Government of Canada
Department of Communications

Gouvernement du Canada
Ministère des Communications

OFFICE COMMUNICATIONS SYSTEMS PROGRAM

FIELD TRIAL PARTICIPATION GUIDELINES

VOLUME 1

Department of Communications

Office Communications Systems Program

Field Trial Participation Guidelines

Volume I

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1. Introduction

This document contains guidelines for a user department which is considering undertaking an office of the future field trial as part of the Office Communications Systems (OCS) Program.

1.1 OCS Program Objectives

The overall objective of the OCS Program is to stimulate the development of a Canadian based office automation industry to provide effective office productivity improvement tools, methods and systems for the Canadian and world markets. Specific sub-objectives include:

a) to assist in increasing the productivity of the Canadian office force by providing effective office productivity tools, methods and systems, with particular emphasis on providing automation support to managers and knowledge workers;

b) to stimulate the development of a Canadian-based office automation industry which will supply these tools, methods and systems;

c) to facilitate the effective introduction and utilization of the Canadian based office automation technology into the marketplace.

1.2 The Purpose of Field Trials

The third sub-objective, that of facilitating market entry for a Canadian office automation industry, has caused the OCS Program to become actively involved in the design, planning and implementation of office automation field trials.

The OCS Program intends to cooperate with other public sector agencies to establish test-bed sites for trying out new Canadian industry systems and services. These field trials will be established to prove out, or in some cases to actually evolve, prototype concepts leading to commercial products and services. Specific purposes of the public sector field trials include:

a) the production of system designs and functional product specifications to which Canadian industry can respond with product-line systems and subsystems that can meet the needs identified;

b) experimentation with partial or full office automation systems and to test the functionality of these systems in terms of their impact on productivity, organizational adjustments, user acceptance, overall effectiveness and improved delivery of departmental services;

c) the development and application of general office systems methodology which will aid prospective users and industry in defining, planning and implementing integrated office information systems;

d) the provision of test beds in which research and analysis can be undertaken on the economic, social, behavioural aspects of office automation.

The decision to use public sector offices as test beds is based on the assumption that one government department's operations can be supported by office systems in much the same manner as any other government department, and in fact, in the same manner as a large majority of offices

in both public and private sectors. This basic assumption will be tested and evaluated as part of the field trials.

1.3 Field Trial Benefits

The suppliers of office automation equipment and services will emanate from the Canadian high technology industry. This industry is characterized by small to medium sized centers of excellence, most with a specific "niche" in the marketplace. With experience generally limited to these niches, the companies could have great difficulty in assessing either the pay-off or the risk in entering the office automation market. The OCS Program field trials are oriented towards assisting those companies by minimizing the risks involved with the development of new products for office automation. Specifically the benefits to a company participating in a field trial include the provision of the friendly environment of a government office to try out and gain experience with their prototype products; to give them the opportunity to modify these products in a real-time environment to real rather than perceived market requirements, and finally, if the product trial is successful, to have immediate access to the large marketplace of the Canadian government. The benefits to the participating user should also be emphasized:

a) from the start, the manager gains a greater understanding of the complex operational and social dynamics of his office;

b) awareness, productivity and morale of staff will increase as a result of participating in a high profile, state-of-the-art exercise;

c) if the project is successful, the office should experience a real increase in efficiency and effectiveness; the quality and accuracy of work, and the quality of life in the office will improve;

d) all participants will benefit from being involved in a program aimed at helping Canadian industry, thereby improving the Canadian economy.

At the same time, users should be aware of the potential problems associated with field trial participation:

- demands on staff time, especially during the early studies
- potential interruption of services
- the frustrations of using imperfect systems
- problems with staff fearing "automation", and retraining problems
- overall benefits may be difficult to quantify.

OCS Program management will work with user and contractor staff to minimize or eliminate these potential problems. Hopefully, the user will discover that the benefits of participation in the field trial will outweigh the inconvenience and will assume the role of a "friendly" user, willing to try, constructively criticize, and reap the benefits of the prototype automated systems. An OCS "User Group", chaired by the Treasury Board, has been established to provide a forum where the above issues can be aired and resolved.

2.0 Guidelines For Preparing For An Office Of The Future Field Trial

Phasing of a potential field trial project is necessary to give the OCS Program and the user a formal decision point at the end of each phase, before proceeding to the next. This phasing is necessary to control the commitment of large amounts of program funds. The phased approach also helps when different types of contracts and different contractors are used for different phases.

OCS field trial activities have been broken down into the three phases described below:

Phase I: Pre-Field Trial Planning and Site Preparation.

This phase includes: a feasibility decision that a potential field trial site can and should participate; a systems analysis to define the functional requirements for the system to be installed; the specification of system design concepts; the development of a detailed Field Trial Plan. This Phase may involve, depending on site size and complexity, 4 to 6 months to complete.

Phase II: Field Trial Implementation and Operation.

This phase includes preparation of the site for the field trial, training of staff, design and development activities necessary to provide the system, installation of equipment and on-line field operations. The costs and schedule for this phase will vary depending upon the scope and complexity of the project; however, it is expected that the average field trial will take from 12 - 24 months.

Phase III: Field Trial Evaluation.

This phase involves an assessment of the results of the trial. Inputs to the supplier of the system and on-site modifications may be made throughout

field trial implementation. However, during Phase III, a formal assessment of the trial will be made by an independent contractor. This report will contain details of productivity increases, quality improvements, behavioural considerations, general staff attitudes, etc. This evaluation report, with proper regard for protection of proprietary information, will be distributed by the OCS Program to both users and Canadian industry.

OCS Field Trial guidelines are published in three volumes, each corresponding to a phase of the project as described above. This volume is dedicated to presenting, in the following section, guidelines for Phase I.

2.1 Phase I Guidelines

There are several critical steps that should be undertaken by the potential participant in preparation for an office of the future field trial under the auspices of the OCS Program. These steps are:

- making an internal decision to proceed
- reaching an agreement with the OCS program
- planning for the systems analysis, system definition and field trial operations.
- selecting a Phase I contractor

A brief discussion of each of these is given below.

2.1.1 Internal Decision

The first step to be taken toward an office of the future field trial is a decision made by the management of the potential user to proceed.

The user agency considering participation should form an in-house group of senior management to consider this question.

This preliminary consideration will be later supplemented with a contract to carry out a feasibility study which will provide user management with detailed information upon which to base a decision to proceed with the remainder of the work of Phase I. Questions that should be considered during the initial internal process include:

- Is it believed that the staff of the site would be receptive to the idea of automation?

- Is it believed that the site under consideration can be readily automated? Are procedures and records well-documented? Is the filing system in a satisfactory condition? If there is uncertainty in this area, time and dollars may need to be allocated to reach a state of readiness.

- Is it clear that staff have available time to undergo a systems analysis? Is there staff available for project management assistance?

- Is the agency prepared to provide some funds? (See Appendix I for funding guidelines.)

- Is it believed that the site under consideration can tolerate some disruption of operations at this time?

Site management should be aware that these questions are preliminary, and that no positive commitment is implied until after the formal feasibility analysis. Nevertheless, the activity of searching

through these questions with appropriate staff participation, will bring a state of heightened awareness concerning the overall site preparedness and receptiveness for the trial.

2.1.2 OCS Program Agreement

Having made its initial internal decision to undertake the preparatory work for the Field Trial under the auspices of the OCS Program, user site management should now establish a formal working relationship with the OCS Program Office.

The form of this relationship is a Memorandum of Agreement signed by the Assistant Deputy Minister of Research of the Department of Communications and the equivalent officer in the user agency.

The Memorandum of Agreement (MOA) sets out, inter alia, the following:

- objectives of the trial, for both the user and the OCS Program
- responsibilities of each party
- a brief description of the field trial project
- funding arrangements (see Appendix 1)

A sample MOA is found in Appendix II of these guidelines.

Project Organization

Negotiations for the Memorandum of Agreement should be carried out by user staff who will be responsible for the ensuing activities, in order to ensure commitment and continuity of staff for the field

trial. If at all possible, the user should identify the Field Trial Project Director and the Project Manager in time for these negotiations.

Because of its broad scope and limited resources, the OCS Program must rely upon users to assist in the management of the field trial. Specifically, the user agency should expect to provide the Project Director and the Project Manager for all phases, including implementation of the field trial. Should the user not have available personnel with the required skills and experience, professional management assistance could be obtained under contract or elsewhere outside the agency for the duration of the project. The following description of roles should help the user make such a decision.

The Project Director is the senior manager from the site's organization directly concerned with the project. Because of this, the Director should be involved in the early stages of negotiation for the field trial. Although not involved in the day-to-day operations, the impact of this person on the project is considerable, since the Project Director is responsible for resolving policy questions on the project.

The Project Manager is a full time manager, responsible for the day-to-day control of the project. This person is responsible for achieving and integrating both user objectives and OCS Program objectives. The Project Manager is responsible for resource allocation, schedule maintenance, and the overall quality of the project results. He is the user point-of-contact for contractor direction, and for communications between user staff and outside agencies.

The Contractor Project Leader is responsible for the technical conduct of all work and the direction of his team. He is responsible for achieving contract objectives and schedules and for keeping the Project Manager fully informed of his progress.

The Working Group is a coordinating and review body; it is the formal link among the user, the OCS Program, and the contractor. Its members should include the following:

The Project Director (Ex Officio)
The Project Manager, Chairman
Contractors Project Leader
At least one other senior user manager.
OCS Program Representative

The Working Group will hold periodic reviews of the project; the period between the reviews is dependent upon the phase of the project and the discretion of of the Chairman. The Working Group should review the progress of the project at or near the completion of each phase.

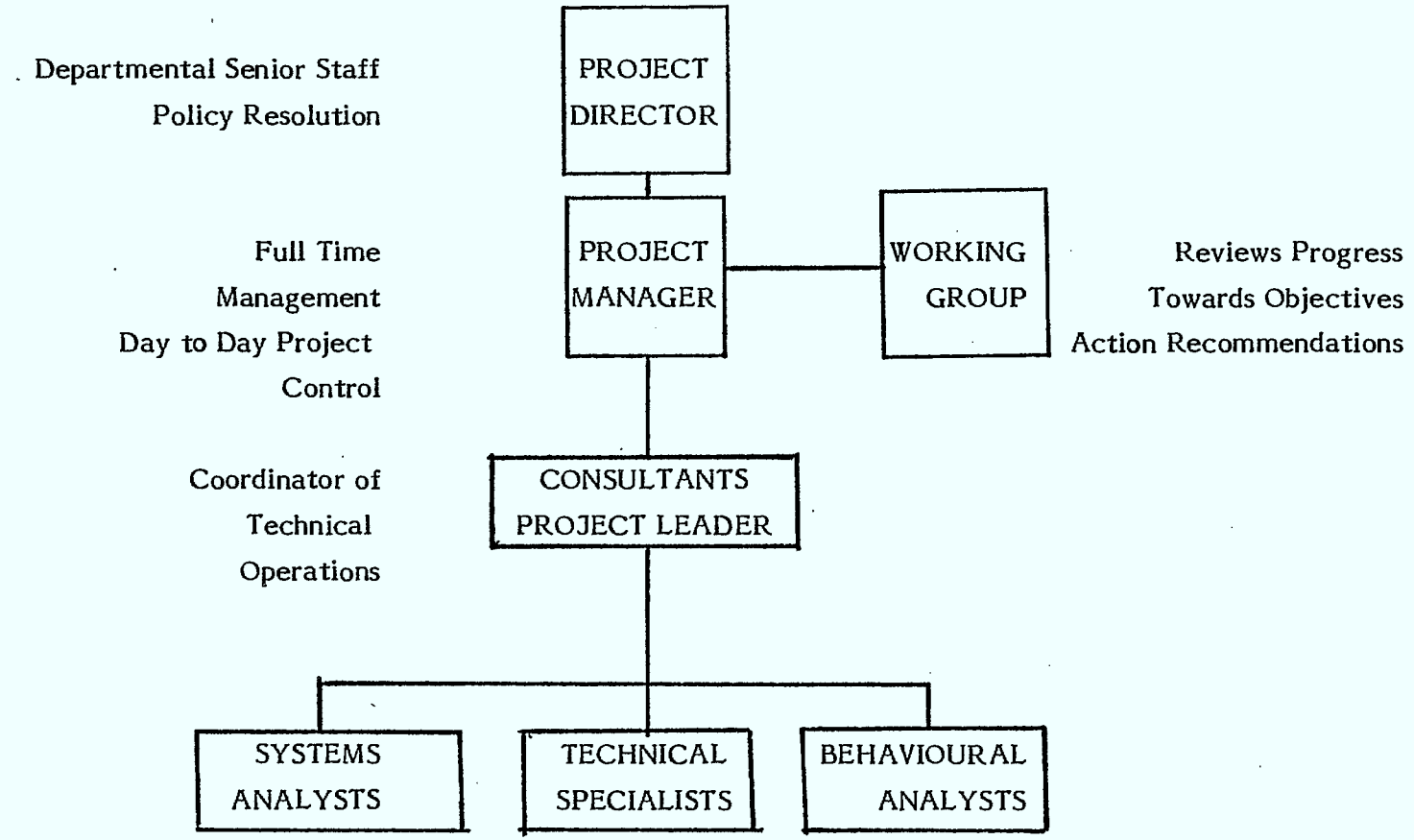
Figure 2-1 presents a suggested organization which can be used, (with level of staffing appropriate both to the task or phase being addressed and the scope of operation of the site) throughout the project, with little modification.

2.1.3 Planning the Work

Prior to selecting a contractor, the potential user should understand the extent of work the contractor will perform. Appendix III is a

Fig. 2-1

Suggested Organization Steps 1-4



more detailed statement of work which can be used to solicit the contractor's services; a brief description of this work is provided below. A typical schedule of Tasks I-IV is shown in Appendix IV.

Task I Site Feasibility

This study is undertaken to verify the preliminary "go" decision discussed in Section 2.1.1 - "Internal Decision". The contractor in cooperation with site staff should become familiar with the site operations to answer questions such as:

- Is improvement needed? Where? How?
- What are the areas of potential pay-off?
- Is the area of pay-off likely to produce a broad product line or will it lead to a narrow customized product?
- Can the operation be disrupted? Will it be possible to parallel operations?
- Are the resources available? Where? How much? Who?
- Is the staff receptive to a field trial?

A report should be provided to the working group for a final decision to proceed with the remainder of Phase I work. This report is a critical element in the decision to proceed. The areas of potential pay-off must be such that the total will likely result in a product which has a high potential market for Canadian industry. This task should take 2 - 3 calendar weeks.

Task II Systems Analysis To Define Functional Requirements

With a positive decision to proceed, the contractor then carries out a detailed systems analysis. The results of this analysis will include flow diagrams and quantitative data on the site's operations,

measuring points to obtain data, functional specifications for the automation system, and perceived benefits of the system, including Canadian industrial development benefits.

The report will be submitted to the Working Group, and will be used as a basis for proceeding with Task III. Task II should consume 2 calendar months on the average.

Task III Automation System Conceptual Design

The objective of this next task is to define alternative system design concepts and to select the optimum, combining user requirements defined in Task II with overall OCS Program objectives. In doing this the contractor will carry out cost/benefits analyses and perform trade-offs. Specifically, a report of the results of this task would include:

- A system description to the subsystem level
- Cost/benefit Analyses and accompanying tradeoff
- Procurement Plan (including identification of vendors)
- Product Development considerations

Task III should consume 2 calendar months on the average.

Task IV Development of a Field Trial Plan

The final step to be completed before the decision to implement the field trial is the development of a detailed plan. This plan should contain:

- a description of specific field trial objectives
- a description of present site's operations

- proposed scenario for improved site, including a system description and identification of all staff participants
- system development strategy (e.g. development requirements, modification of existing products, etc.)
- predicted benefits, and criteria for evaluation
- intervention strategies, training plans, assessment plans
- a project management plan
- a cost estimate and funding proposal.

This plan will be presented to the Working Group for review and approval. If approved, it will constitute a de facto agreement between the user and OCS Program to proceed with the implementation of a field trial. The preparation of this plan should take two calendar months.

2.1.4 Selection of a Contractor

The use of OCS Program funds is conditional upon the user department retaining a mutually agreed upon external organization, to carry out the work.

Two different strategies are acceptable for selecting a contractor.

(a) The user department can select an equipment or service supplier who is able to carry out both Phase I and II. In this case it must be ascertained that the contractor either has or can assemble a multi-disciplinary Phase I Team which includes Behavioural Scientists and office procedures specialists.

(b) The user department can select an independent consultant to carry out Phase I, (Tasks I-IV), with appropriate break points between the Tasks. Phase II, in this case, must be carried out under another contractor, e.g. an equipment or service supplier who is able to commercialize the product developed.

In either case, the contractor must understand the difference between specialists in the analysis of office procedures as opposed to data processing systems.

Whichever strategy for Phases I and II is employed, the evaluation of the field trial (Phase III) must be carried out by an independent consultant different from the contractor(s) used in Phases I and II.

The OCS Program has compiled a list of potential consultants which can be used as a basis for soliciting bids for Phases I and III. This list is attached as Appendix V. The OCS Program makes no representation for the organizations listed.

2.2 Reporting and Control

The OCS Program has a specific reporting and control system which it requires the participating agency to implement. It is a multi-leveled reporting system, with the user Project Manager submitting Project Level (Level 2) reports to the OCS Program on a monthly basis. These reports can be prepared for him by the contractor's Project Leader from Level 3 reports (Task Level) prepared by his managers. The format for this reporting system is presented in Appendix VI.

Level I is a Program Managers report on the Field Trial Projects
Level 2 is a Project Managers report on the Field Trial
Level 3 is the Contractor Project Leader's report on tasks.

The format for each level is identical, with information becoming more summarized as the information flows upward. The OCS Program will assist a participating agency in implementing this system if requested.

APPENDIX I

Funding Arrangements

The chart below presents suggested guidelines for arriving at a funding agreement between DOC and the user department. It is expected that the user department will act as the contract authority effected by a transfer of funds through an Interdepartmental Settlement Advice.

	DOC	USER DEPARTMENT		TYPICAL TIME DURATION
		MANPOWER	CAPITAL	
Phase I	- All costs of external contractor	- 1 Project Manager - Interview time of staff	- 0 -	On the average 6 months.
Phase II	- Cost of pilot system development - Share of cost of pilot system rental or lease for one year - Cost of training and external expenditures	- 1 Project Manager - Staff as defined in Field Trial Plan	Negotiated share of pilot system rental or lease	12-24 months
Phase III	- All costs of external contractor	- 1 Project Manager	- 0 -	1-3 months
Post Field Trial Operations	- 0 -	As necessary	All required	On-going

APPENDIX II

Memorandum of Agreement Format

Memorandum of Agreement
Between

The Department of Communications
OCS Program

And

_____

_____

_____

1. Objective of the MOA

The objective of this document is to establish an agreement between the _____ and the Department of Communications OCS Program in regard to their joint Office Automation Field Trial Project.

2. Objectives of the Joint Project

The Department of Communications is desirous of establishing field trials for prototype office automation systems in accordance with its OCS Program objectives. Recognizing those objectives, _____ _____ desires to provide a test site for these field trials to achieve the benefits resulting from office automation.

Specific objectives are:

- a description of the specific benefits expected by the host Agency

- a description of the specific benefits expected by the OCS Program.

3. Project Description

This section to contain:

- A description of the organizational unit(s) and locations involved
- An overview of the office problems to be addressed, and of the system to be installed
- An overview of the expected schedule giving major milestones
- An indication of the product(s) or services expected to evolve
- A list of contractors to be used
- Specific Guidelines Re:
  - Contractor Selection
  - Report Dissemination
  - Site Constraints

4. Roles and Responsibilities

Management Of The Project

_____ agrees that it will be responsible for the overall management of the joint project, and

will provide a project manager for the project. Acting for that department, he will be responsible to both parties for meeting project objectives, direction of activities, control of funds, and preparation of project reports (Level 3/2).

_____ agrees to establish a project Working Group with the responsibility of reviewing periodically, project progress, including the quality of the work performed. The Working Group will publish minutes of all meetings and keep a record of all action items generated, including the status.

The Project Director is designated as

_____.

The Project Manager is designated as

_____.

The OCS Program will provide one member to the Project Working Group, to be present at each meeting, and will provide consultation and assistance as requested. The Program Office will review all Level 2 Project reports and will make comments on an exception basis.

The DOC representative to the Project Working Group is

_____.

Funding of the Project

This Section to contain:

_____ and the Department of Communications OCS Program agree to share the costs of the Project per the description given below:

ITEM DOC XXX

Task 1 Costs
Task 2 Costs
Task 3 Costs
Task 4 Costs
Other Items _____

Total Department of Communications contribution to be transferred to the control of _____ per the following schedule:

$_____ by _____
$_____ by _____
etc.

Cancellation of the Project

Both parties will review project results upon completion of each Task (I, II, III, and IV) and will agree to proceed, or by mutual agreement, to cancel further work.

With cause, (unable to meet project objectives, contractor unable to perform, user unable to accomplish required work, etc.), either party may cancel the project at the completion of any task or phase, and with proper notification.

If cancellation should be required, both parties will undertake to restore user operations to an acceptable norm. Also, in this case, the Project Manager will prepare a report to the OCS Program Office summarizing the results of the studies to that point, and detailing the reasons for cancellation.

APPENDIX III

Statements of Work For Tasks I-IV

TASK I Feasibility of Site

The objective of this first task is to determine the potential of the proposed site for automation, and to determine whether a field trial should be undertaken within the OCS Program.

To accomplish this objective the contractor should become familiar with site operations. Beginning with senior management, he should obtain a clear understanding of the mission of the office in question in terms of end products or services. Specific management objectives leading to satisfaction of the mission should then be derived and confirmed. Once the mission and specific objectives are understood the contractor should proceed to analyze the operations used to meet those objectives to determine potential for automation. As a guide the contractor should consider the following questions:

Improvement needed? Where? How?

The contractor should be looking for conditions such as: excessive document throughput time; heavy backlogs of work; difficulty in scheduling, or organizing appointments; heavy filing load and rarely used or difficult to use files; over-detailed record keeping; excessive phone use due to busy signals, party not in, etc.; heavy error rates or rejections, staff frustration; excessive personnel absence on travel. These are usually signals that automation could provide significant improvement in the operation of the office. The contractor will address managerial and professional tasks as well as support staff.

Present state of operations

The contractor and site management must consider if this is a good time to participate in such a program: is the operation such that it can stand some disruption in certain areas? can the operation be

paralleled to minimize disruption? most importantly, is the office operation in such a condition that automation is possible now, or in the immediate future, without a good deal of preparatory work on the existing system?

Resources Available?

The contractor and site management must consider what resources the site is able to commit. In addition to specific assignments, virtually all site personnel will be involved in interviews and analyses. These resource considerations should apply to actual implementation of the trial itself, as well as the initial 4 tasks. This task should indicate what resources site management will be required to commit for a period of up to 24 months.

Potential Pay-Off?

Are the potential pay-offs worth the effort? The contractor will identify what potential pay-offs are expected; for example, effectiveness, efficiency, quality of work, staff-morale improvements, and so on. Finally, the contractor should establish the qualitative value of the benefits, and if possible, to estimate the quantitative values. He should also establish the relevance of the site in terms of potential for meeting OCS Program objectives.

The contractor will prepare a report documenting the results of this task.

TASK II Systems Analysis of Site

Once the feasibility of the site has been established and a decision has been made to proceed, a detailed modeling and analysis of the sites operations will be carried out to establish quantitative data on the office's operations. The results of this analysis must be sufficient to design an automated system to solve specific site problems.

The contractor will study the site operations in detail and develop a model. The model must then be exercised against actual operations for verification or modification.

As an example of the depth of analysis required, a technique excerpted from a Booze-Allen presentation, is presented below. This is one of many valid techniques; there are others that may be more applicable to a particular sites operations.

Example

A "key product" is defined as an identifiable output produced by the staff of an organization. The key product can be characterized as a piece of finished work that was contributed to by numerous individuals for significant amounts of time and cost -- e.g. a Treasury Board or Cabinet submission, a policy study, experimenter's report.

The process of preparation of a key product can be described as encompassing four distinct phases; input, production, output and distribution. Each phase contains two catagories of effort: tasks (professional) and functions (clerical) necessary to produce the key product. Each key product should be analysed for these phases and categories.

Typical Tasks	Typical Functions
Planning	Typing
Consultation	Transcribing
Data Correlation	Filing
Etc.	Duplicating
	Etc.

For each item in each catagory, for each key product, quantitative data should be established... e.g. quantity, level of effort and cost data. A set of key product "flow" diagrams along with the quantitative data used then form a verifiable model of the site's office operations.

After verification of the model through actual measurement, the contractor is expected to consider the model for "improvement opportunities". These opportunities are classified into "Organizational", "Procedural" or "Technological" improvements. A typical organizational opportunity occurs when one unit performs an activity that could be better accomplished by a different unit. A procedural opportunity is characterized by the inefficient application of professional or clerical staff. A Technological opportunity can occur when there is an under-utilization of existing equipment or there is an unfulfilled need for automated support.

In this illustration the contractor would then proceed, after identification of improvement opportunities, to select those of greatest potential pay-off. In addition, the contractor must consider which potential improvements most meet the objectives of the OCS Program. In order to accomplish this, the contractor would distinguish between "front office" and "back office" operations. Front office operations are those unique to that office, (e.g. processing licensing applications, analysing electronic data, etc.) as opposed to back office operations, such as receiving incoming telecommunications, logging, filing, and all "Tasks" such as planning, research, consultation, etc. all of which are common to most offices. While many of the front office operations would benefit from automation, it seems clear that the greatest potential market for office automation is with these common back office operations.

From the OCS Program point of view the field trial must address professional "tasks" along with clerical "functions".

The final step in this illustration of an analysis technique would be the development of functional specifications for an automation system which will provide a best-fit to both user pay-off and OCS Program objectives. Functional specifications would include such descriptions as; volumes, modes of operation, transmission speeds, interface functions, resolution, document sizes, security, etc.

A report documenting the results and specifications, methodologies used, and any recommendations will be prepared by the contractor and submitted to both site management and the OCS Program prior to proceeding with Task III.

TASK III Automation System Definition

Up to this point the contractor, working with the field trial site staff, has completed the following work and reviewed the results:

- Task I: Feasibility. The site can and should be automated, its management is committed, resources are available and a "go" has been received from the site's management.

- Task II: Systems Analysis. The site's operations are thoroughly understood, a model has been developed, verified, improvement opportunities identified and evaluated, and functional specifications for the system to be developed have been completed.

The objective of this next Task is to define alternative office automation design concepts and to select the optimum. For each concept, hardware configuration, software requirements and staffing plans are to be developed. A tradeoff analysis will include an assessment of each alternative for meeting the specified functional requirements and, as well, for impact on the site operations.

Some criteria for evaluation of alternatives might be:

- Improvement in site operation
- Potential as a product for Canadian industry
- Cost and time to develop
- Site implementation ease and/or difficulties
- Availability, R&D requirements
- Etc.

Whatever criteria are established, the value of the benefits of the system should be established. Once a system concept has been chosen, the cost/benefits analysis for this tradeoff should be documented.

For example, for the technique previously illustrated:

In terms of the "key product",

- The time and cost to prepare a product should be less than that calculated for the manual system, with benefits of cost reduction, cost avoidance, and intangibles (quality of life, elimination of frustration spots, etc.).

or

- The time and cost to prepare a product is equal to that calculated for the manual system but with a correspondingly higher cost avoidance potential and intangible benefits.

or

- The time and cost to prepare a product is greater than that calculated for the manual system but there are intangible benefits which far outweigh these costs.

The results of this task include the following:

- A system description defining functions to the subsystem level
- Cost/benefits analyses for each alternative identifying benefits, criteria and methodologies for measurement; the tradeoff analysis leading to the selected option.
- A procurement plan. (vendors, technology development plan, estimated costs, etc.).
- A definition of the system as a product: general application, flexibility, interchangeability, portability, etc.).

TASK IV Development of a Field Trial Plan

The final task before the implementation of the field trial is the development of a detailed work plan. To ensure an orderly field trial for all concerned, the plan should contain the following:

- A detailed description of the objectives of the trial.

- A description of the operations of the site, (e.g. by description of "key product" flows).

- A description of the automation system and how it is to be applied to site operations. A list of subsystems, both software and hardware, including functional schematics.

- A list of expected improvements, benefits, including criteria for measuring success, and a methodology for evaluation of those criteria.

- Development Strategy description; what is to be acquired (available off-the-shelf) modified, developed... by whom, etc.

- A description of the intervention strategies to be employed, training plans, and criteria for assessing the effectiveness of the strategy. Description of the instruments or methodologies to be used to test user response and acceptance of the technology including error rates, response times, attitudinal change, effectiveness of training.

- A work plan, giving work breakdown structure, work flow, work schedule. Identification of major milestones. A presentation of the conversion strategy, including plans to minimize disruption of operations.

- A refined cost estimate, identifying non-recurring, (hardware, software development, analysis, initial training, site modifi-

cation...) and recurring costs, such as maintenance, supplies, manpower, on-going training...

- A management plan describing the project management organization and a description of the roles and responsibilities of each organizational unit.

APPENDIX IV

Typical Schedule

Typical Schedule

Figure IV-1 is a typical schedule for tasks 1 through 4, and provides some indication of the flow of the work to be accomplished and expected duration of tasks.

The durations are representative of an organization consisting of a staff of 20 to 30 people, with a three to one ratio of professional to support staff.

1. The agency considering participation in the OCS Program should form an in-house working group of senior managers. (This group will form the foundation of the Project Working Group if a decision to proceed is made.) The initial objective of this group is to decide, after consideration of the contractor's first report, that it wishes to proceed.

2. The Project Manager is selected.

3. An initial understanding is worked out with the OCS Program. This will form the basis for a formal memorandum of agreement (MOA) between the OCS Program and the participating agency. Appendix II contains a sample format for this document. This initial understanding should be possible within one or two days. The OCS Program will document this first agreement.

4. The Project Manager will prepare either a formal Request For Proposal (RFP) or an informal briefing to potential contractors to perform Tasks I-IV as described previously. (Section 2 of this document can be used as the basis for the RFP or briefing.) This effort should take approximately 1 week. The OCS Program will assist as requested.

5. Contractor proposals in response to RFP. One month is estimated as adequate for contractors to respond.

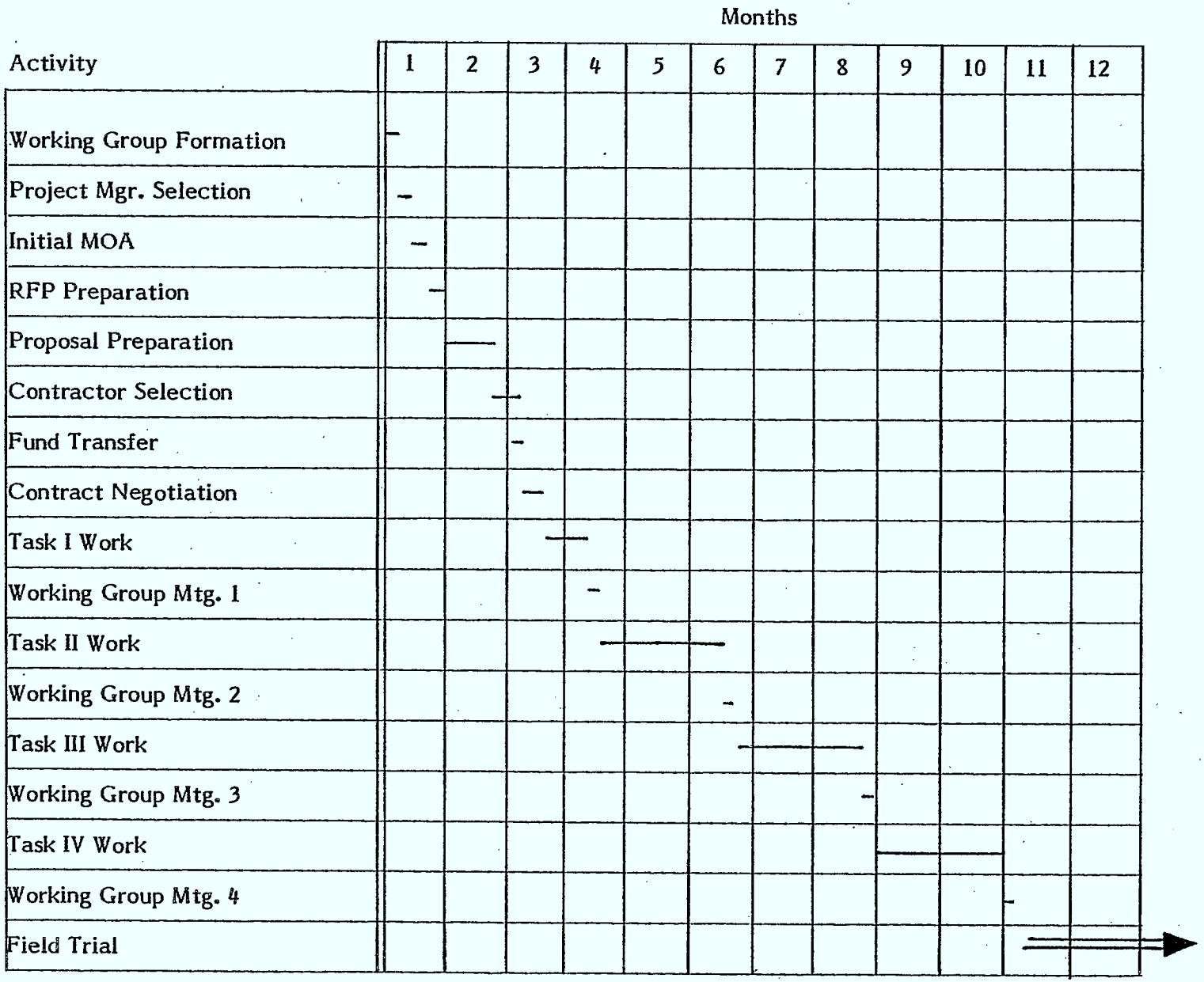


Figure IV-1 Typical Phase I Schedule

6. With the OCS Programs assistance, evaluation and selection of a contractor should be accomplished within 10 working days after response.

7. The OCS Program will transfer the funds to the participating agency, as agreed by the initial understanding.

8. The contract with the selected bidder is negotiated; Task I begins.

9. Task I should be completed within 2-3 weeks from start, depending upon the scope of the site's operations.

10. The Project Working Group meets to review the contractor's Task I report. A go-no go decision should be reached. Upon a positive decision, a final MOA should be signed.

11. Task II is completed. A duration of 2 months is estimated for an office of 20-30 people.

12. The Project Working Group meets to review and approve the Task II report containing the functional requirements for automation. Five working days is shown for this review.

13. Task III with an estimated duration of two months, is completed.

14. The Project Working Group meets to review and approve the contractor's Task III results: the selected system concept and functional specifications. Two weeks can be estimated for this process.

15. Task IV, with an estimated duration of 2 months, is completed.

16. Project Working Group review and approval of the Field Trial plan developed during Task IV. Two to three days is estimated for this review.

17. Field Trial Implementation: the trial itself will last from 12-24 months, including the following activities:

Prime Contractor Selection
Detailed Design
Acquisition and installation
Trial operations
Evaluation and Final Report

APPENDIX V

List of Potential Consultants

OFFICE COMMUNICATIONS SYSTEM PROGRAM

List of Canadian Sources

for Office Analysts

I N T R O D U C T I O N

The "Office Communications System Program" is involved in planning for the "Automated Office" and is interested in the development of a Canadian presence for "integration of the electronic office" technology.

One of the needs perceived was to identify areas of expertize which could be called upon to provide help to people embarked on the path to office automation. With the cooperation of DSS, an enquiry to potential professional organizations in Canada was sent out requesting firms who possessed capabilities of performing consulting activities in the field of office systems, to provide us with information regarding their areas of expertize.

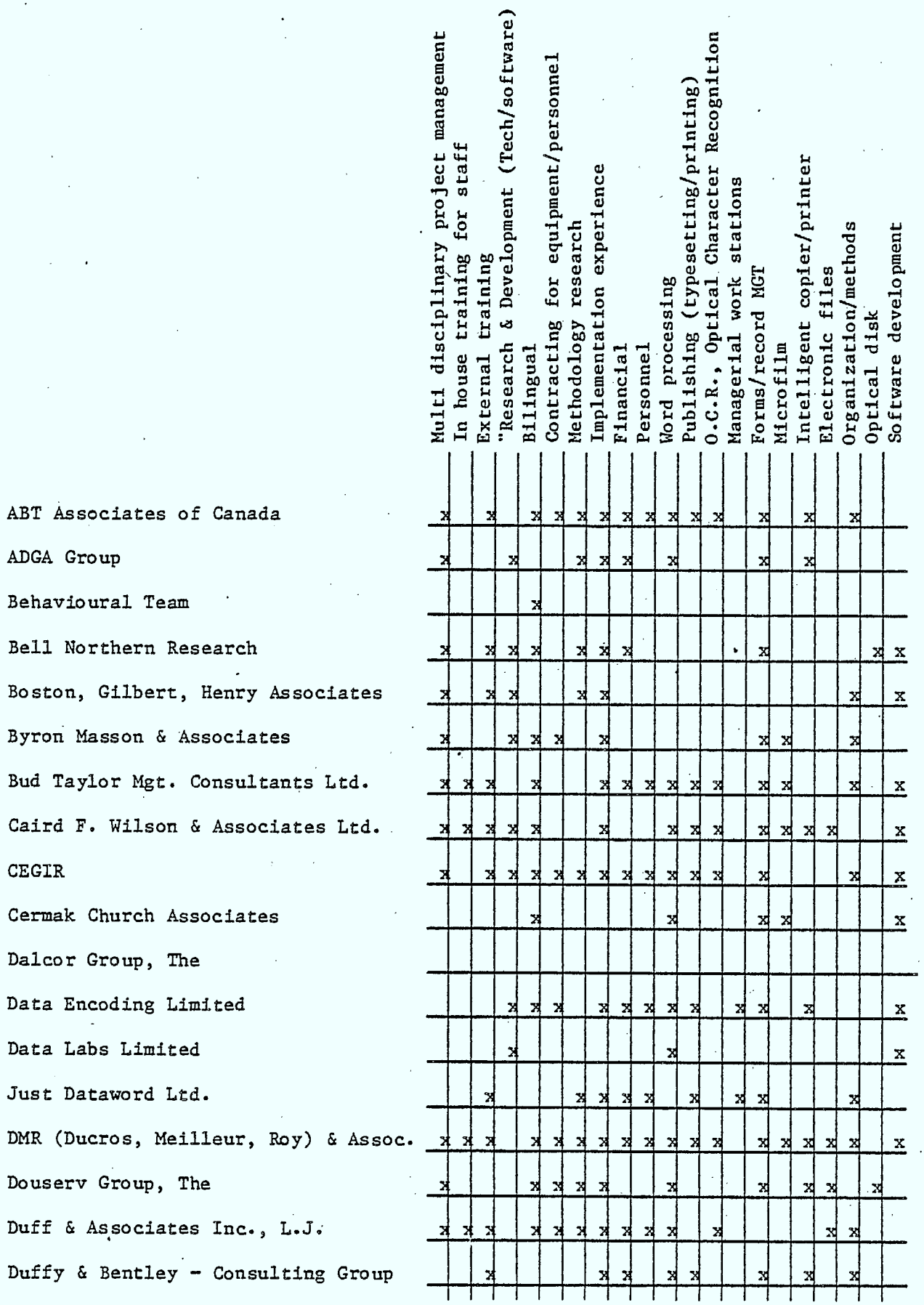
This list is a result of the compilation of returns from firms who participated. While every effort has been made to insure its accuracy, the contents reflect the responses made by the individuals and neither DSS nor DOC accept responsibility for the competency claimed nor errors or ommissions which have occured during preparation of the document. We recognize that some firms might not have been contacted, and those who were may not have supplied all the information they could have, given the time constraints. We hope that subsequent lists will reflect any discrepancy as they become known.

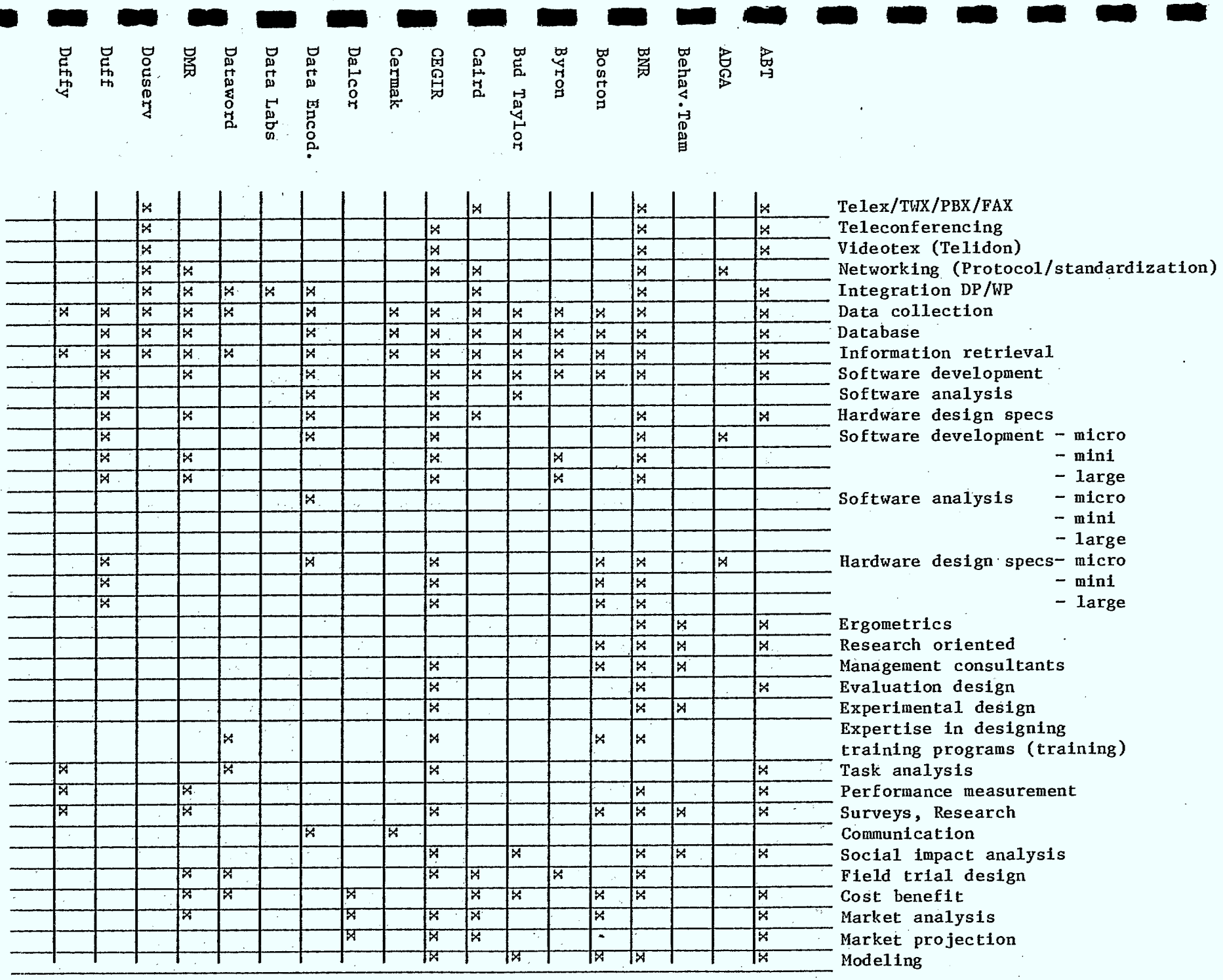
This list may be used as a partial source listing tool by persons interested in contacting firms on this list for the purpose of soliciting proposals to do studies in this field.

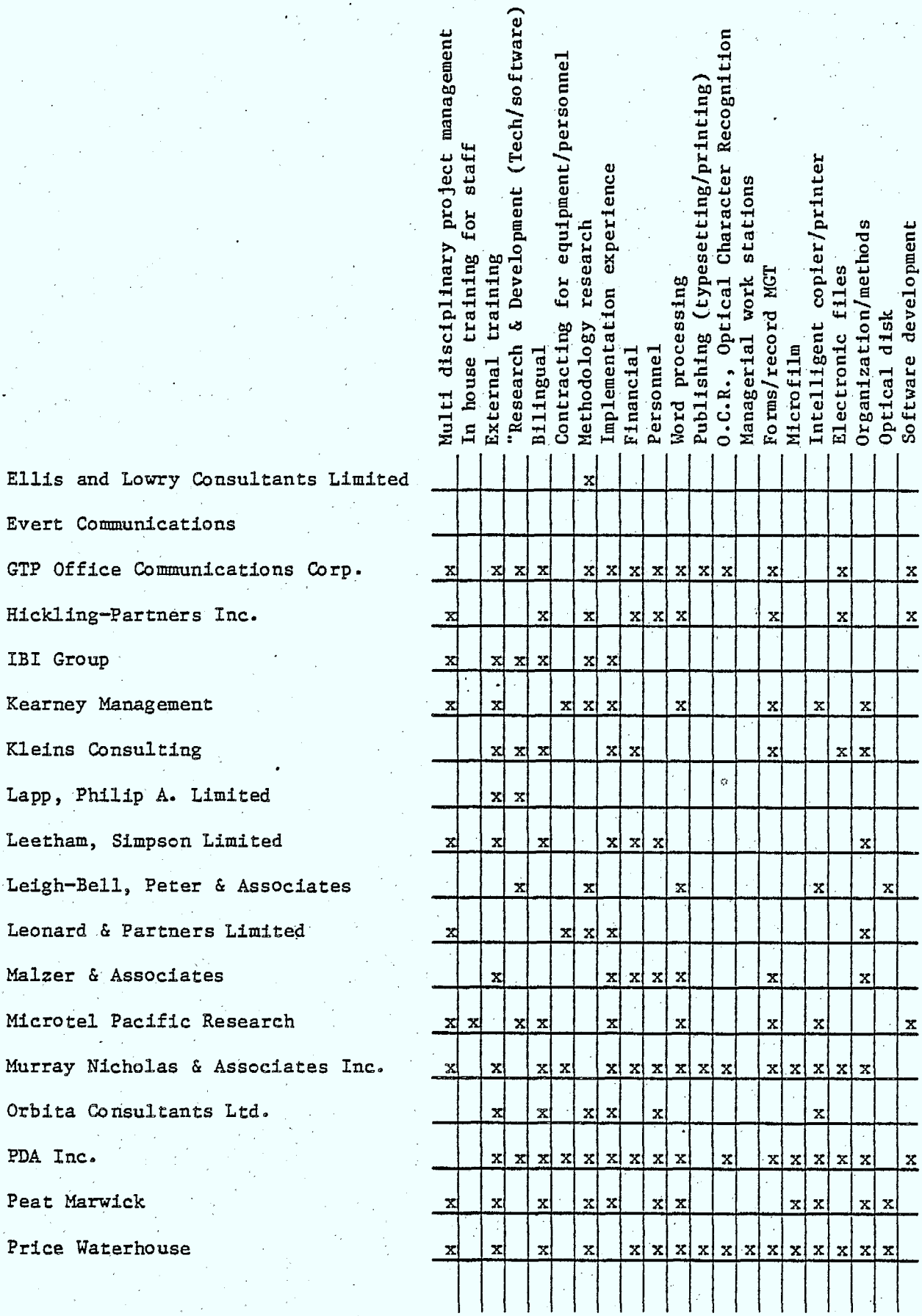
Any contract entered into by such persons will be as a result of negotiations between themselves and the consultant(s) chosen.

Further information may be had by contacting the program office at 996-0727, or writing to:

Office Communication Systems Program
Department of Communications
300 Slater Street
OTTAWA, Ontario
K1A 0C8


Multi disciplinary project management
In house training for staff
External training
"Research & Development (Tech/software)
Bilingual
Contracting for equipment/personnel
Methodology research
Implementation experience
Financial
Personnel
Word processing
Publishing (typesetting/printing)
O.C.R., Optical Character Recognition
Managerial work stations
Forms/record MGT
Microfilm
Intelligent copier/printer
Electronic files
Organization/methods
Optical disk
Software development
ABT Associates of Canada
ADGA Group
Behavioural Team
Bell Northern Research
Boston, Gilbert, Henry Associates
Byron Masson & Associates
Bud Taylor Mgt. Consultants Ltd.
Caird F. Wilson & Associates Ltd.
CEGIR
Cermak Church Associates
Dalcor Group, The
Data Encoding Limited
Data Labs Limited
Just Dataword Ltd.
DMR (Ducros, Meilleur, Roy) & Assoc.
Douserv Group, The
Duff & Associates Inc., L.J.
Duffy & Bentley - Consulting Group


ABT
ADGA
Behav.Team
BNR
Boston
Byron
Bud Taylor
Caird
CEGIR
Cermak
Dalcor
Data Encod.
Data Labs
Dataword
DMR
Douserv
Duff
Duffy
Telex/TWX/PBX/FAX
Teleconferencing
Videotex (Telidon)
Networking (Protocol/standardization)
Integration DP/WP
Data collection
Database
Information retrieval
Software development
Software analysis
Hardware design specs
Software development - micro
- mini
- large
Software analysis - micro
- mini
- large
Hardware design specs- micro
- mini
- large
Ergometrics
Research oriented
Management consultants
Evaluation design
Experimental design
Expertise in designing training programs (training)
Task analysis
Performance measurement
Surveys, Research
Communication
Social impact analysis
Field trial design
Cost benefit
Market analysis
Market projection
Modeling


Multi disciplinary project management
In house training for staff
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"Research & Development (Tech/software)
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Word processing
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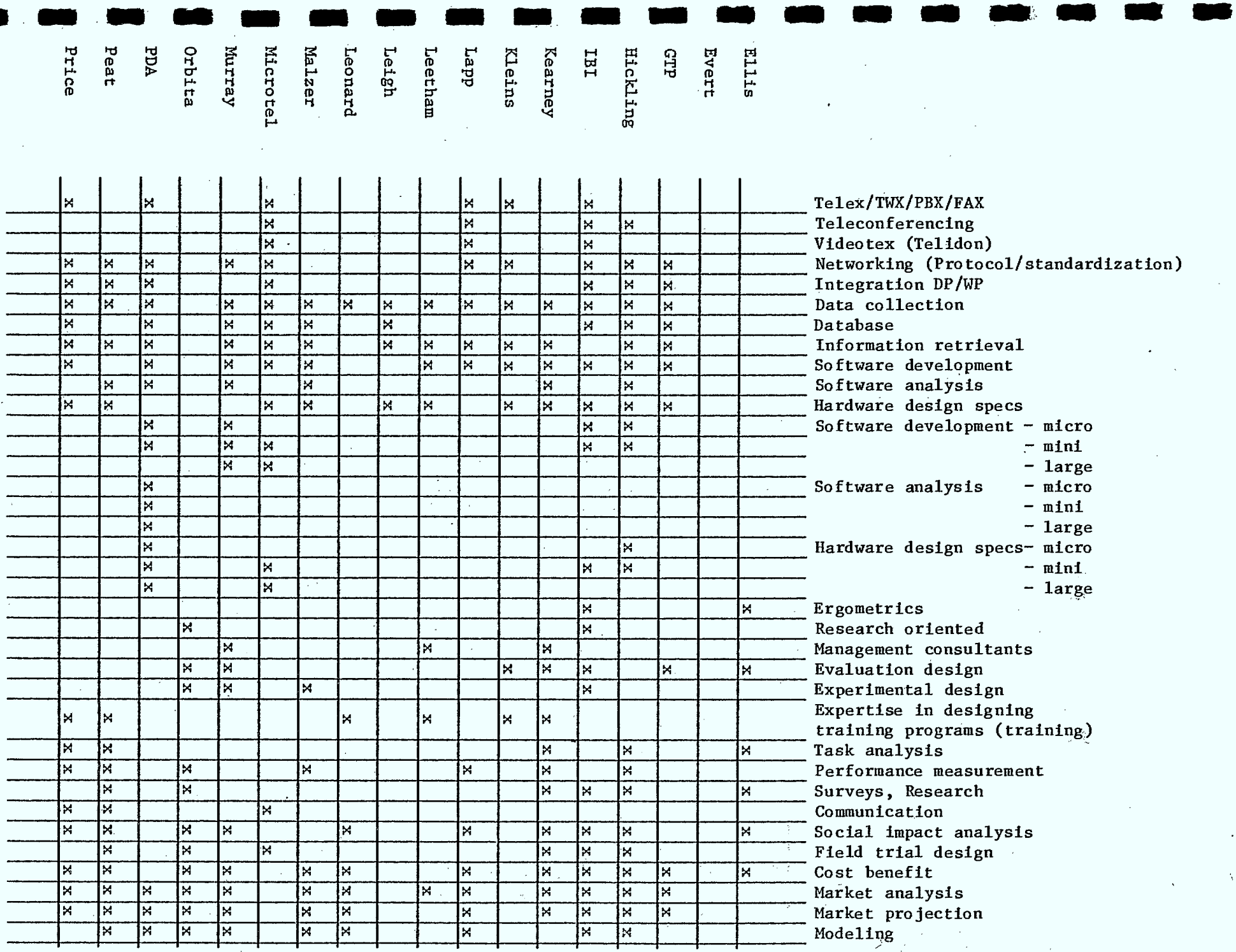
O.C.R., Optical Character Recognition
Managerial work stations
Forms/record MGT
Microfilm
Intelligent copier/printer
Electronic files
Organization/methods
Optical disk
Software development
Ellis and Lowry Consultants Limited
Evert Communications
GTP Office Communications Corp.
Hickling-Partners Inc.
IBI Group
Kearney Management
Kleins Consulting
Lapp, Philip A. Limited
Leetham, Simpson Limited
Leigh-Bell, Peter & Associates
Leonard & Partners Limited
Malzer & Associates
Microtel Pacific Research
Murray Nicholas & Associates Inc.
Orbita Consultants Ltd.
PDA Inc.
Peat Marwick
Price Waterhouse


Price
Peat
PDA
Orbita
Murray
Microtel
Malzer
Leonard
Leigh
Leetham
Lapp
Kleins
Kearney
IBI
Hickling
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Telex/TWX/PBX/FAX
Teleconferencing
Videotex (Telidon)
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Software analysis
Hardware design specs
Software development - micro
- mini
- large
Software analysis - micro
- mini
- large
Hardware design specs - micro
- mini
- large
Ergometrics
Research oriented
Management consultants
Evaluation design
Experimental design
Expertise in designing training programs (training)
Task analysis
Performance measurement
Surveys, Research
Communication
Social impact analysis
Field trial design
Cost benefit
Market analysis
Market projection
Modeling

	Multi disciplinary project management	In house training for staff	External training	"Research & Development (Tech/software)	Bilingual	Contracting for equipment/personnel	Methodology research	Implementation experience	Financial	Personnel	Word processing	Publishing (typesetting/printing)	O.C.R., Optical Character Recognition	Managerial work stations	Forms/record MGT	Microfilm	Intelligent copier/printer	Electronic files	Organization/methods	Optical disk	Software development
Quasar	x	x	x	x	x	x	x	x	x	x	x					x			x		
Raymond, Chabot, Martin, Paré & Ass.	x	x	x	x	x	x	x	x	x	x	x		x	x		x		x			x
Shick Information Systems	x	x	x		x			x			x	x			x	x		x			
Socioscope Inc.			x		x		x									x				x	
Systemhouse	x	x	x	x	x	x	x	x	x		x		x	x	x	x	x	x	x		x
Telenetwork Services			x	x	x	x		x			x	x			x						
Telsey's Consultants Group Inc.	x		x		x	x			x	x	x	x		x	x	x	x				
Touche Ross	x		x		x	x	x	x	x	x	x	x			x	x	x		x		
Transcolog Limited			x			x		x			x										
Turnbull, J.A.	x		x	x			x	x	x		x				x		x				
Turnbull Stuart Demos & Associates			x	x		x	x	x	x	x	x	x			x						x
Woods Gordon	x		x					x	x	x	x	x	x		x	x	x		x		x

	Woods Gordon	Turnbull Stu.	Turnbull J.A.	Transcolog	Touche	Telsey's	Telenetwork	Systemhouse	Socioscope	Shick	Raymond	Quasar
Telex/TWX/PBX/FAX	x	x			x	x	x					
Teleconferencing						x	x					
Videotex (Telidon)						x		x	x			
Networking (Protocol/standardization)	x	x	x		x	x	x	x		x		x
Integration DP/WP					x			x		x		x
Data collection	x	x	x		x	x	x	x		x	x	x
Database	x	x	x		x	x		x		x	x	x
Information retrieval	x	x	x		x	x	x	x		x	x	x
Software development	x	x	x		x	x		x		x	x	x
Software analysis	x			x						x	x	x
Hardware design specs	x	x	x	x	x	x	x	x			x	x
Software development - micro				x				x				
- mini		x			x	x		x			x	x
- large		x			x	x		x			x	x
Software analysis - micro												
- mini											x	
- large												
Hardware design specs - micro						x		x				x
- mini		x			x	x		x			x	x
- large		x			x						x	x
Ergometrics					x							
Research oriented												
Management consultants									x			
Evaluation design								x			x	x
Experimental design		x			x			x				x
Expertise in designing training programs (training)					x							x
Task analysis	x	x			x			x				x
Performance measurement	x	x			x			x			x	x
Surveys, Research	x		x		x	x	x	x	x	x	x	
Communication			x								x	
Social impact analysis	x				x	x	x		x		x	x
Field trial design	x			x	x	x						x
Cost benefit	x	x		x	x	x		x			x	x
Market analysis	x	x			x	x	x	x	x		x	x
Market projection	x	x			x	x	x	x	x		x	x
Modeling			x		x			x	x		x	x

"OFFICE OF THE FUTURE" PROGRAM

"Office Communications Systems Project"

MAJOR PROJECTS

ABT Associates:

- The use of telecommunications as a complement to or substitute for transportation. (Ontario Ministry of Transportation & Communications)
- Pre/post designs in order to assess impact of major computer systems.

Behavioural Team:

- All experience is that of personnel
- Motivational research, attitude studies, behavioural studies
- Province of Ontario; study into the effectiveness of highway privacy screens in cities.

Bell-Northern Research Ltd.

- Internal R & D program (pré-post test experimental design)
- Trial Office Communications System for Bell Canada, implement experimental pilot office system
- Also did similar study for major Canadian manufacturer
- Consulting and Education.

Boston, Gilbert, Henry Associates Ltd.

- All experience described is that of the personnel.
- Industrial engineering, social and behavioural research, economics and feasibility studies, market research.
- Computerized open pit design for United States Corporation.

Byron-Masson & Assoc. (Can.) Inc.

- All experience is that of personnel
- Create an information system involving a main frame; multiple terminals and graphic displays
- Linking a number of accountants offices with those of their major customers.

Bud Taylor

- All experience described is that of the personnel
- Expertise in IMPAC (Improved Management Practices and Controls)
- Systems design, information retrieval and system conversion.

Caird F. Wilson & Associates

- Feasibility study, system analysis and implementation of word processing systems, (Different organizations)
- Users Training
- Ontario Hydro - tested, designed, trained and implemented a centralized PBX dictations system for engineers
- Some of the experience is that of the personnel.

CEGIR

- Evaluation of Pay TV markets in Canada and related distribution channels
- Management Training related to incoming technology transfer
- Five year Information System Plan - Caisse Populaire Desjardins
- A market study and technology forecast regarding microprocessor components in office automation products
- Teleglobe Canada: Analysis of word processing needs and potential import.

Cermak Church Associates

- Productivity improvement studies sponsored under the Enterprise Development program (improved communication and more effective methods for storage and retrieval of information).
- Development and implementation of a microfilm computer (Natural Resources - Ontario).
- Identification of requirement and appropriate records storage media. (Town of Pickering).
- Some of the experience described is that of personnel and of companies absorbed.

Dalcor Group:

- Is not submitting a proposal at this time.
- Experienced in engineering, economics (market evaluation and forecasting (industrial).

Data Encoding Limited:

- All experience described is that of the personnel.
- Office automation via Mr. Dugas & Mr. Reid.
- Definition, design, analysis programming and maintenance of numerous on-line and batch systems.
- Feasibility studies and evaluations of both hardware and software relating to the field of office automation.

Data Lab:

- Software vendor
  AEO 1 - (Electronic Office) System
  AEO 2

Dataword:

- Requirement and feasibility studies, hardware and software evaluation and implementation of work stations (word processors) for different ministries and organizations. (Wang, Micom, AES, IBM).

DMR

- Requirement study evaluation and implementation text and records processing (word processing)
- Selection of three pilot projects for implementation on in-house office automation system.
- Develop the methodology for interval evaluation of word processing requirements and guidelines for equipment acquisitions (Atomic Energy Canada)
- Complete analysis for systems - James Bay Energy Project.

Douserv Group

- Specialization in electronics: 1) communication
  2) transmission
  3) broadcasting
  4) audio-visual

- Telecommunication

- Some of the experience described is that of the personnel.

L.J. Duff & Associates

- Most of the experience described is that of the personnel.

- Project management.

- Developed approaches and standards for control of minicomputer based system.

- EDP training and teaching.

- Studies including requirement definition .... equipment configuration and selection.

Duffy and Bentley

- All experience described is that of the personnel.

- Feasibility studies and implementation of Word Processing and Administrative support systems.

Ellis and Lowry Consultants Ltd.

Facility programming - the definition of requirements for building prior to the start of design or pre-design analysis.

Evert Communication Ltd.

News Letters: The Electronic Communicator, The Telecommunicator.

GTP Office Communication

Mostly NCR but also includes every DND base in Canada and Europe. Canadian installations of communicating WP/TP units include Coast-to-coast Esquimault and Halifax.

- WP/TP/OCR integration project.

- Managed a large office communication study of 19 high technology Canadian firms in OCS field. The market (1990), Canadian capability and cooperation strategies fully analyzed.

Hickling-Partners Inc.

Requirement study, feasibility study, selection and implementation of office systems, including forms and records management, data collection and retrieval, and communication technology for different government departments and Ministries.

IBI Group

- Major projects have been in the telecommunication, transportation and computer communication, a significant proportion of the projects centered in facilities planning (architectural design) communications and project management.

- The development, installation and testing of an electronic communications and information system.

Kearney Management

- Major projects have been in efficiency, effectivenss and productivity improvement.

- Determining the feasibility of various systems approaches.

- Studies for various word processing systems.

- Some of the experience described is that of the personnel.

Kleins Consulting

- Development of a free standing prototype trade document processing (TRADEX) terminal, under contract to costpro.

- Conceptual definition of an automated office network, under contract to DOC.

- Designed and developed a concurrently operating multi-microcomputer system capable of automatic forms design and packetised communication (telephone & telegraph).

Phillip S. Lapp Limited

- The supply and demand for Engineering Manpower in Ontario -1/F/71.

- OECA Technology of the Future and Technological Planning Framework.

- An assessment of the Potential Market for Remote Manipulator Systems -3/F/76.

- Categorization of New Telecommunication Services for Network Planning.

- Major Projects are in communication, telecommunication and technological fields.

Leetham, Simpson Ltd.

- Design and implementation of managment reporting systems: computer based systems development and organization of support activities (Forest Products Complex, P.Q.)

- Design and implementation of manufacturing and accounting systems and procedures in conjunction with company restructuring programs.

- Productivity enhancement.

Peter Leigh-Bell & Associates Ltd.

- None stated

- Consulting firm with a software development capability: "we sell advice as well as technology".

Leonard & Partners Ltd.

Mostly Industrial

(- socio-economic Impact Analysis
(- Project Management
(- Market Research
(- Organizational development
(- Cost/Benefit analysis

Malzer & Associates Ltd.

- Not clearly specified

- Identifies former position held by Mr. Malzer and services offered by firm.

Microtel Pacific Research

- Vendor of communication products and service, it is owned by B.C. Tel and is involved in communication and telecommunication.

- Telidon (terminal development).

- PABX and data products development.

Murray, Nicholas and Associates

- Development from the feasibility study through to final implementation of word processing and related new organizations including records management, optical scanning, information retrieval, computer interface and dialogue, teletype and laser photocopying.

Orbita Consultants Ltd.

- As a corporation, they have no experience in office/communications business.
- Operational research.
- System evaluation and economic analysis
- Most of the experience decribed is that of the personnel.

PDA Inc.

- Specified first Word Processor network as replacement for IBM Magnetic Card typewriters, for large Canadian corporation in the electronics field included:
    - WP standard for equipment and training
    - Office equipment standards
    - Page formats and index standards
    - Forms standards
    - Communication standard (pt to pt and WP to Central Computer)
- Standardized and installed pt to pt. Image-Facsimile machine (71).
- Established standards for voice dictation equipment for knowledge workers in general office environment

Peat, Marwick & Partners

- Requirement studies, feasibility studies, selections and implementation of office systems including forms and records management.
- Long term strategic planning for CATA in the OCS market.
- Development of short-term and long-term recommendations to improve the effectiveness and efficiency of management information systems.

Price Waterhouse Associates

- Requirement studies, feasibility studies, selection and implementation of office systems including records management, information storage and retrieval, audio/visual systems, word processing, data communication, reproduction, microfilm, productivity improvement and market studies.

- Studies into the integration of WP/DP systems.

Quasar Systems Ltd.

- Determine the office communication requirement as a first step in the acquisition of a word processing/electronic mail capability.

- A study comparing and processing versus data processing in meeting office needs (large stockbroker), considered mailing lists and subsets, communication with other branches and transfer of documents, standard letters for marketing and accounting applications and communication with large mainframe computers.

- Social and economic impact of the job support program by Canada Employment and Immigration Commission.

- Design and develop effective and user oriented software for telecommunication and office systems.

Raymond, Chabot, Martin Paré & Cie.

- Software consultant and vendor (Logiciel - PAC)

- Requirement and feasibility studies, selection, contracting and implementation of software.

- Impact analysis (socio-economic).

Schick Information Systems Ltd.

- Establishment of technical information retrieval system including hard copy files, technical reference material and equipment records and utiliziang computerized retrieval system.

- Establishment of database.

- Design and implementation of retrieval system and interactive retrieval system based on individual document indexing and abstracting with thesaurus.

- Resources study, data collecting and analysis design and costing of alternate network system models for all libraries in Alberta.

Socioscope Inc.

- Specialized in the human/behavioural aspects of advanced technolgies.
- Study on the social impact of electronic funds transfer systems and devices.
- Study on the effect of micro-electronics technology on the poor.
- Preparation of working paper and presentation of a workshop on the significance of Telidon for groups with special communications needs.
- Development of questionnaire items on social impact of Telidon.
- Development of a strategy for Canadian participation in the videodisc industry (DOC).

Systemhouse

- Office system and communication projects include:

  automation of repetitive or labour intensive office functions, in-depth analysis of organization requirements and objectives and development of systems; either manual or automated to support these requirements, design and development of communication networks and development of office automated systems.

- Coursewares development.
- Requirement studies.
- Integrated Word Processing and Data processing (merging activities on to one machine).
- Implementation of Word Processing Systems.
- Telidon - managing software related aspects of implementation and developing certain components.

Telenetowrk Services Inc.

- Specializing in telecommunication.
- Analyze, evaluate and recommend telecommunications services and facilities.
- Analyze and comment on voice networking requirements.
- User survey regarding application to CRTC for interconnect to Bell Canada facilities.
- Analysis and recommendation on PBX requirements.
- Development of telecommunication policy.
- International data network design.
- Market Research Project.

Telseys Consultants Group Inc.

- Specialize in telecommunications systems and equipment.

- Design and implementation of a complete range of telecommunications switches and relatd peripherals ranging from simple systems to complex shared-logic electronic PBS's.

- Market and Product studies.

- Guide client in developing the integration of technologies, and assist in anticipating and overcoming technical and people problems.

Touche Ross & Partners

- Design of a system to provide for the effective control and proper services pricing of the company's computer/communications resources. The system is designed to provide planning, analysis, control and review capability opposite the key areas in computer/communications management. (Bell Canada).

- Computer System design, feasibility studies, communication network studies, preparation of a request for proposal, proposal evaluation (DND).

TDS (Turnbull, Stuart, Demos & Associates Ltd.

- Has not yet been responsible for the development and installation of a complete office system.

- Developed and installed an interface between the data collection and data retrieval systems. (National inventory program).

- Designed and implemented a system to correct information on the skill and expertise of consulting organization wishing to do business throughout the federal government, allowed user to input sector and expertise information via on line terminal, user is then able to extract qualified consultant (C.I.D.A.).

J.A. Turnbull (Individual)

- Preparation of STMIS Manuals.

- Opinion survey of office needs: a survey of 10 large companies in connection with an office of the future study for AES data.

- For same: - preparation of user profile for an office of the future
  - preparation of "user requirement profile"
  - analysis of AES data customer survey information.

- Make/Buy study, RFP and detailed design for office automation for NPB. (National Parole Board).

Woods Gordon

- Study the administrative support requirements at the head office of a major business organization:

    (a) review effectiveness of existing system and make recommendations to correct deficiencies.

    (b) determine impact on administrative systems resulting from planned level of business over next 5 years, recommend changes to support this activity (WP, secretarial support, print records management, communication, etc.)

- Study of a legal department of a major corporation:

  Involved the analysis of all administrative services including reception and telephone answering, secretarial and administrative assistance, filing and records retrieval, dictation and word processing, photocopy production and legal library maintenance.

ADGA Group (Engineers and Systems Analysts)

- Specialized in transportation communication and computer related systems.

- Projects have involved pre-feasibility engineering, operational and system analysis and hardware design specifications, evaluation of potential bids and computer engineering services.

- Examples: - conceptual study of railway signalling and communications systems (Republic of Ireland)

  - Canadian Cost Guard marine radio console design

Transcolog Limited

- No projects described.

- Completed word processing services.

- Word processing temporary staff.

- Modern office systems consulting and training.

ABT ASSOCIATES OF CANADA
(Social Research)
85 Albert Street
Suite 100
Ottawa, Ontario
Sharon Varette, Researcher
(613) 238-2459

BEHAVIOURAL TEAM, A CORPORATION
164 Eglington Avenue East
Toronto, Ontario
M4P 1G4
Ben Barkow, Ph.D., President
(416) 482-5131

BELL NORTHERN RESEARCH LTD.
P.O. Box 3511, Station C
Ottawa, Ontario
K1Y 4H7
D.J. Wiegand, Manager,
Marketing Liaison
(613) 596-4493

BOSTON GILBERT HENRY
ASSOCIATES LTD.
10 St. Mary Street
Suite 605
Toronto, Ontario
M4Y 1P9
J.W. Gilbert
(416) 961-8871

BRYON MASSON & ASSOCIATES
(CANADA) INC.
Management & Industrial Consultants
Board of Trade Building
212 Main Street
Penticton, B.C.
V2A 5B2
G. Croes, President
(604) 492-5162

BUD TAYLOR MANAGEMENT
CONSULTANTS LIMITED
Inn of the Provinces
350 Sparks Street
Ottawa, Ontario
K1R 7S8
Ric Kersey, Principal
(613) 236-2081

CAIRD F. WILSON & ASSOCIATES LTD.
593 Hichland Avenue
Ottawa, Ontario
K2A 2J9
Caird F. Wilson
(613) 233-4052

CEGIR
2, Complexe Desjardins
Bureau 2301, C.P. 160
Montréal, Québec
H5B 1B5
Andrée R. Brais, Ph.D.,
Senior Partner
(514) 288-6942
Telex 055-60249

CERMAK CHURCH ASSOCIATES
Management Consultants
70 Cockburn Drive
Scarborough, Ontario
H1C 2T2
M.J. Cermak
(416) 281-4511

THE DALCOR GROUP
Management Engineering & Economics
1100-10080 Jasper Avenue
Edmonton, Alberta
T5J 1V9
J.R. McDougall, P. Eng.,
Resident Partner
C. de Looper, Consultant
(403) 424-7296

DATA LABS LIMITED
920 Denison Street
Markham, Ontario
L3R 3K5
Stan Verscay, Vice President
(416) 494-1141

DATA ENCODING LIMITED
1284 Wellington Street West
Ottawa, Ontario
K1Y 3A9
John J. Reid, Vice President &
General Manager
(613) 729 -5164

DATA WORD LTD.
Box 48712 Bentall Center
Vancouver, B.C.
V7X 1A6
(604) 689-2030

JUST DATA WORD LTD.
M9-635 Humbot Street
Victoria, B.C.
V8W 1A6
David Swan, President
(604) 381-4433

THE DOUSERV GROUP
Douserv Holding Inc.
1200 McGill College Avenue
Capitol Centre, Suite 1520
Montréal, Québec
H3B 4G7
Raymond Doucet, P.Eng., President
(514) 866-5836 Telex 055-61315

L.J. DUFF & ASSOCIATES INC.
1155 Dorchester Blvd., W.,
Suite 3610
Montréal, Québec
H3B 3T9
Larry J. Duff, President
(514) 871-9276

ELLIS AND LOWRY CONSULTANTS LTD.
156 Front Street West
Suite 601
Toronto, Ontario
H5J 2L6
Robert W. Lowry, Partner
(416) 596-1942

EVERT COMMUNICATIONS LIMITED
P.O. Box 3158
Ottawa, Ontario
K1Y 4J4
Gordon D. Hutchison, Publisher
(613) 722-9717

GTP OFFICE COMMUNICATION CORPORATION
880 Wellington Street
Suite 324D
Ottawa, Ontario
K1R 6K7
G.R. (Geordie) Tweedale, President

HICKLING-PARTNERS INC.
350 Sparks Street
Suite 605
Ottawa, Ontario
K1R 7S8
Colin Shaw, Partner
(613) 237-2220

KEARNEY MANAGEMENT - MANAGEMENT
CONSULTANTS LIMITED
P.O. Box 186,
Toronto Dominion Center
Toronto, Ontario
M5K 1H6
David P. Dixon, Senior Associate
(416) 362-7201 Telex 02-21585

KLEINS CONSULTING
207 Booth Street
Ottawa, Ontario
K1R 7J4
John E. Kleins
(613) 233-7502

PHILIP A. LAPP LIMITED
280 Albert Street
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Ottawa, Ontario
K1P 5C8
David C. Coll, Ph.D., P.Eng.,
Senior Consultant
(613) 238-2452

LEETHAM SIMPSON LIMITED
Management Consultants
1440 St-Catherine Street West
Suite 1000
Montréal, Québec
H3G 1R8
J.W. Simpson, President
(514) 866-7486

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1302 Dunbar Road
Burlington, Ontario
L7P 2J9
Peter Leigh-Bell
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R3B 1N3
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MICROTEL PACIFIC RESEARCH
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Burnaby, British Columbia
V5C 5T5
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ORBITA CONSULTANTS LTD.
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K1P 5G4
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TELESY'S CONSULTANTS GROUP INC.
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OCS PROGRAM OFFICERS

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ROGER WAINWRIGHT	Manager, Industrial Development	992-8747

APPENDIX VI

Reporting Format

W. P. No. _____ Title: _____ _____	OCS PROGRAM Contractor Report Project: _____	Report Period _____ Report Date _____ Issued _____ Approved _____	Level 3

Page Title: COVER

Contractor _____

W. P. No. _____

Title: _____

OCS PROGRAM

Contractor Report

Project: _____

Report Period _____

Report Date _____

Issued _____

Approved _____

Level 3

Page Title: TABLE OF CONTENTS

Contractor _____

W. P. No. _____ Title: _____	OCS PROGRAM Contractor Report Project: _____	Report Period _____ Report Date _____ Issued _____ Approved _____	Level 3

Page Title: STATUS SUMMARY Contractor _____

TASK	D	1980 J	F	M	A	M	J	J	A	S	O	N	NOTES

NOTE EXPLANATIONS :


INDICATES NO MAJOR PROBLEM


INDICATES POTENTIAL MAJOR PROBLEM


INDICATES MAJOR PROBLEM

W. P. No. _____ Title: _____	OCS PROGRAM Contractor Report Project: _____	Report Period _____ Report Date _____ Issued _____ Approved _____	Level 3

Page Title: _____ Contractor _____

CONTRACT OBJECTIVE AND GOALS

TASK	TASK OBJECTIVE	SUCCESS CRITERIA	CURRENT YR $	EST. TO COMPL. $

W. P. No. _____ Title: _____	OCS PROGRAM Contractor Report Project: _____	Report Period _____ Report Date _____ Issued _____ Approved _____	Level 3

Page Title: NARRATIVE SUMMARY Contractor _____

PROGRESS AND OUTLOOK (BY TASK) – NOTE: INCLUDING SYSTEM PERFORMANCE EVALUATIONS.

ACTIVITIES NEXT PERIOD – NOTE: SYSTEM PERFORMANCE EVALUATIONS EXPECTED NEXT PERIOD.

ACTION FLAGS

W. P. No. _____ Title: _____	OCS PROGRAM Contractor Report Project: _____	Report Period _____ Report Date _____ Issued _____ Approved _____	Level 3

Page Title: PROGRESS SUMMARY

Contractor _____

MILESTONES MET THIS PERIOD.	MILESTONES TO BE MET NEXT PERIOD

W. P. No. _____ Title: _____	OCS PROGRAM Contractor Report Project: _____	Report Period _____ Report Date _____ Issued _____ Approved _____	Level 3

Page Title: PROBLEM SUMMARY Contractor _____

PROBLEM	IMPLICATIONS	OPTIONS	RECOMMENDATION

W. P. No. _____

Title: _____

_____

OCS PROGRAM

Contractor Report

Project: _____

Report Period _____

Report Date _____

Issued _____

Approved _____

Level 3

Page Title: SCHEDULE

Contractor _____

TASK	D	1981 J	F	M	A	M	J	J	A	S	O	N	D	1982 J

NOTES:

☐ INDICATES MILESTONE

BLANK BAR INDICATES PLAN, FILLED BAR INDICATES ACTUAL STATUS

W. P. No. _____ Title: _____	OCS PROGRAM Contractor Report Project: _____	Report Period _____ Report Date _____ Issued _____ Approved _____	Level 3

Page Title: CASH SUMMARY Contractor _____

1. TOTAL BUDGET TO END OF ACTIVITY _____
2. FORECAST TO END OF ACTIVITY _____
3. ANNUAL BUDGET _____
4. EXPENDITURES TO DATE (CLAIMS + WORK IN PROGRESS) _____
5. FORECAST EXPENDITURES TO DATE _____
6. FORECAST TO END OF YEAR _____
7. FREE BALANCE (3 MINUS 4) _____
8. END OF YEAR VARIANCE (6 MINUS 3) _____
9. CASH FLOW VARIANCE (5 MINUS 4) _____
10. CONTRACT VARIANCE (1 MINUS 2) _____

NOTES:

W. P. No.	OCS PROGRAM	Report Period	Level
Title:	Contractor Report	Report Date	3
	Project:	Issued	
		Approved	

Page Title: DISTRIBUTION

Contractor

INTERNAL

EXTERNAL