marketing experiences, we were not able to test the validity of many of their statements regarding the size of potential markets, barriers to entry and industry norms.

Moreover, since so many of the firms are relatively new, fairly small in size and sensitive to their competition, we were not always able to elicit complete responses to our questions on costs of and time allocated to marketing and sales.

Since the sample size itself is small, there was no opportunity to carry out complex analyses. We conducted our analysis primarily on the basis of type of company, with size as a secondary variable. Telephone respondents were divided into one of four groups: hardware companies and, small, medium sized, and large "software" companies. The "software" category includes software, page creation, consulting and systems firms (i.e., all non-hardware only providers). Firms that reported sales of more than $1 million were labelled large software firms, those between $250,000 and $1 million were considered medium-sized and those with billings of less than $250,000 were considered small. All these hardware firms fall into the "large" category. Those repondents who did not report sales were not included in the analysis, although their comments are incorporated in the text for illustrative purposes.

Exhibit A-4 Format for Focus Group Sessions

- A general description of the evaluation objectives was provided at the outset of the session.
- Participants were asked to identify themselves and to describe in summary form their company's interest in Telidon, along with a brief profile of their firm.
- The following questions were then covered (not necessarily in the order shown):

1. (a) What type of marketing plan did your company develop for the marketing of your Telidon related products or services?

   (b) What was the target market ?

2. (a) How was the plan implemented?

   (b) What was the marketing mix?

   (c) Any estimates of cost?

   (d) Can you say how effective this marketing has been to date?

3. What in your opinion, were the objectives of the government's marketing strategy?

4. To what extent did this strategy overlap with or complement your's?

5. What were the most effective elements of the government's marketing strategy? And who were the principal beneficiaries?

6. Do you feel that the federal government should have played a role in marketing Telidon?

7. If so, how could the government's marketing efforts have been improved?

8. Do you think that the Telidon industry has achieved its expected market potential? If not, what have the main obstacles been?

9. What do you feel is the future market potential for Telidon-related products and services? How can it be improved?

Exhibit A-5 Telidon Marketing: Respondents to Telephone Survey

Firm	Location	Product/Service
ADEUM Electronics	Ottawa	Hardware
Ashdune Software Inc.	Ottawa	Software
Cableshare	London	Software, page creation
Cape Videotex	Sydney, N.S.	Page creation
Corvideocom Ltd.	Ottawa	Consulting
DMR and Associates	Toronto	Consulting
Electrohome	Kitchener	Hardware
FBN Inc.	Ottawa	Software
William G. Hutchison & Co.	Willowdale	Consulting
Image Base Videotex Design	Toronto	Page creation, consulting
Info Age	Montreal	Software
InfoNorth Computing Inc.	Sudbury	System provider, consulting
Limicon Inc.	Toronto	Software
McLeod Yound Weir	Toronto	Investment service
New Media Technologies	Vancouver	Hardware
Norpak	Kanata	Hardware
Picture Date Inc. (PDI)	Toronto	Page creation
Pixel Productions	Toronto	Page creation
St. Clair Videotex Design	Toronto	Page creation
Systemhouse	Ottawa	Software
Tele Direct	Toronto	Page creation, consulting
Videographex Videotex Consultants	Winnipeg	Page creation
Videotex Atlantic Ltd.	Halifax	System provider
Videoway Inc.	Montreal	System provider

Exhibit A-6 Interview Guide - Survey of Marketing Representatives

1. How long has your firm been in business?

2. What Telidon related products and/or services does your firm offer? Is this the main product/service of your firm?

3. What is the target market?

4. What kinds of marketing activities are carried out?

5. What sales channels are used?

6. What has the annual marketing budget been for the last three years?

7. What have the annual estimated and actual sales been for the last three years?

8. How many sales and marketing staff have been employed?

9. How did the government Telidon marketing activities assist you?

10. What could the government have done to better assist your Telidon marketing efforts?

11. Was Telidon ready to be marketed? If not, why?

12. From your firm's perspective, what are the best markets for Telidon -- domestic or international, government or private industry?

13. What future market demands for Telidon do you expect to see and which of those do you plan to supply?

14. What are the principal factors affecting the Telidon market -- e.g., economic, technical, cost, information availability?

APPENDIX B

THE MARKETING AND INDUSTRIAL STRATEGY SUB-COMMITTEE

APPENDIX B

THE MARKETING AND INDUSTRIAL STRATEGY SUB-COMMITTEE

The Marketing and Industrial (MIS) Strategy Sub-committee was formed in 1980 to advise the Canadian Videotex Consultative Committee on strategies for Canadian industry to obtain maximum benefits from the introduction of videotex systems in Canada and in foreign markets. Membership in the Sub-committee was open to all Canadian organizations with an interest in videotex products and services. The development of industrial and marketing strategies was to be achieved by:

1. Providing a focal point where all industrial activity in Canada could be reviewed;
2. Identifying R&D needed for Canada to maintain leadership in this field;
3. Reviewing government plans for action and evaluating how these could be merged with private sector activities;
4. Encouraging cooperation within Canadian industry;
5. Evaluating opportunities for the sale of videotex in foreign markets;
6. Monitoring standards development for videotex systems and recommending additions and modifications as appropriate;
7. Recommending government action where considered necessary or appropriate; and
8. Assisting in the international acceptance of Telidon.

Members of the Marketing and Industrial Strategy Sub-committee mainly represented the senior executive level of the member firms as well as government officials from DOC, ITC, DREE and External Affairs. As well as

advising the Departments of Communications and External Affairs with respect to marketing plans and strategies, the group provided a forum for the discussion of standards from an industrial strategy and marketing perspective at the time when the NAPLPS standard was being adopted. Another important initiative of this group was to coordinate participation at major industry shows. For example, a working group organized a Telidon Room at the Videotex '82 Conference in New York.

Over time, the MIS Sub-committee attempted to establish an industry association so that Canadian firms could be perceived as a visible entity comparable to the British and French. A number of proposals were developed. The first one -- Telidon Systems Corporation -- was to involve members of the industry as shareholders, but never materialized. Similarly, an organization to be called the Telidon Export Association would have involved the major firms of the industry in developing export markets. Prospecting would be done by employees of the association and leads provided to member companies. Specifically, the objectives of the proposed Telidon Export Association were to:

- promote acceptance of Telidon in international markets;
- gather and disseminate market information;
- liaise with the Government of Canada and the governments of prospective countries; and
- generate direct sales leads for its members.

The Telidon Export Association was designed to work closely with, and in the same quarters as, the government's Telidon Marketing Secretariat. Indeed, it was a criterion of continued funding under the Telidon Exploitation Program. However, a charter was never agreed on because it could not be established when prospecting turned into marketing.

This was followed by the proposal for a Canadian Videotex Industry Assocation (CVIA). Again, the rationale was that some activities could be

executed more effectively and efficiently as a group, rather than trying to address the market as individual companies. And that certain prospective clients and market segments, particularly the Japanese, would rather deal with Canadian industry as a cohesive unit. As well, the government wanted to communicate and receive input from a unified industry.

Opening meetings of CVIA were held, a fee structure, mandate, funding and charter were approved, and the name was registered. With the founding of the CVIA, the Marketing and Industrial Strategy Sub-committee was no longer required and ceased to exist as of March 1983. (In general, the Sub-committees of the CVCC basically ended when the original Telidon Program expired in March 1983.) Early in 1984, the CVIA became part of the Canadian Advanced Technology Association (CATA) and effectively disappeared as a separate entity. However, CATA recently decided to initiate industry councils. The first to be initiated on a pilot basis is a videotex group.

The major contribution of the CVIA has been its input to the design of intiatives implemented under the Telidon Exploitation Program, particularly with respect to content development.

APPENDIX C

TELIDON EXPORT MARKETING: RESOURCES AND BUDGETS

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TELIDON EXPORT MARKETING: RESOURCES AND BUDGETS

International Marketing	Fiscal Year 1983/84		Fiscal Year 1984/85	
	PY	Dollars (M)	PY	Dollars (M)
External Affairs	7	1.5	7	1.0
DOC	5	.8	3	.4
Total	12	2.3	10	1.4

As well as receiving technical support from the Department of Communications, External Affairs was to receive ongoing industry support from both DRIE and other sections of External Affairs (eg., the Trade Commissioner Service).

The proportion of the Telidon Exploitation Program resources allocated to international marketing as compared to other elements of the program were as follows:

- 25% of PY's and 18% of dollars in 1983-84; and
- 24% of PY's and 14% of dollars in 1984-85.

Exhibit C-1 Telidon Export Marketing: Other Operating and Capital Costs, External Affairs (1983-84)*

Other Operating Costs	$000
Trade Missions	147
Trade Shows	120
Maintenance, operation and transportation of demonstration package	50
Seminars	200
Market Studies acquisition	75
Travel - Telidon Systems Section (TSS)	90
Publicity (ad campaigns, trade magazines)	150
Communication costs and subscriptions to teledata services	65
TOTAL	$897

Capital Expenditures	
Decoders	91
Microprocessors	20
Page Creation Terminal	32
Large screen display	10
TOTAL	$153

TOTAL	$1,050

* Other than salaries and capital costs (approximately $450 thousand).

Exhibit C-2 Telidon Export Marketing: Other Operating and Capital Costs, External Affairs (1984-85)*

Other Operating Costs	$000
Trade Mission to Europe	70
Trade Shows	80
TSS Travel	130
Publicity	100
Communications Costs	30
Maintenance, operation and transfer of demonstration packages	50
TOTAL	$460
Capital Expenditures	
Decoders	25
Microprocessor	15
TOTAL	$ 40
TOTAL	$500

* Other than salaries and capital costs (approximately $500 thousand).

APPENDIX D

DEPARTMENT OF COMMUNICATIONS:
A SAMPLE OF TELIDON MARKETING ACTIVITIES

APPENDIX D

DEPARTMENT OF COMMUNICATIONS: A SAMPLE OF TELIDON MARKETING ACTIVITIES

The following list of activities represents the historical information provided by the Telidon Program. The list was described as incomplete and not necessarily reflecting chronological order:

- In fiscal year 1981-82, three contracts were issused to Infomart for international marketing:
  - to provide services relating to demonstration and promotion of Telidon principally in support of establishing international standards for Canadian products. The value of this contract was $249,750.
  - to coordinate the participation of Canadian industry at the Viewdata 1981 conference in Wembley, England. The value of this contract was $88,000.
  - to coordinate the participation of Canadian industry at the International Audio and Video Fair in Berlin, Germany. The value of this contract was $97,000.
- Videotex '81 was organized in Toronto at the Royal York Hotel. The cost of this conference was approximately $200,000.
- A booth was organized for all Canadian companies who wished to participate at Videotex '82 in New York. A considerable portion of this was paid for by DOC. Cost for this was in the range of $50,000 to $100,000.

- Canadian participation in a Videotex conference in Liége, Belgium was arranged by the department. This was immediately followed by an exhibition of Telidon in Dusseldorf, Germany. The cost of these two exhibitions was in the order of $30,000 to $80,000.

- A series of demonstrations of Telidon equipment was given in Bonn and other locations in Germany (1980-1981).

- Demonstrations of Telidon equipment were arranged in: San Francisco, New York and Dallas. In San Francisco and Dallas, the demonstrations were given over a three week period. In all cases, members of Canadian industry participated in the demonstrations. However, they were arranged for and mostly paid for by the Department of Communications. The cost of these demonstrations ranges in the order of $30,000 or higher.

- Telidon was demonstrated in a booth at the IEEE conference on Consumer Electronics in Chicago in 1980 ($10,000 to $20,000).

- Telidon was demonstrated at a booth at Vidcom '83 in France. The cost of this exhibition was in the order of $40,000.

- There were two or three trips to Australia for the purpose of demonstrating Telidon. The first one was in connection with the demonstration of the Hermes satellite. This was followed up with one or two other trips. The cost of the Australian trips was quite high because of the distance involved and the logistical problems of coordinating the demonstrations and maintaining the equipment. A piece of teletext equipment was also loaned to a television station in Sydney, Australia.

- A series of demonstrations of Telidon equipment was given at the Canadian Embassy in Brussels. Canadian industry participated in these demonstrations. The cost was approximately $20,000 to $30,000.

- Demonstrations of the Telidon equipment were also given at the Haig in Holland, principly to the Dutch PTT.

- Telidon demonstrations were given in Austria to various groups.

- A trip was made to Munich, Germany in order to brief Canadian trade commissioners stationed in Europe on Telidon.

- A series of Telidon demonstrations was given in Portland, Oregon in connection with an application for a cable franchise by Rogers.

- At least two talks were given by the Department and by industry at Vidcom '81 in France.

- Telidon terminals were installed for the press during the Economic Summit held in Ottawa.

- Telidon terminals were placed in consulates and embassies in many places around the world, but primarily in the U.S. Several meetings were held with trade commissioners both in the U.S. and in Europe to ensure that they knew about Telidon and how to operate the Telidon equipment. The total cost of providing terminals was approximately $120,000.

- Telidon has been demonstrated at a number of National Association of Broadcasting conferences in the United States.

- Demonstrations of Telidon equipment were provided in Venezuela, sponsored by the department or in which departmental personnel were involved.

- A considerable amount of discussion took place with Singapore with respect to videotex and teletext systems and several demonstrations were arranged for officials from that country.

- The department exhibited Telidon products and services in connection with the CCITT meeting held in Montreal.

- More recently the department collaborated with the CBC for the exhibition of Telidon equipment at a conference in Tunis (October or November 1984). This mission was paid for by External Affairs.

- Also in 1984, a visit was made to South Korea and to Japan to promote Telidon.

- A very large number of demonstrations of Telidon equipment has been given to international delegations visiting DOC.

- Two or three missions have been made to Scandinavian countries to demonstrate Telidon equipment.

- Recently, a trip was made to Ghent, Belgium to assist External Affairs with the exhibition of Telidon equipment.

APPENDIX E

DEPARTMENT OF EXTERNAL AFFAIRS: HIGHLIGHTS OF MARKETING ACTIVITIES

APPENDIX E

DEPARTMENT OF EXTERNAL AFFAIRS: SUMMARY OF MARKETING ACTIVITIES

A. BROCHURES

- 10 industry brochures prepared for April 1984 Chicago Videotex show
  - 50,000 printed ($100,000)
  - distributed 10,000 at show (1,000 of each)
  - continuing to mail out
- Teletext brochure - 1983
  - to 1,000 Television stations
- "Telidon"-1983 Videotex show (also in French)
- 1984 - German brochure (5,000 copies)
  - Japanese brochure
- Special supplement to **Videotex World** (1984)

B. TRADE SHOWS

- Videotex 1981-1984
  (Receptions, press activity, briefings)
- Shows - e.g., Telidon 1983 - Geneva
  Videocom 1984 (November) - France
  Comdex 1983 - Las Vegas
  Comdex 1984 - Las Vegas
- DOC present at Exhibitions - PNE, CNE
  - in part sponsored by External Affairs

Also - Bank Automation - Atlanta 1984
- Exhibit Designers - Boston - August 1984
- Minnesota Education
- Computer Show - Hong Kong

(plus 130 others where Telidon was present but not a major sponsor)

C. MISSIONS

Telebuild - Scanadinavia 1984, 1983
Brazil, 1984
Tokyo, 1983
Sao Paulo, Brazil, 1983, 1984
U.S. (New York, Miami, Chicago, Los Angeles, San Francisco), 1984

D. CONSULATE PROGRAM

- 1981/82 started - 20 installed first year
- 1985 - 41 installed now

E. CONSULTING STUDIES

- Market analysis of telextext
- Market research seminar - 1983
- Technical seminar - March 1984 (7 companies, $75,000)

F. MAGAZINE ARTICLES

- 1983, 1984
  - e.g., "Microsystem", "Mini-Microsystems", "P.C.", "Computer Graphics World", etc.
- Videotex World - $26,000
- Mail out to 2,000 journalists

G. ADVERTISING

March/April 1984

- in periodicals such as **Business Week, Forbes, Fortune, Byte, Sales and Marketing Management, Time International, Computer Graphics** ($300,000)

H. POST SEMINARS

- Los Angleles
- Minnesota
- Scandinavia (3 countries)
- Paris

I. LOANED EQUIPMENT

J. REFERRALS TO INDUSTRY

e.g.
- 3 M - videotape followup
- Magazines - reprints of articles
- IBM - request for paper on Telidon
- Request for brochures

K. PRIVATE SECTOR SEMINARS

- e.g., September 1984 - briefing IBM

EVALUATION STUDY OF THE TELIDON PROGRAM : TELIDON MARKETING : FINAL REPORT.