Government of Canada
Department of Communications

Gouvernement du Canada
Ministère des Communications

RESEARCH LABS

Evaluation Assessment

Étude préparatoire d'évaluation

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EVALUATION ASSESSMENT REPORT

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PROGRAM EVALUATION SERIES

This evaluation assessment report was prepared by the Program Evaluation Division of Communications Canada.

Certain passages have been severed under the Access to Information Act to protect third party confidentiality.

Ce rapport préparatoire d'évaluation a été préparé par la Division de l'évaluation des programmes de Communications Canada.

Certains passages ont été omis en vertu de la Loi de l'accès à l'information afin de protéger la confidentialité des personnes concernées.

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EXECUTIVE SUMMARY

This document is an Evaluation Assessment Study of the Research Program (RP) administered by Research Sector of Communications Canada. It was developed in the context of the MOSST Decision Framework for Science and Technology. This assessment concludes that the objectives of the research program can be described as follows:

1. to establish a national research critical mass to:
2. alleviate the system interconnectivity problems,
3. develop a Canadian software and electronic content capability, and
4. accelerate information technology diffusion
5. to assist in ensuring government's effective use of communication technologies
6. while respecting the economic and regional development objectives of the government.

The report highlights six major issues the evaluation could deal with:

1. How plausible is the link between the program objectives and its activities?
2. How client-oriented are the Department's labs?
3. How well diffused is the knowledge developed within the Department's labs?
4. What is the level of quality of the program's outputs?
5. Does Canada need government owned-government operated communications laboratories?
6. Could some of the research activity be carried out more efficiently in the private sector?

A descriptive and a comparative staged approach are suggested as options for an evaluation. The no evaluation option is also analyzed. The recommended approach is to implement a comparative analysis of the Department's labs and other labs in stages. It would cost approximately $165,000 and be available in December 1988.

SOMMAIRE POUR LA DIRECTION

Ce texte représente le résultat d'une étude préparatoire d'évaluation du programme de recherche (PR) administré par le Secteur de la recherche (SR) de Communications Canada. Il a été préparé dans le contexte du Cadre de décision pour la Science et la Technologie du Ministère d'État pour la Science et la Technologie (MÉST). Ce rapport conclut que les objectifs du programme de recherche peuvent être décrits comme suit:

1. établir une masse critique nationale en recherche pour
2. régler les problèmes d'interconnection de systèmes,
3. développer des capacités canadiennes en création de logiciels et contenu électronique, et
4. accélérer la diffusion de l'information technologique,
5. pour épauler les efforts d'utilisation efficace des technologies de communication au sein du gouvernement
6. tout en respectant ses objectifs économiques et de développement régional.

Le rapport présente six enjeux principaux d'évaluation sur lesquels l'étude pourrait se pencher:

1. Le lien entre les objectifs du programme et ses activités est-il plausible?
2. Dans quelle mesure les laboratoires du Ministère sont-ils orientés vers la clientèle?
3. Les connaissances développées dans les laboratoires du Ministère sont-elles bien diffusées?
4. Quelle est la qualité des extrants du programme?
5. Est-ce que le Canada a besoin de laboratoires spécialisés en communications possédés et opérés par le gouvernement?
6. Est-ce qu'une partie de l'activité de recherche pourrait être menée de façon plus efficiente par le secteur privé?

Deux approches d'évaluation sont suggérées: l'une descriptive, l'autre comparative et en étapes. L'option de ne pas mener d'évaluation est aussi considérée. La recommandation retenue est d'implanter l'approche comparative par étapes. Ceci coûterait environ 165 000 $ et produirait un rapport en décembre 1988.

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ABBREVIATIONS AND INITIALS

ADMTT	Assistant Deputy Minister for Telecommunications and Technology
CWARC	Canadian Workplace Automation Research Centre
MOSST	Ministry of State for Science and Technology
NSE	Natural Sciences and Engineering
OCG	Office of the Comptroller General
PR	Programme de recherche
R&D	Research and Development
RP	Research Program
RSA	Related Scientific Activities
SSH	Social Sciences and Humanities
SR	Secteur de la recherche
S&T	Science and technology

I. INTRODUCTION

This document is an Evaluation Assessment Study of the Research Program (RP) administered by Research Sector of Communications Canada.

A. Reasons For Undertaking the Evaluation

There are a number of reasons rendering the evaluation of the Research Program important to complete at this time.

Program Evaluation Division has done work in the area of Telecommunications and Technology in the past. Telidon, Office Communications Systems and Space Components and Sub-Systems have all been evaluated. Evaluation frameworks have been prepared for the research sector and for the Canadian Workplace Automation Research Centre (CWARC). Never, however, have evaluation questions been actually studied at the sector level.

The Assistant Deputy Minister for Telecommunications and Technology (ADMTT) has indicated a strong interest in such an evaluation taking place.

B. Report Structure

The second chapter sets the context for this program. It describes the Decision Framework for Science and Technology and the program itself: its objectives, components and resources.

The third chapter describes the program activities, outputs, direct and indirect effects in terms of a logic chart and discusses potential evaluation issues.

The fourth chapter is more methodological in nature. It develops a set of background studies to answer the questions raised in the previous chapter and packages them into evaluation options. It concludes with a recommendation for a course of action.

II. THE RESEARCH PROGRAM

A. Subject Area

Science and technology (S&T) activities are divided into natural sciences and engineering (NSE) and social sciences and humanities (SSH). They can also be separated into research and development (R&D) activities[1] and related scientific activities (RSA).[2]

The Government of Canada is the largest single funder of S&T Canada. It will spend $4 billion on S&T in 1987-88.[3] In comparison, in 1986, Canada as a whole spent an estimated $6.3 billion on research and development alone, specifically in the natural sciences and engineering area (Waldron, 1987, p. 42).

Scientific research and technological development are considered key contributors to any country's economic prosperity and social progress. This is particularly true of communication research and technology which are viewed by many as the necessary infrastructure over which the next societal network will be built.

Waldron (1987) has suggested that "R&D is undertaken in order:

- to enhance the state of knowledge;
- to improve social or environmental conditions;

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1. "Creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of mankind, culture and society, and the use of this stock of knowledge to devise new applications". Quoted in Office of the Comptroller General, 1986, p. 1.

2. "Those which complement and extend R&D. They are: the collecting, coding, recording, classifying, disseminating, translating and analyzing of data by scientific and technical personnel, bibliographic services, patent services, scientific and technical information extension and advisory services, and scientific conferences". Quoted from OCG, 1986, p. 1-2.

3. From MOSST (1987): A Decision Framework for Science and Technology, p. 1.

- to maintain an awareness of, and to participate in, international science;

- to exploit its results to foster economic growth."

B. Context: The Decision Framework for S&T

The Government of Canada has recognized the importance of S&T in society and of government expenditures in this area. The Prime Minister has directed the Minister of State for Science and Technology to prepare an annual overview and analysis of government's S&T activities and to provide advice on measures to strengthen the effectiveness of federal S&T program expenditures.

As a consequence, a Decision Framework has been devised which sets out priorities, guidelines and principles for adopting and reviewing government programs in this area. In particular,

> The Decision Framework will be used in the periodic review of government-wide issues affecting the management of science and technology. In conjunction with the Office of the Comptroller General and the existing program evaluation groups of science-based departments and agencies, it will also assist in the in-depth review of specific science programs and activities. *The principles and guidelines of the Decision Framework will offer an additional policy context against which these reviews can be carried out.*[1]

Therefore, an evaluation of the Department's Research Program should be firmly based on the basic principles spelled out in the Framework. The four principles follow. (MOSST, 1987, p. 9)

1. Science and technology are a vital means to support social and economic development, and other government goals.

2. In house performance of S&T is appropriate where it is essential for the conduct of departmental missions. Federally funded science and technology

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1. Op.cit., p. 7, emphasis added.

activities should be performed in the private sector and universities if appropriate and feasible to do so.

3. Federal support will be used to lever increased contributions by industry and the provinces to raise the national level of R&D performance. It will favour initiatives that forge stronger linkages among the industry, universities, and government sectors.

4. The effective management of federal science and technology resources can be enhanced by focussing on the purpose of activities according to three categories and related objectives:

   a. Economic and Regional Development Objective:

      To assist industries to become more productive and internationally competitive, increase private sector investment in R&D and innovation, and build on regional strengths.

   b. Government Missions[1] Objective:

      To support research and development, and related scientific activities, that are relevant to departmental missions and government priorities, and that maximize benefits that are secondary to departmental missions.

   c. Advancement of Knowledge Objective:

      To ensure an adequate supply of highly qualified scientific and engineering personnel, and a stream of new knowledge to lay the basis for future economic and social development.

The first principle is a policy statement which establishes the importance of S&T to the federal

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1. National security, territorial integrity, and defence; equality, health, and safety of Canadians; protection of the environment, development and conservation of natural resources; cultural development; and policy-making and regulation. (MOSST, 1987, p. 11)

government. The second and third principles are related to the form that the federal contribution should take. The last principle state the macro level objectives that all federal S&T program should pursue. It therefore sets the main environment in which the Department's Research Program will have to be evaluated and the master objectives against which it will be analyzed.

C. Program Objectives

Recently, the Deputy Minister stated that "The research program is being reorganized in this context so that the Department can build on its strength and better respond to the challenges of information technology" (Gourd, 1987, p. 2). The Department's S&T Plan establishes that we face three main challenges:

1. To alleviate the problem of lack of interconnectivity between different communications networks, and between different information systems, and services, by addressing the issues of compatibility, interworking and standardization.

2. To deal with the software creativity bottleneck, and the weakness of Canadian software and content industry by developing a capability for software and electronic content products and services that meet the specific needs and aspirations of Canadians and make use of highly-automated software creation techniques.

3. To speed up the slow rate of information technology diffusion in:

   a. solving social problems such as health-care and education;

   b. ensuring a place for creative cultural expression in the array of new electronic media and information infrastructure;

   c. improving productivity and economic growth; and

   d. enhancing government operational efficiency, by seeking and promoting information technology applications in cooperation with other federal departments, cultural agencies and the private sector.

The Department's S&T Plan also suggests that the Research Program is set out to:

> Within DOC's mandate for communications and culture, establish a national critical mass that would marshal fragmented pockets of S&T strengths and act as a major catalyst of technology diffusion for social and economic benefits for Canada [in order to confront international trends of massive joint R&D ventures]

Therefore, this assessment proposes that the following objectives be attached to the research program:

1. To establish a national research critical mass in order
2. to alleviate the system interconnectivity problems,
3. to develop a Canadian software and electronic content capability, and
4. to accelerate information technology diffusion
5. to assist in ensuring government's effective use of communication technologies
6. while respecting the economic and regional development objectives of the government.

D. Program Structure

With about $60 million of expenditures in 1987-88, the Department's Research Program ranks fourth among the communications sector R&D performers in Canada. Bell Canada Enterprises come first with $623 million (1986); IBM Canada follows with $89 million (1985); and Mitel comes third with $52 million (1985). About 30 per cent of all industrial R&D in Canada is done in the communications sector.

It has been recently restructured into seven groups, of which five are the subject of this Assessment Report (Gourd, 1987).

1. Communications Technologies Research Branch

The Communications Technologies Research Branch brings together the research activities relevant to three major techniques used to transport information: satellites, radio and optical fibre. This combination facilitates studies of the appropriate mix of these transmission technologies to meet Canada's expanding communications requirements. Furthermore, there is much commonality in the signal processing and modulation techniques used in these varied transmission media.

The objectives of this branch are:

> To develop advanced communications technologies for moving forward radio communications into higher and higher frequencies;
>
> To allow greater mobility of communications services;
>
> To seek alternative large capacity communications media (e.g. cables and optical fibers), along with techno-economical studies to arrive at a most appropriate balance for integrating different terrestrial and satellite facilities within national communications infrastructures.

In relation to the Decision Framework, this branch is[1]:

75 per cent	Mission oriented
15 per cent	Industry support driven
10 per cent	Knowledge driven

It uses about 25 per cent of the R&D budget.

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1. These figures are extracted from the DOC S&T Plan.

2. Communications Devices and Components Research Branch

The Communications Devices and Components Research Branch concerns itself with the future electronics enabling technologies required to support the departmental initiatives in communications and information technology, which include the themes of satellite communications, military communications and radar, and spectrum effective communications. It is responsible for carrying out R&D activities on devices, circuits, and components for application to civil and military high-frequency microwave, millimetre wave and optical communications systems, radar systems and high-speed data processing.

The branch's specific objective is:

> To build a Canadian capacity for developing communications devices and components serving communications and information technology needs.

This branch is:

50 per cent	Mission oriented
30 per cent	Industry support driven
20 per cent	Knowledge driven

It uses about 14 per cent of the R&D budget.

3. Workplace Automation Research Branch

The Workplace Automation Research Branch is responsible for R&D into automated office systems, and ensuring that the research results are transferred to both the public and private sectors so that the potentials for enhanced productivity are realized. The areas of interest to the branch include the technological, socio-economic, behavioral and organizational aspects of the office.

The objective of the Workplace Automation Research Branch could be stated as:

> To participate in enhanced productivity of the private and public sectors by

conducting research on office automation and disseminating the results, and by acting as a focal point of information exchange.

This branch is:

45 per cent	Mission oriented
45 per cent	Industry support driven
10 per cent	Knowledge driven

It uses about 20 per cent of the R&D budget.

4. Broadcast Technologies Research Branch

The Broadcast Technologies Research Branch conducts R&D into technical aspects and related human and cultural issues of television, sound and data broadcasting; interactive video services; video programs and cable generation; and interconnection of information systems. Fundamental concepts relating to interconnectivity, compatibility and standardization are of particular concern to this branch.

The objective of this branch is:

To ensure the orderly evolution of systems and distribution networks consistent with Canada's national linguistic and cultural needs.

This branch is:

50 per cent	Mission oriented
40 per cent	Industry support driven
10 per cent	Knowledge driven

It uses about 33 per cent of the R&D budget.

5. Communications Applications Research Branch

The Communications Applications Research Branch strives to close the gap between users and creators of technologies through development and support field trials of advanced communications technologies. In particular, it examines communications technologies in broadcasting, tele-education, telehealth, communications for the

handicapped, mobile communications, and advanced information management systems.

The objective of this branch is:

> To conduct social impact studies and to seek new opportunities for the application of the Department's research results in order to meet national needs in the areas of natural resources and services industries, health care, culture and the delivery of (and access to) government services.

This branch is:

50 per cent	Mission oriented
50 per cent	Industry support driven
0 per cent	Knowledge driven

It uses about 8 per cent of the R&D budget.

6. Space Technology Research Branch

The Space Technology Research Branch groups the David Florida Laboratory and the Space Mechanics Directorate. The former assembles, integrates and tests space systems and subsystems. The latter is concerned with R&D relating to large space structures. Both are excluded from this evaluation. Space Subsystems Component has already been evaluated. The space activities of the Department may very well be moved to a Space Agency and their evaluation would take place in that context.

7. Research Management, Programs and Plans Directorate

The Research Management, Programs and Plans Directorate is responsible for the programs and the preparation of the research plans. It also takes care of the administrative issues related to research activities. Support activities are not subject to program evaluation.

E. Program Resources

Exhibit 1 presents the 1987-88 resource breakdown between the five branches covered by this evaluation. Also provided are the percentages that the resource allocations represent of the total of the five branches and of the sector resource total. Of the $60 million mentioned in section II.D, only $20 million are expended by the five divisions submitted to this evaluation process. Some $25 million are spent under the umbrella of industrial economic development, $6 million under Programs and Plans and $5 million on space technologies which are excluded from this evaluation.

EXHIBIT 1

RESOURCES USED - 1987-88

BRANCHES	PY's	TOTAL 000$	% ON BRAN-CHES	% ON SECTOR
Communication Tech.	126	8,221	41	14
Communication Devices	41	3,029	15	5
Communication Applicat.	13	883	4	1
Broadcasting Technolo.	49	3,869	19	6
CWARC	41	4,031	20	7

Source: ADMTT Financial Coding and Resources

III. LOGIC CHART AND EVALUATION ISSUES

This third chapter presents the logic of the program activities, outputs and effects, and the issues germane to the evaluation of the research program.

A. Program Logic Chart

Exhibit 2 presents the logic model of activities, outputs and effects of the research program.

The program contains five activities:
- research,
- development,
- information exchange,
- contract management and
- consultations.

These generate a number of outputs, including knowledge, new technologies, secondary research outputs (e.g. papers, articles, presentations), standards and advice.

The program intends to generate six impacts which correspond to the stated objectives:

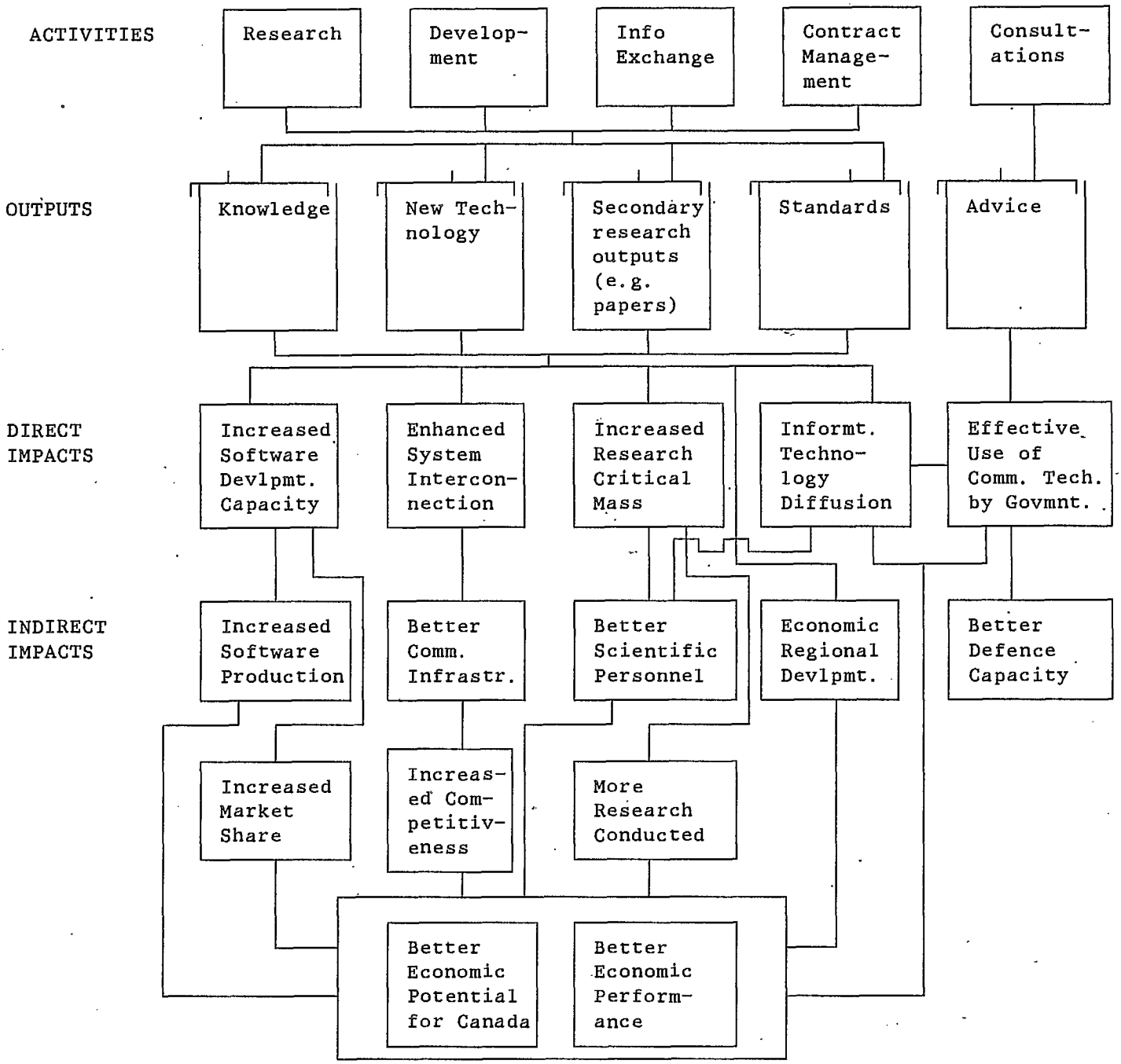
- increase the Canadian software development capacity,
- enhance system interconnection standards,
- increase the communications research critical mass,
- diffuse information technology,
- assist with government effective use of communications technologies and
- contribute to the government's economic and regional development objectives.

Other effects are also produced by the program:

- increased software production and increased software market share,
- a better communication infrastructure,
- better scientific personnel and more research conducted,
- increased competitiveness both domestically (import replacement) and internationally.
- a better defence capacity.

These effects will eventually lead to a better potential for economic growth and better economic performance.

EXHIBIT 2
RESEARCH PROGRAM LOGIC CHART



B. Evaluation Issues

Evaluation issues can be categorized into four groups (OCG, 1981). They are:

- Rationale Issues: these relate to the continued need for the program, the logical relationship that can be established between the program activities and the expected effects and the reasonableness of the current level of resources attributed to the program.

- Objectives Achievement Issues: the second set of issues deals particularly with the formal effectiveness of the program, i.e. has the program achieved what it was set out to achieve? Or at least, is it aiming in the right direction?

- Other Impacts and Effects Issues: in addition to expected results, the program may have generated other impacts, intended or not, and positive or not. Impacts and effects issues question the existence of such consequences of the program, to the extent that it is relevant to decision-making.

- Alternatives Issues: finally, an evaluation has to address the question of alternative ways of achieving the same results. Are there other, more efficient or effective, ways of obtaining the same effects?

Research programs pose special problems to program evaluation and generate special issue questions (OCG, 1986). These unique concerns are reflected in the following list of evaluation issues relating to the research program.

1. *How plausible is the link between the program objectives and its activities?*

   a. Is each of the activities currently carried out linked to one of the objectives?

   b. Is each of the current objectives associated with at least one activity?

   c. If not, are there plans to develop activities to address the objectives not yet covered?

   d. Are clients satisfied that the current activities have the potential to lead to useful outputs?

2. *How client-oriented are the Department's labs?*

   a. Does each of the research program's components have identifiable clients?[1]

   b. Are the clients satisfied with the past and current outputs of the labs?

   c. Do comparable labs have identifiable clients?

   d. Are the clients of these comparable labs equally satisfied with the labs' outputs?

3. *How well diffused is the knowledge developed within the Department's labs?*

   a. What is the incidence of:

      i. technology transfer
      ii. publication
      iii. other papers (classified)
      iv. presentation
      v. innovation patents
      vi. invention
      vii. staff turnover
      viii. companies formed by lab researchers
      ix. application spinoffs?

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1. Clients include both direct internal (DOC) clients and external clients (i.e. DND), and indirect clients found in the space and telecommunications industries.

b. How do the Department's labs fare in comparison to other labs in the same area and on similar dimensions?

4. *What is the level of quality of the program's outputs?*

   a. How do peers rate the quality of the material produced by lab researchers?

   b. How often are the lab researchers' outputs used?

   c. How does the quality of production of other labs compare to that of the Department's?

   d. How often do other lab researchers outputs get used?

5. *Is it essential for Communications Canada to own and operate communications laboratories to meet its established mission?*

   a. Is there a need for these activities, according to the current and prospective clients?

   b. Are the labs activities in any way incremental?

   c. Have other comparable countries established, financed and run similar programs, and for what purpose?

   d. What is the relationship between Bell, IBM, Mitel and the Department's labs where federal government communications research is concerned? Is it co-operative, competitive, or both?

6. *Could some of the research activity be carried out more efficiently by the private sector?* This evaluation will not tackle this issue directly. The Department is currently negotiating a Memorandum of Agreement with the Treasury Board to conduct a Most Efficient Organization analysis at CWARC under the Make or Buy Policy for the Delivery of Government Services. Results of this analysis will be echoed in the final evaluation report.

IV. EVALUATION APPROACHES AND STUDIES

The evaluation questions outlined in the previous pages could be addressed in a series of studies which are briefly presented here.

A. Evaluation Studies

Two levels of details can be recognized: the descriptive approach and the comparative approach. In the former, the Department's labs activity is presented and judged for its intrinsic value. In the latter, the Department's activity is compared to that of three other labs, one private and two public.

DESCRIPTIVE APPROACH	COMPARATIVE APPROACH
Study #1: Interviews with lab managers $5,000 5 weeks	Study #2 (#1 extended): Interviews with lab managers in comparable labs $15,000 8 weeks
This study will establish the clientele for each lab, the current diffusion output, the fit between objectives and activities, and the future plans.	Data comparable to that of study #1 would be gathered from the Department's labs and three other labs.
Issues 1a, 2a, 4a, 4b.	Issues (#1 +) 1c, 2b.

Study #3:
Survey of clients
$10,000
8 weeks

Through a survey of 50 identified clients, this study would address the questions of client satisfaction, quality of lab output, link between activities and outputs, need for the program and incrementality. It could compare results from CWARC and CRC.

Issues 1b, 3a, 4c, 5a, 5b.

Study #4 (#3 extended):
Survey of comparable labs' clients
$40,000
12 weeks

The clients of the Department and comparable labs would be questioned about the quality of the labs output and their overall satisfaction.

Issues (#3 +) 1d, 2c.

Study #5:
Quality of output study
$15,000
12 weeks

This study would entail the review of published papers and other outputs mentioned in III.B.3 by reviewers and a citation analysis.

Issues 3a, 3b.

Study #6 (#5 extended):
Comparative study of quality of output
$45,000
16 weeks

Articles and other product from each of the Department's labs and three other labs would be reviewed. A citation analysis would also be conducted for these labs.

Issues (#5 +) 2c, 2d.

Study #7:
Research Database
$45,000
16 weeks

This study would list each of the research projects undertaken by the Department in the last five years. Its objective would be to establish the availability of the research reports and conclusions.

Issue 3a.

Study #8:
Situation in other OECD countries
$20,000
16 weeks

This analysis would establish what other OECD countries are doing in the area of telecommunications research, and how their efforts are organized.

Issue 5c.

Study #9:
Integration of the results
6 weeks

This activity would be carried out internally by DPE. It would integrate the results of all of the preceding studies into a stand-alone document. It would draw evidence from the other studies to establish the rationale of the research program and its effectiveness.

EXHIBIT 3
PROPOSED TIMETABLE

EVENTS		WEEK	Date Completed
DESCRIPTIVE APPROACH (St = Start; Ed = End)	STAGED APPROACH		
			March 1
St #1, #7	St #4, #6, #7	1	
Ed #1 - St #3, #5		5	April 1
	Ed #4	12	May 20
Ed #3		13	May 27
Ed #7	Ed #6, #7	16	June 17
Ed #5, St #9		17	June 24
	St #2, #8	21	July 22
End of Research		23	Aug. 5
	Ed #2	29	Sept. 16
	Ed #8	37	Nov. 11

B. Evaluation Options

Three options are open to the evaluation of the research program:

Option 1. No Evaluation

There could be no evaluation of the program at all.

Advantages:

This option obviously requires no investment. It will not create resistances with the research personnel.

Disadvantages:

Not conducting an evaluation will not generate the knowledge about the program that may be necessary to defend the Department's position on its research labs.

Option 2. Descriptive Evaluation

In this scenario, only studies #1, #3, #5, #7 and #9 are conducted. The information generated concerns solely the Department's performance and no comparison can be drawn with other labs.

Advantages:

The results of this evaluation could be made available by August of 1988 for a relatively small cost ($75,000). It would provide a minimum amount of information on the current effectiveness of the program.

Disadvantages:

Without a comparison point, it would be difficult to assess the real performance of the research program. This evaluation option is more expensive than the first option.

Option 3. Staged Evaluation

In this case, studies #4, #6 and #7 would be conducted first and reported to management. Studies #2 and #8 could follow if deemed necessary at that time. Study #9 will end the evaluation

process. The full evaluation would cost a total of $165,000. The results would be available by December 1988. This evaluation would be based on a comparison of the Department's labs with other labs.

Advantages:

This option would provide a better assessment of the current performance of the labs. It would be more easily sustainable with central agencies. It would generate a more credible set of conclusions about the possible need for the program.

Disadvantages:

Using a comparative approach may create resistances with the researchers and program managers. The results would come later than those of Option 2, and cost more.

C. Recommendation

It is the view of DPE that conducting the studies described under Option 3 (the Staged Approach, #2, #4, #6, #7, #8 and #9, along with the integration phase) would provide ADMTT with a fairly comprehensive evaluation of the research program.

The total cost of the evaluation would be $165,000 and the final report could be delivered by December 1988 if the activities are launched in early March.

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