AUDIT OF THE INTELLIGENCE FUNCTION

Canada

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OPERATIONS AUDIT BRANCH
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EXECUTIVE SUMMARY

This report describes and assesses the process by which the department acquires information relating to industry sectors and transforms it into information of value for effective program and policy management.

The intelligence function consists of four activities:

° the acquisition of data and information related to industry sectors

° the holding of this information in paper files, electronic databases, resource centres or commitment to memory

° the integration and analysis of this information to determine the status, issues and problems associated with industry sectors

° the use of analysis for departmental planning, policy, and operational activities.

These activities are displayed pictorially in Chart I, page 3.

The effectiveness of the intelligence function is measured by the degree to which it is integrated into the program and policy decision-making processes. An intelligence activity that is used primarily to create information products or provide informal advice is not achieving its full, potential impact.

We presented our preliminary findings arising from this audit to the Policy Management Committee on October 6. We have subsequently performed additional analysis and verification. The final results of our work are consistent with the original presentation.

Overall Assessment

Strengths

1. <u>Several sector groups have effectively used the intelligence function to address both strategic and operational issues</u>

    Management makes two kinds of decisions: strategic decisions with broad perspective and long-term impact, and tactical - operational decisions that have immediate, short-term impact. These two broad areas of decision-making direct the operation of the intelligence function.

We found that certain groups, such as Tourism, Automotive, Forest Products and Aerospace, have made good progress in organizing their intelligence function to answer both operational and strategic questions. Groups in the Service Industries and Consumer Goods Branch are moving in this direction with a plan to supplement existing operational knowledge with strategic intelligence gathered as part of their "Strategic Framework" exercise. Most of the other areas we studied emphasize collection of intelligence to serve only operational decision-making needs.

Groups that pay attention to strategic questions have achieved certain benefits. They have:

° developed clearly articulated positions about the department's role given sector issues, opportunities and constraints

° aligned operational activities according to the broader priorities established through strategic analysis

° established strong consultative ties with business and other government interests in the industry sector

° successfully levered funds or cooperation from external groups, or put forward strong proposals in new departmental initiatives such as sector campaigns.

Our detailed comments related to this issue are found in Section C, Sector Analysis on page 16.

2. <u>There are many good working models of how intelligence activities should be organized</u>

Acquisition - Certain groups, such as Tourism, Automotive, Forest Products and Aerospace, have adopted collective strategies for acquiring intelligence. This has resulted in an improved ability to efficiently focus collection efforts, apply specialist skills and lever added intelligence (see Section A, Acquisition of Intelligence, page 5).

Holdings - Many groups have established some form of collective control over their information holdings through centralized storage or simple indexing systems. These groups demonstrate benefits of: good corporate memory, informational support to staff and external parties, and power to barter for added intelligence from outside sources (see Section B, Management of Information Holdings, page 10).

Automation - Technology has been effectively used in some areas, most noticeably in the Tourism Reference and Documentation Centre, to automate indices of paper holdings. This provides a user-friendly method of conducting database searches for reference

documents using selected keywords (see Section B, Management of Information Holdings, page 10).

Weaknesses

The following is a summary of the major weaknesses that should be addressed. We have concluded that there is significant opportunity to solve identified problems through broader application of the good practices noted above and as indicated throughout the report.

1. <u>Failure to use the intelligence function to its fullest potential</u>

   Many groups have not gathered intelligence to answer strategic questions related to the department's most appropriate role given broad sector issues and needs. These groups do not have a strong analytical framework to influence departmental priorities, nor to establish policy/advocacy positions (see Section C, Sector Analysis, page 16).

2. <u>Limited range of instruments used, and uncoordinated approaches to acquire intelligence</u>

   Many groups do not emphasize formal, collective approaches to the acquisition of intelligence. There is risk of redundancy in their collection efforts. Without broader planning of intelligence needs, there is limited opportunity to apply specialist skills to research difficult questions. There is limited quality control over the reliability and accuracy of information acquired (see Section A, Acquisition of Intelligence, page 5).

3. <u>Need for coordinated articulation of departmental intelligence requirements, and mechanisms that should be used to supply the necessary intelligence</u>

   There are a growing number of departmental intelligence needs for initiatives such as industry profiles, sector campaign proposals and the ISTC International Plan. These needs overlap. They could be articulated in one statement of departmental expectations about minimum knowledge that sector branches and regional offices should maintain. Existing methods of acquiring intelligence should be studied to determine whether they can meet these prescribed departmental intelligence needs (see Section A, Acquisition of Intelligence, page 5).

4. <u>Unidentified and inaccessible information holdings</u>

   The department's holdings related to information on industry sectors is largely managed outside of the scope of corporate records and national systems. Responsibility centres have developed various approaches to manage this information. In many cases, however, the scope of collective systems does not extend to the paper files and records of officers. Considerable intelligence, therefore, has not

been identified as part of the department's collective holdings and is inaccessible (see Section B, Management of Information Holdings, page 10).

5. <u>Priorities are not identified within the list of planned Industry Marketing publications</u>

Industry Marketing consists of a broad range of sectors with unique objectives in disseminating information to target audiences. Each sector branch has certain needs to communicate with its client group. Some portion of the departmental budget should accommodate this activity, provided the need is adequately justified according to consistent criteria. At present, analysis of need supporting publication proposals is not thorough.

Notwithstanding the above argument, a portion of the communication budget should be set aside to support broad priorities of Industry Marketing. At present, Industry Marketing does not have a framework for determining, and later demonstrating priorities according to a consistent rationale (see Section D, Management of Publications, page 22).

6. <u>Pockets of Intelligence</u>

Despite personal networking and mechanisms which increase the flow of intelligence among organization groups, intelligence is not held in a "common pool" but in isolated pockets throughout the department. We concluded that legitimate barriers to information sharing exist and should be studied further for possible elimination. Also effort should be placed on reinforcing information-sharing mechanisms and determining what incentives must be offered to persuade holders of intelligence to contribute to the departmental pool of knowledge (see Section E, Cross-organization Sharing of Intelligence, page 28).

Necessary Short-term Action

We have recommended a number of actions which will strengthen the intelligence activities of the department (summarized in Appendix C). These recommendations are partially addressed to line managers within the existing organizational structure. We have also called for the creation of a coordinating committee to develop new practices which will ensure that maximum value is derived from the intelligence function.

The coordinating committee should be led by senior officers from Industry Marketing with strong regional office representation. It may be profitable to place on the committee key people from areas with significant intelligence holdings and organized approaches to the function. These officers have the most to contribute to the way the intelligence system is run and they might find it useful to have direct access to the intelligence provided by others.

INTRODUCTION

AUDIT OBJECTIVES

This audit was conducted in accordance with the 1988/89 audit plan, as approved by the Deputy Minister. A summary of the planning memo prepared prior to the fieldwork, is shown in Appendix "B".

The objective of the audit was to <u>describe</u> and <u>assess</u> the activities and management practices associated with acquiring, holding, analyzing and disseminating intelligence.

Our conclusions for this broad objective are based on the study of selected issues. These issues are stated in the report as audit questions and are used as headings for the major sections of the report.

We developed the issues from a preliminary study of the intelligence function. We discussed and revised them with senior departmental management over the course of the audit.

AUDIT SCOPE

The study was a broad-based review involving survey of a sample of directors, managers and officers from the following organizational groups:

Industry Marketing

- ° Aerospace, Defence and Industrial Benefits
- ° Resource Processing Industries
- ° Service Industries and Consumer Goods
- ° Special Projects
- ° Surface Transportation and Machinery

Regional Offices

- ° Manitoba, Nova Scotia, Ontario and Quebec

Communications
Development Programs and Investments
Finance, Personnel and Administration
Industry and Intergovernmental Relations (MOSST)
Policy and Evaluation
Tourism Canada

Emphasis in audit tests was placed on the activities of sector branches and regional offices given their role as primary contact points with industrial clients. We also stressed review of existing practices, not intentions. We developed an inventory of working models related to the intelligence function as a way of recognizing good practices for broader application.

This study is meant to accurately describe the strengths and weaknesses of the intelligence function and recommend the tasks required to improve results. We did not cost the activities of various groups nor assess the personnel skills required. Other studies have focused on these issues. We suggest that the recommendations of this study be merged with costing and personnel reviews to determine a financial strategy for resourcing the intelligence function.

DEFINITION OF THE INTELLIGENCE FUNCTION

Intelligence is defined as information of value to effective management of departmental policy and advocacy functions, and delivery of its programs and services. Intelligence supports these key departmental functions by providing:

°   input to the departmental planning process of sector-specific issues and priorities that require response

°   a means of communicating to formulators of cross-sectoral policies, the needs of specific sectors

°   a basis for promoting dialogue among the key players of an industry sector

°   a statement of factual and analytical information for use as an information product.

From an activity viewpoint, the intelligence function can be described in terms of: the acquisition of data, information and intelligence; its transformation via integration and analysis into products and services; and subsequent packaging and dissemination. These relationships are displayed pictorially in Chart 1.

The key to the effectiveness of the intelligence function is its degree of integration with departmental planning, policy and advocacy functions. An intelligence activity that is used primarily to develop publications is not achieving its full, potential impact.

Chart 1
INTELLIGENCE FLOW CHART

Activities

| Acquisition ⟶ Holdings ⟶ Analysis ⟶ Dissemination |
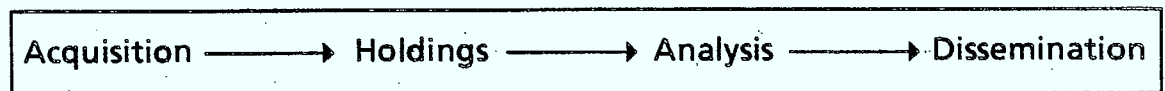
Outputs

- Paper Files
- Electronic Databases
- Resource Centres
- Indices
- Memory

- Analyses / Profiles
- Publications
- Policy Documents
- Directories
- Advice

Impacts

Internal Needs   External Needs

| Assist Departmental Planning | Basis for Resource Allocation | Assist in Formulation of Policies | Promote Dialogue Among Key Players | Provide Information to Private Sector |
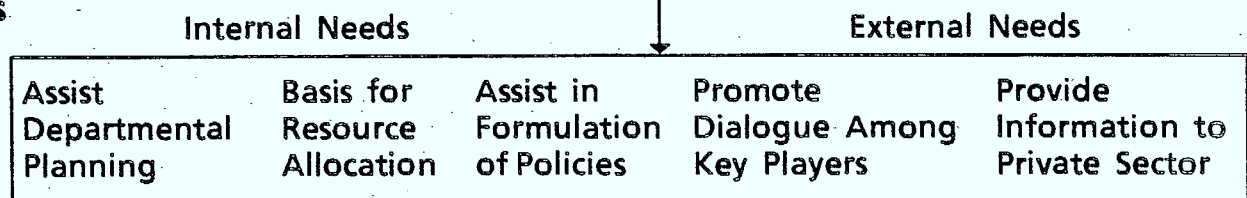
Ultimate Impacts

| Effective Program / Service Management |

| Effective Policy and Interdepartmental Coordination |

REPORT FORMAT

For each issue in this report, we state an overall assessment of the
area under the label "SYNOPSIS". We then provide details for the issue
relating to our observations, conclusions and recommendations.

The reader may obtain a summary of the key results of our study by
referring only to the "ISSUE" and "SYNOPSIS" parts of each section of
the report. Reference should then be made to the Summary of
Recommendations included as Appendix "C".

The issues follow the normal sequence of intelligence activity-
acquisition, holdings, analysis and dissemination. The report
concludes with an organizational issue.

III. AUDIT ISSUES AND RECOMMENDATIONS

A. ACQUISITION OF INTELLIGENCE

ISSUE

To what extent has ISTC developed formal methods to lever intelligence from outside sources?

SYNOPSIS

Sector branches and regional offices have developed many methods, of varying levels of formality, to acquire intelligence to meet local needs. Groups that emphasize formal, collective approaches demonstrate benefits that the department should seek on a broader basis.

Departmental needs for intelligence are growing as a result of recent initiatives such as: industry profiles, sector campaigns and new approaches to international planning. The intelligence needs of these separate initiatives overlap. A coordinated articulation of departmental needs would be useful. Given departmental requirements, there should then be study of the extent to which existing sector mechanisms for acquiring intelligence satisfy departmental demands.

Quality control standards should be established to ensure that a decentralized method of acquiring intelligence meets departmental needs accurately, reliably and on a timely basis.

OBSERVATIONS

In the absence of a departmental approach to acquiring intelligence, a variety of practices have emerged within sector branches and regional offices.

Three broad observations can be made about the different approaches to collecting intelligence:

° The <u>level of coordination in acquiring intelligence varies</u> between groups. Tourism and Aerospace sectors have formal branch-level mechanisms. Automotive and Forest Products sectors are examples of groups that have coordinated intelligence gathering at the directorate level. Many sectors have divisional collection practices.

°   The <u>number of formal instruments used to acquire intelligence varies</u>
    between organizational groups. The areas found to have the widest
    spectrum of formal instruments included: Tourism, Aerospace,
    Automotive and Forest Products industry sectors. Chart 2 identifies
    the various formal mechanisms we noted in our study.

°   All groups <u>supplement formal collection instruments with ad hoc
    consultation</u> by their officers. This includes daily contact from
    delivery of programs and services and participation in industry
    sector task forces or committees.

Reasons for Formal Approaches

We identified three reasons for the variation in the degree of
formality used for the acquisition of intelligence:

°   Management orientation - Sector groups emphasizing attention to
    strategic issues and sectoral policy positions have generally
    developed a wider spectrum of formal methods for acquiring
    intelligence.

°   Sector-related factors - The extent of government involvement in
    various sectors differs, necessitating different levels of emphasis
    on maintaining in-depth knowledge of the activities of various
    sector representatives. Other factors, such as the number of key
    players in the sector, or the strength of industry associations,
    will affect the formality of methods used to collect intelligence.

°   Resources - Sector groups with more formal mechanisms typically have
    sufficient resources to dedicate staff to special research and
    collection activities, in parallel with regular, ongoing officer
    contacts.

Benefits from Formal Collective Approaches

Those sector groups that have evolved more collective, formal
approaches to acquiring intelligence demonstrated certain benefits:

°   Intelligence collection is efficient because it focuses on clearly
    identified needs, ranked according to the overall priorities of the
    sector group.

°   Uniformity, accuracy and reliability of intelligence gathered is
    ensured through the use of structured survey methodology and the
    application of specialized skills.

°   Branch-level efforts to negotiate systematic relationships to key
    sources of data have improved access and avoided costs.

CHART 2

FORMAL METHODS OF INTELLIGENCE ACQUISITION

1) **Formal Committees**

    * exchange of information between key players in the economic sector for policy formulation and coordination of effort

    * examples include the advisory committees found in Tourism, Aerospace, Automotive, Forest Products and Biotechnology (MOSST)

2) **Structured Linkages to Key Sources**

    * memoranda of understanding and related instruments focusing on information exchange; found primarily in Industry Marketing

    * systematic relationships with Statistics Canada; Tourism Canada has established a satellite account for accumulation of tourism sector statistics; Policy sector receives trade statistics monthly

    * formal reporting protocols; Tourism sector-Ontario region through the "Ontario Book" has formalized its information-sharing requirements with External Affairs posts

3) **Formal Surveys**

    * Annual Business Forecast Enquiry performed by the Aerospace Branch provides statistical information on industry performance in relation to MOU targets

4) **Purchased Research**

    * while done by many sector groups, most notable examples include:

    - the "Service Industries Sector Studies Program" undertaken to promote research and discussion on the service sector

    - market research studies purchased by Tourism Canada

5) **Dedicated In-House Research or Data Collection Groups**

    * usually involves staff with specialist skills

    * tasked to perform independent studies or support information needs of sector officers

    * examples are found in Tourism, Automotive, Aerospace and Service Industries groups

6) **Financed Networks**

    * MOSST finances networks in strategic policy areas to coordinate information sharing between researchers from industry, university and government

7) **Annual Information Collection Plans**

    * Tourism Canada annually identifies information needs of the branch and assigns priorities to the collection effort

8) **Intelligence for Established Uses**

    * intelligence needs specified through definition of information products, profiles, databases and trip report formats

    * the most widespread method for collective definition of intelligence that should be gathered by officers

Departmental Considerations

Recently, there has been increased articulation of departmental intelligence needs. The development of industry profiles as a departmental product has created a demand for multi-sector intelligence according to a uniform and prescribed format. The sector campaign framework requires proposals for funding to be supported by detailed intelligence and analysis on the performance and prospects of industry sectors. Discussion documents related to a departmental consultation process have argued that a strengthened policy and advocacy role in ISTC will create greater departmental intelligence needs relating to the international competitiveness of Canadian industry. The ISTC International Plan required sector officer consideration of various strategic sector characteristics before proposing a level of intended effort in investment, technology and trade development initiatives.

There are similarities in the type of intelligence needs articulated in these departmental initiatives. The needs parallel individual sector efforts to expand the existing intelligence base, such as Service Industries and Consumer Goods Branch (SICG) "strategic framework" initiative. A coordinated articulation of departmental expectations relating to intelligence requirements may be useful in directing the collection efforts of sector branches. It may also ensure that a uniform knowledge base exists in sector areas, from which the department could draw on to satisfy various needs. The department could further develop criteria to distinguish the degree of intelligence required for different sectors.

Beyond specification of intelligence needs, there is also the question of prescribing a departmental collection process. Consideration of any uniform method, such as the former Industrial Horizons initiative, should recognize two facts:

° Many of the departmental intelligence needs, including policy and strategic concerns, can already be met by the formal and informal mechanisms originally established to deal with sectoral needs.

° A uniform method of collection will be difficult to prescribe because of differences in sector characteristics and key players. Parties that need to be involved will vary from sector to sector, as will considerations relating to timing, the degree of formality, and whether parties are consulted together or separately.

Because of these facts, development of a departmental model for consultation should further study and inventory existing methods of acquiring intelligence and the extent to which departmental needs can be satisfied through these channels. Reliance on existing consultation mechanisms for departmental use should require some study of quality control in relation to the timeliness, reliability and accuracy of information gathered.

CONCLUSIONS

All sector branches and regional offices have both formal and informal means of acquiring intelligence. The degree to which acquisition of intelligence is managed on a formal, collective basis varies between groups.

Groups that have well-developed practices for acquiring intelligence demonstrate an improved ability to efficiently focus collection efforts, apply specialist skills and lever added intelligence. Sector branches and regional offices should study broader application of formal, coordinated approaches to the collection of intelligence (see recommendation 1).

At the departmental level, there are a growing number of intelligence needs. Articulation of these needs is not being coordinated despite similarity in the content of needs arising from different departmental initiatives. Coordination of needs will better direct sector and regional collection efforts, and will ensure a uniform knowledge base exists to serve various departmental purposes (see recommendation 2 a).

There is limited information to assess whether existing methods for acquiring intelligence at the sector level can meet departmental needs. In addition there are no departmental standards providing assurance that intelligence gathered is timely, accurate and reliable. Initial steps to develop a departmental process for acquiring intelligence should focus on the extent to which existing mechanisms can serve broader departmental needs (see recommendations 2 b and c).

RECOMMENDATIONS

1. SECTOR BRANCHES AND REGIONAL RESPONSIBILITY CENTRES SHOULD STUDY BROADER APPLICATION OF FORMAL, COORDINATED APPROACHES TO THE COLLECTION OF INTELLIGENCE.

2. A DEPARTMENTAL COORDINATING GROUP SHOULD BE ESTABLISHED TO:

    a) DEVELOP A STATEMENT OF DEPARTMENTAL INFORMATION NEEDS REQUIRED FOR VARIOUS SEPARATE INITIATIVES SUCH AS INDUSTRY PROFILES, SECTOR CAMPAIGNS, INTERNATIONAL PLANNING AND CONSULTATION

    b) CREATE AN INVENTORY OF FORMAL AND INFORMAL METHODS USED BY RESPONSIBILITY CENTRES FOR ACQUIRING INTELLIGENCE; THIS WORK SHOULD THEN BE USED TO ASSESS THE EXTENT TO WHICH EXISTING INTELLIGENCE ACQUISITION METHODS CAN MEET DEPARTMENTAL NEEDS

    c) DEVELOP QUALITY CONTROL OBJECTIVES RELATED TO THE COLLECTION OF ACCURATE, TIMELY AND RELIABLE INTELLIGENCE.

B. MANAGEMENT OF INFORMATION HOLDINGS

ISSUE

Is there effective coordination and control of ISTC business information holdings?

SYNOPSIS

Business information holdings of the department are primarily managed on a responsibility centre basis, outside of the scope of departmental records and national information systems. The range of information committed to collective control varies between responsibility centres.

Groups that have established collective control over their information holdings demonstrate significant benefits. All responsibility centres should be committed to indexing holdings of business information to provide for departmental access and corporate memory. An effective use of technology would be to automate developed indices, allowing efficient retrieval through a number of key words. The need for a departmental database for storing business information has not been subject to sufficient study of benefits, costs and alternatives.

OBSERVATIONS

We studied the management of holdings of sector information regardless of the physical medium in which it was stored. Holdings generally include machine readable records or documents such as memoranda, publications, profiles and other analyses, company literature and books. Information held ranges from raw unprocessed company data and statistics, to highly aggregated strategic analyses and policy documentation.

Within this broad subject for review, we focused on two issues:

° the extent to which holdings are managed on a <u>collective basis</u> (excluding the departmental library)

° the manner in which <u>technology is used</u> to support management of the information holdings.

Collective Management of Holdings

The department's holdings relating to information on industry sectors are primarily managed on a decentralized basis. While information on funded programs and departmental correspondence is managed within corporate records and national systems, the bulk of other company and

sector-related information is managed outside these systems by sector branches and regional offices.

Within responsibility centres the extent to which holdings are managed on a collective basis varies. Three different orientations to collective management were noted:

° maintenance of a resource centre with centralized storage of documents

° development of tools which identify, and help users access key sector studies or sources of information

° maintenance of databases of company or statistical sector information.

1) Resource Centres

Excluding the departmental libraries of DRIE and MOSST, we found two well-developed resource centres serving individual responsibility-centre needs. The Tourism Reference and Documentation Centre (TRDC) and the Manitoba regional office's Business Service Centre (BSC) maintain centralized holdings of computer-listed documents covering the full spectrum of business and trade journals, research papers, statistical reports, profiles, company literature and other related material. The centres provide: sector specialist support, corporate memory for major studies, external counselling and research services, and a distribution point for ISTC and External Affairs publications. Both centres operate independently from the departmental library and are staffed by full-time personnel, three in TRDC and four in BSC. The resource centres serve unique needs and do not duplicate departmental library activities.

In a much more limited way, most other sector branches and regional offices have established small collective holdings of published business information and internal documentation. These holdings are generally not managed by dedicated personnel and provide limited internal support to responsibility centre officers.

2) Pointer Systems

A different method of managing information holdings is to place emphasis on identifying key studies or analyses and the sources from which this information may be retrieved. This method does not require centralized storage of materials. It provides users with an index of materials and sources for ready access to a wide spectrum of business information.

We noted three good examples of this approach. The Advanced Industrial Materials directorate has created a "National AIM Network Compendium" which provides a listing of research papers, abstracts

and sources of information retrieval. The Compendium also identifies where information from other key groups involved in the subject area may be obtained.

In the Strategic Analysis division of Industry Marketing a review was performed of the type and quality of information contained on 19 external on-line databases in relation to the department's needs for strategic analyses. The results were documented in the report "Competitive Intelligence Databases". It provides a tool for educating officers as to the uses of various databases, and explains how they may be accessed.

The Information Management Branch has created various data bank directories which "point" to significant holdings of business information relevant to department needs.

3) Company and Statistical Databases

By far the most common form of collective management of information is the establishment of automated databases containing raw, unprocessed company and statistical information. In a listing prepared by the Information Management Branch, 40 business intelligence-related systems, managed by responsibility centres, were identified. These holdings are used for a number of functions including project monitoring, sourcing, creating directories, and are used as raw material for analysis.

Use of Technology

Outside of the national systems of DRIE, each responsibility centre is charged with determining whether an automated system would assist it in performing departmental functions. Once a group has made the decision to automate, it is responsible for supplying the resources required to develop and maintain the system. The Information Management Branch (IMB) maintains an inventory of automated systems and provides technical support for the acquisition and maintenance of system hardware and software requirements.

As noted previously, automated systems have been primarily used to store and manipulate unprocessed company and statistical data. We found limited instances where technology was employed to automate indices of paper holdings, providing a user-friendly method of conducting database searches for reference documents. The Tourism Reference and Documentation Centre, for example, enables users to search holdings of more than 7,000 documents using 1500 keywords or descripters. The descripters can be used either singly or in combination to extract information required. Searches can be undertaken, for example, by subject, author, sponsor, date, documentation type, geographic location, or various combinations of these.

While storage and manipulation of disaggregated data serve a number of important functions, the use of technology to automate indices of holdings provides cost-effective access to a wide spectrum of sector information.

Departmental Intelligence System

We found considerable resistance among managers and officers to the idea of creating large databases to serve many users. Both the former consultative process, Industrial Horizons, and the more recent "Report of the Working Group on Intelligence" advocated the development of such databases to serve a wide range of departmental information needs. Proposed databases would focus on storing company information and abstracts of departmental analyses.

Managers and officers have concerns relating to large scale systems development that have not been addressed in the proposals put forward for a departmental database. Specific concerns include:

° Information needs to be met by the system are not well-defined. Managers and officers questioned the adequacy of departmental knowledge of what information is regularly being levered from responsibility centres for broader use. Cross-organization information flow may in fact be too limited to warrant large scale systems. The task of defining the needs to be met by a departmental intelligence system is further complicated, at present, by the evolving role of the department and changing information needs.

° Value-added from the use of a departmental database over existing methods of cross-organization sharing of information has not been measured.

° Cost has not been fully addressed. In addition to start-up costs associated with hardware and software development, there are significant on-going maintenance costs. Mandatory fields of information represent an ongoing cost to maintain the currency of data on the system. A support group will be needed to ensure quality control over the systems data.

° It is likely that a departmental system will not displace the need for more limited-scope responsibility-centre systems. In the Ontario region, for example, despite the development of a regional company database, parallel systems are used by regional officers to serve the unique needs of regional investment, trade, tourism and policy sectors.

° Databases are limited in their ability to communicate sensitive information. Many officers refuse to commit confidential company data to a departmental system regardless of the protective systems that may be developed around the database information.

° Alternative methods for meeting information needs have not been fully considered. Review of systems that have evolved in responsibility centres indicate that use of technology as a "pointer" system, as opposed to a database storage system, is less expensive to maintain and makes visible a wider spectrum of intelligence.

CONCLUSIONS

Groups that have established collective control over their information holdings, whether through centralized storage or simple indexing systems, demonstrate benefits that could not be efficiently achieved, if at all, in an unorganized system. Specifically the benefits include:

° Corporate memory - Control is established over studies, analyses and working documents of the responsibility centre. When officers leave or are unavailable, there is systematic retention of business information.

° Sector officer support - As a minimum indexed holdings and identification of sources provide for efficient retrieval of information. In resource centres further support is available (such as coordinated publications acquisition and client enquiry screening).

° External services - Depending on the level of development of information holdings management, services of information retrieval, research, and counselling can be extended to outside parties.

° Leverage of additional intelligence - By developing a reputation for maintaining significant holdings of information, departmental resource centres have been able to enter information-sharing arrangements with outside organizations involved in related subject areas.

As a minimum, holdings within responsibility centres should be indexed to provide for departmental access and corporate memory. The holdings should be identified through different key words to allow access from various points of view. Although not mandatory, maintaining the index in an automated system provides efficient retrieval along a variety of pre-selected criteria (see recommendations 3 and 4).

Further development of holdings into resource centres should be a discretionary decision of responsibility centres and should be driven by a close cost-benefit analysis. A resource centre can meet more sophisticated information needs, but is labour and resource intensive. Development of such centres in future should be done drawing upon the specialist skills of the departmental library staff.

Finally, additional analysis should be performed in any further proposals for the creation of a departmental database focusing on cost, benefits and alternatives available to meet needs (see recommendation 5).

RECOMMENDATIONS

3. A DEPARTMENTAL COORDINATING GROUP SHOULD DEVELOP A LISTING OF KEY WORDS BY WHICH HOLDINGS OF BUSINESS INTELLIGENCE MAY BE IDENTIFIED. THE GROUP SHOULD ALSO STUDY METHODS OF AUTOMATING INDICES OF DEPARTMENTAL HOLDINGS FOR APPLICATION IN RESPONSIBILITY CENTRES.

4. RESPONSIBILITY CENTRES SHOULD INDEX HOLDINGS OF SECTOR INFORMATION TO PROVIDE FOR DEPARTMENTAL ACCESS AND CORPORATE MEMORY. THE HOLDINGS SHOULD BE IDENTIFIED ACCORDING TO A DEPARTMENTAL SET OF KEY WORDS.

5. A DEPARTMENTAL INTELLIGENCE DATABASE SHOULD NOT BE DEVELOPED UNTIL FURTHER ANALYSIS OF THE COSTS, BENEFITS AND ALTERNATIVES IS PERFORMED.

C. SECTOR ANALYSIS

ISSUE

To what extent has ISTC performed sector analysis for guiding departmental policy, planning and business services activities?

SYNOPSIS

Sector analysis serves as a basis for many important functions. Internally, analyses may provide a means of: establishing departmental priorities, allocating resources and formulating policy. Externally, analyses are useful for developing consensus on issues and in creating information products.

The department has emphasized <u>descriptive</u> analysis of industry sectors. Recently, this analysis has been used to create "Industry Profiles". This represents a new information product of the department.

Descriptive analysis alone cannot serve the full range of planning, policy and advocacy functions. To meet these ends, <u>strategic</u> analysis is needed, focusing on the department's role and priorities given evolving sector issues and trends. There has been a limited requirement for such analysis in the department. Some groups, however, have developed sectoral strategic frameworks to guide their activities. These groups have demonstrated an improved basis for formulating and communicating sectoral policy positions, and identifying priorities for allocating scarce departmental resources. ISTC should invest in added strategic analysis and integrate the results of this work into the department's policy and planning systems.

OBSERVATIONS

In terms of its role, sector analyses act as:

° an input to the departmental planning process; sector-specific issues and priorities are identified for departmental response in program and services

° a means of identifying and communicating the specific needs of a particular sector to formulators of cross-sectoral (horizontal) policies and programs, whether within ISTC, other federal departments, or provincial governments.

° a basis for promoting dialogue and cooperation among the main players in the economic arena - business, labour, financial institutions and governments - through the development of a consensus on the opportunities, constraints and issues which must be faced by these players

° a basis on which the department can integrate regional and headquarters effort on sectoral priorities

° a statement of factual and analytical information for use by the private sector; this is often helpful to sectors containing many small firms.

Types of Analysis

In serving the various roles noted above, there is need for at least two different forms of analysis:

Descriptive - a portrayal of the key characteristics of an industry sector such as its structure, competitive factors, issues, past government involvement and opportunities for growth.

Strategic - an assessment addressing departmental conclusions about: the preferred direction of sectoral evolution; the views of other key players in the sector about the federal and departmental role; and the alternative courses of action that the department should consider, given sector needs.

We concluded that descriptive analysis, by itself, is used primarily as an information product. To use analysis as a basis for planning, policy and advocacy functions, one must extend factual understanding of sectors to strategic assessment of the department's role.

Extent of Descriptive Analysis

All sector branches reviewed had documented descriptive analysis of industry sectors. Uniformity in this work was due to the recent departmental Industry Profile exercise.

Certain groups, particularly the Forest, Food and Consumer Products directorates, had developed detailed sector profile information to supplement the general industry profiles. These in-depth descriptive analyses originated with the Tier I/Tier II studies of the late 1970's, some of which were updated in the mid-1980's. These profiles were still used, but were not being systematically kept up-to-date.

Beyond profiles, we noted pockets of issue-oriented analysis in the sector branches. A good example of a group that employs this type of analysis is the Automotive directorate. This group has complemented

the more general sector profile form of review with specific studies of issues such as:

° overcapacity in the auto industry

° requirements for joint ventures and technology transfer in autopart companies

° technological capabilities of foreign autopart companies

° decision-making profiles of major North American auto assemblers.

Another good example of a sector group involved in issue analysis would be the Fish Products division of the Service Industries and Consumer Goods Branch.

Extent of Strategic Analysis

In addition to descriptive analysis, we found varying levels of strategic analysis. We grouped the sector branches into three categories:

1) Rigorous Strategic Analysis

In this category, groups are characterized as having:

° rigorously defined a sectoral policy position and internal strategy relating to the department's sector activities

° developed formal consultative mechanisms with other key players in the industry sector

° aligned programs, services and network activities with internal strategy.

Good examples include the Automotive, Forest Products, Tourism and Aerospace industry sectors.

2) Limited Strategic Analysis - Intended Expansion

Groups in this category have conducted limited explicit strategic analysis of industry sectors at present, but fully intend to create more comprehensive assessments. SICG is in the process of developing "Strategic Frameworks" for all sectors over time. These frameworks will follow a defined analytic process and are meant to be a progression from industry profiles.

3) Limited or No Explicit Analysis

Groups in this category have either limited or no explicit statement of government strategy in various sector and no plans for

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significant change in the scope of their strategic analysis. The activities of such groups follow these patterns:

°   priorities are established in response to pressures from other key players in a sector

°   the knowledge base of a group is primarily supported by company-level contacts

°   program activities associated with PEMD, IRDP and the Machinery programs are significant

°   response to sourcing enquiries is an important function.

We have included in this group many of the sectors reviewed in the Resource Processing Industries and Surface Transportation and Machinery branches excluding the Forest Products, Shipbuilding and Automotive industry sectors. Although SICG intends to increase its analytical capability, and has been set out above as a separate group, many of these industry sectors are currently best characterized according to this third category.

In this third group, there were a number of reasons cited for the lack of strategic analysis:

°   the sector group was following an implicit understanding of government role and strategy

°   in an obvious way, the sector did not require a significant role for government

°   the historical orientation of the group was program-related

°   resources allocated to the sector were only sufficient to maintain a reactive service.

Regional Perspective

Program-related activities have been dominant in the regions, and are expected to consume considerable resources over the next year. With the exception of the sector profile work in the Manitoba regional office, activities are still best characterized by the third group noted above.

In Manitoba, eight sector profiles were developed with action plans defining officer roles in relation to regional sectoral needs. These profiles were developed on a consistent basis with the national industry profiles. The other three offices visited - Quebec, Ontario and Nova Scotia - were all increasing attention to sector analysis, but this work had not evolved to the level of effort found in the Manitoba office.

CONCLUSIONS

The Need for Strategic Analysis

Managers must maintain a balance between two distinct orientations to the management of sectoral activities - an analytical, strategic approach and a consultative, operational style. Strategic analysis provides a basis for assessing sectoral priorities which can then be recast in terms of departmental priorities. It also provides a basis for dialogue with other key players in the sector. This may lead to a consensus regarding policy options and collaborative effort. Emphasis on networking with industry clients, on the other hand, provides a necessary service and returns valuable insights of individual sector viewpoints. This adds a crucial dimension to broader sector analysis.

The area for greatest improvement in achieving this balance across ISTC would be to increase the amount of strategic analysis done for industry sectors that have no explicit sector strategy or role definition. Generally, analytical groups have maintained targetted consultation activities with their industrial clients.

A good first step in this regard may be to adopt the approach being taken by SICG for their strategic frameworks (attached as Appendix A). This approach establishes criteria for assessing which industry sectors would most likely benefit from increased analysis. There is an intention to build on the descriptive analysis of the Industry Profile exercise, and to test strategic assessments for validity through close consultation with industry (see recommendations 6 and 7).

Planning Considerations

As strategic analysis increases within sector areas, it should be integrated with the corporate planning system. Resource allocation should be guided by an understanding of competing sector priorities. At present, competition between various sector proposals determines the allocation of incremental sector campaign funds. This model should be extended to the existing resource base of the department. With the integration of sector analysis with the corporate planning system, uniformity in topics addressed is necessary to provide a basis of comparison between competing proposals (see recommendation 8).

Resourcing Concerns

Of great concern to many officers is the potential loss of operational responsiveness due to enhanced attention to analysis. Where new resources can be injected this concern will not present a problem. Resource reallocation, however, does raise a legitimate issue of the need for comparing the relative impact of analytical activities versus delivery of existing services. At present the trade-off is difficult to resolve. There is little or no formal study of the impact of many sector activities. Also, there is a limited basis for determining whether overall effectiveness of the sector group would diminish or

increase with the termination of certain operational activities to allow for greater attention to analysis and strategy (see recommendation 9).

RECOMMENDATIONS

6. A DEPARTMENTAL COORDINATING GROUP SHOULD BE ESTABLISHED TO ENCOURAGE AND MONITOR THE DEVELOPMENT OF STRATEGIC FRAMEWORKS FOR INDUSTRY SECTORS. AS A FIRST TASK THIS GROUP SHOULD:

    a) DEVELOP SELECTION CRITERIA FOR ASSESSING WHICH INDUSTRY SECTORS SHOULD BE INITIALLY ANALYZED

    b) ENSURE CONSISTENCY IN THE ANALYSES BY IDENTIFYING A STANDARD LIST OF STRATEGIC TOPICS OF INTEREST TO VARIOUS USERS.

7. ALL SECTOR BRANCHES SHOULD APPLY THE SELECTION CRITERIA TO INDUSTRY SECTORS, AND INCREMENTALLY DEVELOP STRATEGIC FRAMEWORKS. SECTOR BRANCHES SHOULD:

    a) ENSURE THAT INDUSTRY PROFILE INFORMATION IS KEPT UP-TO-DATE

    b) USE THIS ANALYSIS AS A BASIS FOR MORE IN-DEPTH ISSUE-ORIENTED AND STRATEGIC ANALYSIS

    c) ENSURE THE VALIDITY OF THE ANALYSES THROUGH CLOSE CONSULTATION WITH INDUSTRY AND OTHER KEY PLAYERS IN THE ECONOMIC SECTOR.

8. SENIOR MANAGERS OF INDUSTRY MARKETING SHOULD USE SECTOR ANALYSIS AS A BASIS FOR DETERMINING OVERALL PRIORITIES. THE RESULTS OF THIS PROCESS SHOULD BE USED FOR ESTABLISHING RESOURCE REQUIREMENTS IN THE BUSINESS PLANNING PROCESS.

9. SECTOR BRANCHES SHOULD ASSESS RESOURCE NEEDS FOR PERFORMING THE STRATEGIC ANALYSIS CALLED FOR BY THE DEPARTMENT. THE BRANCHES SHOULD RANK EXISTING SERVICES ACCORDING TO THEIR RELATIVE IMPACT ON CLIENT GROUPS AS A MEANS OF DEMONSTRATING THE COST OF FINANCING ADDITIONAL ANALYSIS FROM EXISTING RESOURCE ALLOCATIONS.

D. MANAGEMENT OF PUBLICATIONS

ISSUE

Has ISTC established an adequate managerial framework for the development of departmental publications?

SYNOPSIS

The business planning framework does not ensure that sector branch publication priorities are established according to a consistent rationale or relate to broader sector strategies. The quality of analysis supporting the need for publications cannot be assessed without more thorough documentation and standards relating to the factors considered. The departmental communication plan is not revised subsequent to the allocation of responsibility centre budgets. As a result, a final list of departmental publication commitments is not provided for subsequent measurement of actual performance.

The list of authorized publications does not include all information material distributed to external audiences. The Communications Branch maintains that with existing resources they cannot ensure that all information for external distribution is provided to them for review for compliance with established policies. Sector branch officers perceive that standards for edit and publication format are too rigorous and costly for information distributed to select audiences. Consequently, they do not always provide such material to Communications staff for review.

Although some work has been done in evaluating information products, more effort may be useful in helping the department to determine the need for reprints of existing material, or in making decisions related to new products.

OBSERVATIONS

The focus of our review was on the management of publications emanating from sector branches, with a view to contrasting their approach to those used in other parts of the organization. We studied the discipline surrounding the management of publications in terms of planning, distribution and evaluation. Our review was selective and should not be considered a complete study of publications management. For example, we did not address topics such as: inventory control, user fees, quality of cost estimates or departmental marketing effort associated with publications.

In general, the only consistencies in the publication products of sector branches are top-down initiatives such as the Industry Profile exercise and the branches participation in the defined product lines of the Development Programs and Investments sector. All branches supplement established product lines with their own publications. The extent of added effort depends on a bottom-up determination of needs, and consideration of available resources given competing operational activities. Many of the added products can be classified as directories, product source-books, or sector analyses. The decentralized process has generated unique publication ideas such as technology profiles, market demand forecasts and newsletters which scan sector activity.

a) Planning Process

Excluding specially defined product lines such as Industry Profiles, the planning for publications within Industry Marketing can be characterized as follows:

° The need for a publication is determined in a bottom-up manner, starting within divisions, as part of the Business Plan exercise.

° Documentation in workplans relating to the need, objectives, target audience, cost and consideration of alternative information strategies is not thorough; it is not possible through review of the plans to assess whether proposals are developed with appropriate level of analysis.

° As the business plans are rolled-up from division, to directorate, to branch and finally Industry Marketing levels, there are certain trade-offs made between competing proposals; there are no prescribed criteria to guide managers in their decisions for establishing priorities in this roll-up process. Communications Branch liaison officers work with sector branches in determining the estimated costs of proposed publication activities and what would constitute a reasonable departmental level of activity.

° The functional communications plan represents the various initiatives that survived the informal trade-off process in the business plan roll-up. Priorities are not identified within the list of over 50 publications.

° There is no revision of the Communications plan subsequent to the establishment of responsibility centre budgets. Publications represent one of many operational activities financed from responsibility centre O&M budgets. When final budget allocations are established at levels less than needs determined in the business plan, certain intended activity must be dropped. Managers indicated that publications are often given lower priority in relation to competing needs and are dropped or deferred from the branches activities. Without restatement of the Communications plan there is

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no clear articulation of intended publication activity to which the department is committed.

° The Communications Branch reviews the specific plans for individual publication products. This review generally occurs at the time the sector branch is preparing for production of completed manuscripts. The focus of the review is on topics such as: copy preparation, graphics, production quantities and cost estimates. There is limited documentation of the extent of review conducted.

° There is no detailed measurement and reporting of actual performance and cost of departmental publication activity against the Communications plan. The Communications Branch reviews with sector branches the status of planned activity in the third quarter. This is done to ensure that there is sufficient time to produce outstanding publications within the fiscal year. The results of this review, however, are not used to report overall performance against plan for senior management review.

Alternative Approaches

1) Strategic Approach

Parts of the organization adopt a top-down strategic approach to the recurring assessment of publications activity. One example of this approach is the communications planning process of the Tourism Research Directorate. In this group, research activities for the year are determined as part of the branch's overall planning process. Proposed research activities are priorized according to pre-established criteria. The group's communication plan is then developed in light of the need for advertising or publication of results for each planned research project.

2) Established Product Lines

There are a number of examples of standard information products developed in the department including: industry profiles, interfirm comparisons, import profiles and analyses, investment opportunity brochures and directories produced from the Business Opportunity Sourcing System (BOSS).

In each product line, one can establish a planned rationale and a target audience. Certain products, such as import analyses and interfirm comparisons serve specific target audiences and information needs. To ensure continued relevance of these product lines, each publication is systematically evaluated as to its effectiveness.

Assessment of Alternatives

It is difficult to compare alternative approaches to effective management of publications because they often evolve in relation to particular organizational arrangements. Certain groups pursue a relatively narrow range of program objectives and a top-down assessment of publication priorities can be readily accomplished. Other groups are specifically organized around the delivery of a particular information service, and staff can pay full attention to planning, structuring and evaluating this service. Industry Marketing covers a broad spectrum of diverse sectors with unique needs. This makes a coherent focus on information services difficult.

In assessing the bottom-up planning orientation associated with the majority of Industry Marketing publications, we concluded that:

° A more visible framework for determining, and later demonstrating priorities is needed to ensure a consistent rationale supports the selection of communication activities. In line with our recommendations in Section C (Sector Analysis) choices made by senior management relating to competing sector strategies could also establish related communication priorities.

° Greater control should be exerted over the documentation and content of publication proposals. This would ensure adequate quality of analysis of need, costs and alternatives in getting information to target audiences. The degree of analysis should vary according to the significance of proposed publications. The Communications Branch should provide functional guidance relating to planning considerations. In the course of our review, the Ontario region and the Headquarters Business Information Centre raised concerns about waste due to excessive quantities of publications. Given the lack of documentation proving adequate analysis of target audiences and distribution plans, we recommend further study of inventory control problems in conjunction with efforts to improve publication planning.

° Subsequent to the final allocation of responsibility centre budgets, a revised departmental communication plan should be prepared. This would identify departmental commitments to communications, and provide a basis for subsequent measurement of performance. A revised plan may also better provide early notification to the Communications Branch of pending publication projects.

° The Communications Branch should coordinate sector branch measurement and reporting of actual performance and cost against the Communications plan for Departmental Management Committee review.

b) Distribution

The Communications Branch maintains control over the distribution of departmental publications submitted to them by ensuring that a "Project Proposal and Authorization" form is completed. Communications uses this control to review proposals for conformity with the government's communication policy, to confirm the thoroughness of the publication's production plan and to establish a list of authorized departmental publications.

In addition to coordinating production of major publications of the department, Communications is also concerned about information materials intended for selected audiences only. The control of such materials has been the source of ongoing difficulty for many departments including DRIE and MOSST. The department needs to know about all items distributed externally, to ensure that they are of appropriate quality and to respond to public enquiries concerning any information known to have been released by departmental officers.

Communications staff maintain that they cannot ensure sector branches submit all material intended for distribution to external audiences. Given resource limitations, Communications liaison officers focus on functional support to sector branches, not control. They primarily rely on sector branches to inform them of any publications activity. Some control is provided by the printing staff, who notify Communications of large volume printing jobs to ensure that the document has been appropriately reviewed as to its status as a possible departmental publication.

We found discrepancies in the list of reports provided to us that had been distributed to external audiences, and the list of authorized publications maintained by Communications. The staff of the Business Information Centre also receive frequent requests by the public for materials known to have been distributed by departmental officers that were not included in the authorized list of publications.

Sector branch officers indicated that they are under increasing pressure to provide information to their client groups. In addition, documents are often released to selected audiences only to obtain their comments on the accuracy of departmental analysis of policy issues and problems. Sector officers perceive that unnecessary delays and added cost will occur if information for limited distribution is subject to the normal edit and publication procedures.

A reconciliation of the responsibilities of Communications and sector officers is required. The departmental list of publications should be expanded to include all materials released externally including those limited to select audiences. This task could be done in conjunction with a broader inventorying of departmental holdings as recommended in Section B (Management of Information Holdings). Communications' should assess any flexibility in departmental edit and publication standards as they apply to documents with limited distribution.

c) Evaluation

Evaluations of individual publications or product lines are useful in assessing whether communication objectives were met. For example, an evaluation may reveal whether a target audience was reached or whether the product brought about a desired change in that target audience. Although some work in this area has been done, coverage is not comprehensive.

Product lines such as the import analyses and interfirm comparison studies systematically evaluate the usefulness of the information provided to target audiences. This is done through follow-up telephone calls or consultant interviews that question client use of information according to an established format. The Tourism research group has surveyed 20 selected clients of its Tourism Bulletin on the products' usefulness, impact and alternatives for improvement. A limited number of publications include an evaluation questionnaire to be completed by readers of the material.

We recognize that formal evaluations of some information products may not be cost-effective. Some effort in this area, such as reader evaluation inserts, may assist the department in reprint decisions, or in decisions to produce new products to support program delivery.

CONCLUSIONS

Industry Marketing consists of a broad range of sectors with unique objectives in disseminating information to target audiences. Each sector has certain needs to communicate with its client group. Some portion of the departmental budget should accommodate this activity, provided the need is adequately justified according to consistent criteria. Notwithstanding this argument, a portion of the communication budget should be set aside to support broad priorities of Industry Marketing (see recommendations 10, 11 and 17).

The commitments to publication activity and related timing should be clearly articulated in departmental plans each year. This will advise Communications Branch of the pending production burden, and provides a basis for the measurement of progress against plans (see recommendation 12).

Control over information distributed to limited audiences needs strengthening. Expanded evaluation of the impact of information products may provide useful feedback for guiding future communications activities (see recommendations 13, 14, 15 and 16).

RECOMMENDATIONS

10. SECTOR BRANCHES SHOULD PREPARE PUBLICATION PROPOSALS SUPPORTED BY ADEQUATE ANALYSIS OF OBJECTIVES, COSTS AND EXPECTED RESULTS, TARGET AUDIENCE CHARACTERISTICS, ALTERNATIVES, TIMELINESS, AND PROPOSED DISTRIBUTION METHODS. THE LEVEL OF DETAIL SHOULD VARY ACCORDING TO THE SIZE OF EXPENDITURE INVOLVED. THE COMMUNICATIONS BRANCH SHOULD PROVIDE FUNCTIONAL SUPPORT TO SECTOR BRANCHES IN PERFORMING THIS ACTIVITY.

11. PUBLICATION PROPOSALS SHOULD BE RELATED TO BROADER SECTOR STRATEGIES WHERE POSSIBLE. PRIORITIES SHOULD BE CLEARLY ARTICULATED IN THE DEPARTMENTAL COMMUNICATIONS PLAN. THESE PRIORITIES SHOULD BE DETERMINED ACCORDING TO A CONSISTENT RATIONALE.

12. SUBSEQUENT TO THE FINAL ALLOCATION OF RESPONSIBILITY CENTRE BUDGETS, THE DEPARTMENTAL COMMUNICATIONS PLAN SHOULD BE REVISED TO REFLECT COMMITMENTS INCLUDING TIMING. AT THE END OF THE FISCAL YEAR, THE COMMUNICATIONS BRANCH SHOULD COORDINATE SECTOR BRANCH MEASUREMENT AND REPORTING OF PERFORMANCE AND COST AGAINST PLAN. THE RESULTS OF THIS EXERCISE SHOULD BE REPORTED TO THE DEPARTMENTAL MANAGEMENT COMMITTEE.

13. THE DEPARTMENTAL LIST OF PUBLICATIONS SHOULD BE EXPANDED TO INCLUDE ALL MATERIALS RELEASED TO ALL PARTIES EXTERNAL TO THE DEPARTMENT, INCLUDING SELECT AUDIENCES. THIS TASK SHOULD BE PERFORMED BY THE COMMUNICATIONS BRANCH IN CONJUNCTION WITH A BROADER RESPONSIBILITY CENTRE INVENTORYING OF INFORMATION HOLDINGS.

14. DEPARTMENTAL CONTROL OVER INFORMATION PROVIDED TO SELECT EXTERNAL AUDIENCES NEEDS REINFORCEMENT.

15. COMMUNICATIONS BRANCH SHOULD ASSESS WHETHER DEPARTMENTAL EDIT AND PUBLICATION STANDARDS CAN BE RELAXED IN CIRCUMSTANCES WHERE DEPARTMENTAL INFORMATION IS DISCLOSED TO SELECT AUDIENCES. THE RESULTS OF THIS ASSESSMENT SHOULD BE COMMUNICATED TO SECTOR BRANCH MANAGERS.

16. WHERE IT WOULD PROVE COST-EFFECTIVE, SYSTEMATIC EVALUATION OF PUBLICATIONS SHOULD BE PERFORMED. RESULTS SHOULD BE CONSIDERED IN REPRINT DECISIONS, OR IN DECISIONS TO PRODUCE NEW PRODUCTS TO SUPPORT PROGRAM DELIVERY.

17. THERE SHOULD BE FURTHER STUDY OF INVENTORY CONTROLS ASSOCIATED WITH DEPARTMENTAL PUBLICATIONS.

E. CROSS-ORGANIZATION SHARING OF INTELLIGENCE

ISSUE

Is there satisfactory sharing of intelligence among organizational groups?

SYNOPSIS

Intelligence exists in isolated pockets throughout the department. Organizational sharing of information is primarily dependent on the informal networking of employees who exchange information when needed. There are various mechanisms that assist in encouraging employees to interact. These include sector teams, coordinative committees and plans, systematic information-sharing protocols, and departmental directories.

Sharing of intelligence is important because of the varying ability of officers to access and interpret intelligence. Sharing could be enhanced through: expanding integrative mechanisms, studying barriers to information sharing, and establishing incentives to persuade employees to contribute knowledge to a departmental "pool" of information.

OBSERVATIONS

Managers and officers indicated that information is obtained from other parts of the organization primarily through personal contacts. There is limited reliance on automated systems to share business intelligence between organizational groups. Information is generally searched for in response to a particular need instead of a more systematic integration of the knowledge base of different groups into an overall departmental holding.

There are, however, certain integrative mechanisms which encourage the sharing of information. These include:

° Coordinative committees or teams - The recent creation of teams of officers from sector branches, regional offices and the policy sector has increased the team members' awareness of the skills and activities of other groups in the department.

° Coordinative planning - The Business Plan and, more recently, the ISTC International Plan draws information from many departmental sources to identify organizational activities that may lead to officer interactions and information sharing.

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° Formal information protocols - Certain groups have created systematic information - sharing arrangements with other departmental groups. For example, the policy sector is reestablishing a former practice of circulating the government's policy agenda to sector branches.

° Pointer systems - Although basic, the telephone directory provides some assistance in relating staff to product expertise. The departmental publication "Precis" also enhances awareness of departmental activities.

While officers indicated that they are generally satisfied with informal networking and existing integrative mechanisms to supply them with information from other groups when needed, improvements could be achieved. We noted the following concerns:

° satisfactory results from informal information - sharing arrangements is dependent on the responsiveness of individual officers

° the effectiveness of important new mechanisms, such as sector teams, may be constrained because of limited funding to support travel costs

° sector officers expressed considerable interest in the products and services produced by other groups, commenting that increased sharing of this type of information could assist in broader application of innovative products and services

° examples where the work of one group would have benefited from knowledge of studies that other organizational groups had purchased or acquired from clients

° barriers to systematic sharing of information; officers often obtain company data in confidence and are careful in its disclosure to other officers. The Access to Information Act has inhibited commitment of company information to corporate records or data systems.

CONCLUSIONS

Different groups within the department have different perspectives about, and knowledge of, industry sectors. They also have varying abilities to access sources of intelligence and interpret its significance. The skills and knowledge of various groups must be known on a departmental basis to ensure decisions are based on the collective wisdom of the department.

Despite personal networking and current integrative mechanisms, we conclude that information exists primarily in isolated pockets throughout the department. These pockets exist because officers do not

share information and directorates use information for their own ends and do not pass it along. There are, however, small informal networks of employees who exchange information among themselves.

To break down these pockets of information we concluded that there is need for the following steps:

° Pockets of information should be made visible through an inventory of holdings that detail the information contained (see Section B, Management of Information Holdings).

° Mechanisms which encourage staff to interact should be reinforced and expanded. One example would be to build on the departmental directory that currently relates officers to product specialties. One might add a more detailed inventory of skills, principal products, contacts and events attended (e.g. missions, conferences and trade shows) by officer or division. This directory could be automated, allowing for search along a number of key words or subjects.

° The barriers to information sharing should be explored. We believe that there are legitimate concerns relating to disclosure of information that have not been systematically studied and reported on.

° Proper incentives must be offered to persuade information holders to contribute their knowledge to a common pool. Information is power. If one is to give it up, one must be compensated. A profitable way to compensate may be to place key people from "the pockets" on various intelligence committees, so that they will have a say in the way an intelligence system is run, and will have direct access to information that is provided by others.

RECOMMENDATIONS

18. A DEPARTMENTAL COORDINATING COMMITTEE SHOULD BE ESTABLISHED TO IMPLEMENT THE FOLLOWING ACTIONS:

    a) REINFORCE AND EXPAND EXISTING MECHANISMS WHICH ENCOURAGE STAFF TO INTERACT AND SHARE INFORMATION

    b) STUDY THE DEGREE TO WHICH BARRIERS TO INFORMATION SHARING CAN BE ELIMINATED

    c) RECOMMEND THE PROPER INCENTIVES THAT MUST BE OFFERED TO PERSUADE INFORMATION HOLDERS TO CONTRIBUTE THEIR KNOWLEDGE TO A COMMON POOL.

SECTOR STRATEGIC FRAMEWORKS

A. INTRODUCTION

A sector strategic framework (SSF) is a forward-looking analysis which will "take the pulse" of an industry and its member firms by identifying their current and future strengths and weaknesses; look at international forces and trends (e.g. demand, competitive forces in existing or prospective markets and technology); identify and priorize the issues, problems and opportunities; and make decisions and recommendations about where the issue and problem-solving efforts of DIST and the Federal Government can be focussed, and the nature of these efforts.

B. OBJECTIVES AND SELECTION CRITERIA FOR A SECTOR STRATEGIC FRAMEWORK ANALYSIS

In theory, some form of strategic framework analysis should be carried out (even if it is elementary) for each of the Branch's industries since these analyses would isolate industry problems and opportunities and identify potential beneficial activities for DIST (or government) vis-a-vis the industry. As a practical matter, however, it is more appropriate to apply a series of selection criteria to these industries as a means of making the number of SSF's to be carried out in a given year more manageable.

The key selection criteria for identifying industries for a strategic analysis should include the following:

1. Is the industry of "topical" interest to the Government? (eg: financial services, textiles, wine)
2. Are there emerging opportunities or challenges that the industry needs to position itself for and what might be an important role for government in effecting this strategic positioning? (It may not be possible without government action).
3. Does the industry have a high growth potential and is there a possible role for government in maximizing this potential?
4. Are there important technological opportunities or challenges facing the industry where proactive government action might be beneficial?
5. Are there important export opportunities facing the industry where the government might play a role in enabling the industry to realize these opportunities?
6. Is this a key industry? (eg: size, linkages to other industries, for example, distributive services)

7. Is this a significant industry where DIST needs to re-assert its importance as the government focal point and to provide a stable and coordinated policy environment?

8. Is the industry facing major adjustment, for example, in response to the FTA, or a change in government policies or regulation?

C. CONTENT OF A SECTOR STRATEGIC FRAMEWORK

The SSF should be based on strategic information and data and dynamic analysis to permit the isolation of present and future industry directions, issues, challenges, opportunities, problems and barriers, in order to form a basis for a plan of priorized DIST (and government) action.

While we should not attempt to create a standard, detailed mold for an SSF, where relevant, each analysis should look at:

- the degree of concentration in the industry

- role of small and large firms, MNE's etc.

- the nature of the linkages with supplier industries

- the nature of the linkages with customers (relationships between buyers and sellers)

- where the industry and its major firms are headed over the medium term and highlight their strengths and weaknesses,

- global trends,

- domestic and foreign market opportunities,

- marketing strategies,

- the way firms conduct business internationally (e.g. the manner in which they trade)

- technology and human capital issues,

- other barriers to industry viability and competitiveness,

- the role of government, e.g. the nature and degree of government regulation

      °   the ability of firms in the industry to meet the challenges facing them (eg: capital investment, re-structuring issues, market penetration questions, management strengths or weaknesses, technology acquisition and diffusion problems).

      °   the views of industry associations or interest groups on government policy or other issues facing the industry.

In addition to the industry-level analysis, it will be important to include a strategic analysis of some of the major firms in the industry, including, where relevant, their domestic and international strengths and weaknesses, opportunities, challenges and barriers that the firms face, as well as what competitive strategies (eg: cost leadership, technological advantage, differentiation and market focus) they plan to exploit in the medium-term.

The second part of the analysis should provide a clear indication of where DIST (and government) can play an effective and legitimate role in helping industry realize its potential and, also, set out the activity options available to government, as well as the ramifications of these options.

A final piece would outline and cost the action plan portion of the SSF. The overall objective of the sector strategic framework would be to provide the basic input into a DIST action plan for the industry, which may take the form of a Sector Campaign, policy development or advocacy, the provision of focussed business services or processed intelligence, etc.

The carrying out of a strategic framework analysis, described above, presumes a level and quantity of current basic strategic knowledge, information and data which are not presently available, in-house, for most of our industries. Our weakest areas in terms of required basic industry knowledge would appear to be with respect to the international scene (eg: world trends, international competitors, actual and prospective market issues) and technology (eg: "best practice" technologies, emerging technologies, adaptation and diffusion issues).

It may be necessary, therefore, to scale down intentions for the initial round of strategic analyses in order to devote resources to acquiring the relevant basic strategic intelligence for an industry and to ensure that this knowledge can be maintained. On a practical level, the result of this interactive process may be that it takes longer to produce an SSF than originally envisioned because our depleted knowledge base has to be re-stocked and new intelligence thrusts may have to be developed and maintained. Development of these documents may also be assisted by drawing on relevant intelligence, analysis and support available elsewhere in DIST HQ and in Provincial Offices.

D.   PROCESS ISSUES

In order to implement a series of initiatives aimed at producing sector strategic frameworks, which will lead to Sector Campaigns or some other proactive SICG activity designed to assist in the launching of an industry into the next century, it will be necessary for us to carry out the following activities:

1.   Select those industries which are likely to have the biggest pay-off in terms of the selection criteria and the potential for a role for DIST (or government.)

2.   Review and identify the knowledge and data "gaps" for the "selected" industries and establish an on-going process for improving basic strategic intelligence, with emphasis on the international scene and technological issues.   In some instances it may be necessary to fill-in the information gaps before proceeding with the SSF.

3.   Establish a process within the Branch for review and approval of each strategic framework and for selecting additional industries for analysis.

4.   Establish a process of close consultation with industry prior to, and during, the development of the SSF.

5.   Ensure that the sector strategic framework remains timely.

Service Industries & Consumer
 Goods Branch

June 15, 1988

RB/mal

AUDIT PLAN AND MILESTONES

AUDIT OBJECTIVE

Describe and assess the activities and management practices associated with acquiring, holding, analyzing and disseminating intelligence.

AUDIT SCOPE

The scope of the examination was limited to study of selected issues noted below. Issues were selected based on their significance in relation to tasks associated with the intelligence function.

Our tests included study of intelligence products and plans, previous analyses of the function and interviews of staff.

ISSUES

Our audit provides answers to the following questions:

1. To what extent has ISTC developed formal methods to lever intelligence from outside sources?

2. Is there effective coordination and control of ISTC business information holdings?

3. To what extent has ISTC performed sector analysis for guiding departmental policy, planning and business service activities?

4. Has ISTC established an adequate managerial framework for the development of departmental publications?

5. Is there satisfactory sharing of intelligence among organizational groups?

AUDIT MILESTONES

Planning	April 18 - May 6, 1988
Preliminary Survey	May 9 - June 10
Fieldwork	June 13 - September 8
Debriefings	September 12 - September 29
Fieldwork (MOSST)	October 3 - October 7
Draft Report	October 11 - November 10
Presentation to Audit Committee	December 20

SUMMARY OF RECOMMENDATIONS

1. SECTOR BRANCHES AND REGIONAL RESPONSIBILITY CENTRES SHOULD STUDY BROADER APPLICATION OF FORMAL, COORDINATED APPROACHES TO THE COLLECTION OF INTELLIGENCE.

2. A DEPARTMENTAL COORDINATING GROUP SHOULD BE ESTABLISHED TO:

   a) DEVELOP A STATEMENT OF DEPARTMENTAL INFORMATION NEEDS REQUIRED FOR VARIOUS SEPARATE INITIATIVES SUCH AS INDUSTRY PROFILES, SECTOR CAMPAIGNS, INTERNATIONAL PLANNING AND CONSULTATION

   b) CREATE AN INVENTORY OF FORMAL AND INFORMAL METHODS USED BY RESPONSIBILITY CENTRES FOR ACQUIRING INTELLIGENCE; THIS WORK SHOULD THEN BE USED TO ASSESS THE EXTENT TO WHICH EXISTING INTELLIGENCE ACQUISITION METHODS CAN MEET DEPARTMENTAL NEEDS

   c) DEVELOP QUALITY CONTROL OBJECTIVES RELATED TO THE COLLECTION OF ACCURATE, TIMELY AND RELIABLE INTELLIGENCE.

3. A DEPARTMENTAL COORDINATING GROUP SHOULD DEVELOP A LISTING OF KEY WORDS BY WHICH HOLDINGS OF BUSINESS INTELLIGENCE MAY BE IDENTIFIED. THE GROUP SHOULD ALSO STUDY METHODS OF AUTOMATING INDICES OF DEPARTMENTAL HOLDINGS FOR APPLICATION IN RESPONSIBILITY CENTRES.

4. RESPONSIBILITY CENTRES SHOULD INDEX HOLDINGS OF SECTOR INFORMATION TO PROVIDE FOR DEPARTMENTAL ACCESS AND CORPORATE MEMORY. THE HOLDINGS SHOULD BE IDENTIFIED ACCORDING TO A DEPARTMENTAL SET OF KEY WORDS.

5. A DEPARTMENTAL INTELLIGENCE DATABASE SHOULD NOT BE DEVELOPED UNTIL FURTHER ANALYSIS OF THE COSTS, BENEFITS AND ALTERNATIVES IS PERFORMED.

6. A DEPARTMENTAL COORDINATING GROUP SHOULD BE ESTABLISHED TO ENCOURAGE AND MONITOR THE DEVELOPMENT OF STRATEGIC FRAMEWORKS FOR INDUSTRY SECTORS. AS A FIRST TASK THIS GROUP SHOULD:

   a) DEVELOP SELECTION CRITERIA FOR ASSESSING WHICH INDUSTRY SECTORS SHOULD BE INITIALLY ANALYZED.

   b) ENSURE CONSISTENCY IN THE ANALYSES BY IDENTIFYING THE STRATEGIC TOPICS OF INTEREST TO VARIOUS USERS.

7. ALL SECTOR BRANCHES SHOULD APPLY THE SELECTION CRITERIA TO INDUSTRY SECTORS, AND INCREMENTALLY DEVELOP STRATEGIC FRAMEWORKS. SECTOR BRANCHES SHOULD:

    a) ENSURE THAT INDUSTRY PROFILE INFORMATION IS KEPT UP-TO-DATE

    b) USE THIS ANALYSIS AS A BASIS FOR MORE IN-DEPTH ISSUE-ORIENTED AND STRATEGIC ANALYSIS

    c) ENSURE THE VALIDITY OF THE ANALYSES THROUGH CLOSE CONSULTATION WITH INDUSTRY AND OTHER KEY PLAYERS IN THE ECONOMIC SECTOR.

8. SENIOR MANAGERS OF INDUSTRY MARKETING SHOULD USE SECTOR ANALYSIS AS A BASIS FOR DETERMINING OVERALL PRIORITIES. THE RESULTS OF THIS PROCESS SHOULD BE USED FOR ESTABLISHING RESOURCE REQUIREMENTS IN THE BUSINESS PLANNING PROCESS.

9. SECTOR BRANCHES SHOULD ASSESS RESOURCE NEEDS FOR PERFORMING THE STRATEGIC ANALYSIS CALLED FOR BY THE DEPARTMENT. THE BRANCHES SHOULD RANK EXISTING SERVICES ACCORDING TO THEIR RELATIVE IMPACT ON CLIENT GROUPS AS A MEANS OF DEMONSTRATING THE COST OF FINANCING ADDITIONAL ANALYSIS FROM EXISTING RESOURCE ALLOCATIONS.

10. SECTOR BRANCHES SHOULD PREPARE PUBLICATION PROPOSALS SUPPORTED BY ADEQUATE ANALYSIS OF OBJECTIVES, COSTS AND EXPECTED RESULTS, TARGET AUDIENCE CHARACTERISTICS, ALTERNATIVES, TIMELINESS, AND PROPOSED DISTRIBUTION METHODS. THE LEVEL OF DETAIL SHOULD VARY ACCORDING TO THE SIZE OF EXPENDITURE INVOLVED. THE COMMUNICATIONS BRANCH SHOULD PROVIDE FUNCTIONAL SUPPORT TO SECTOR BRANCHES IN PERFORMING THIS ACTIVITY.

11. PUBLICATION PROPOSALS SHOULD BE RELATED TO BROADER SECTOR STRATEGIES WHERE POSSIBLE. PRIORITIES SHOULD BE CLEARLY ARTICULATED IN THE DEPARTMENTAL COMMUNICATIONS PLAN. THESE PRIORITIES SHOULD BE DETERMINED ACCORDING TO A CONSISTENT RATIONALE.

12. SUBSEQUENT TO THE FINAL ALLOCATION OF RESPONSIBILITY CENTRE BUDGETS, THE DEPARTMENTAL COMMUNICATIONS PLAN SHOULD BE REVISED TO REFLECT COMMITMENTS INCLUDING TIMING. AT THE END OF THE FISCAL YEAR, THE COMMUNICATIONS BRANCH SHOULD COORDINATE SECTOR BRANCH MEASUREMENT AND REPORTING OF PERFORMANCE AND COST AGAINST PLAN. THE RESULTS OF THIS EXERCISE SHOULD BE REPORTED TO THE DEPARTMENTAL MANAGEMENT COMMITTEE.

13. THE DEPARTMENTAL LIST OF PUBLICATIONS SHOULD BE EXPANDED TO INCLUDE ALL MATERIALS RELEASED TO ALL PARTIES EXTERNAL TO THE DEPARTMENT, INCLUDING SELECT AUDIENCES. THIS TASK SHOULD BE PERFORMED BY THE COMMUNICATIONS BRANCH IN CONJUNCTION WITH A BROADER RESPONSIBILITY CENTRE INVENTORYING OF INFORMATION HOLDINGS.

14. DEPARTMENTAL CONTROL OVER INFORMATION PROVIDED TO SELECT EXTERNAL AUDIENCES NEEDS REINFORCEMENT.

15. COMMUNICATIONS BRANCH SHOULD ASSESS WHETHER DEPARTMENTAL EDIT AND PUBLICATION STANDARDS CAN BE RELAXED IN CIRCUMSTANCES WHERE DEPARTMENTAL INFORMATION IS DISCLOSED TO SELECT AUDIENCES. THE RESULTS OF THIS ASSESSMENT SHOULD BE COMMUNICATED TO SECTOR BRANCH MANAGERS.

16. WHERE IT WOULD PROVE COST-EFFECTIVE, SYSTEMATIC EVALUATION OF PUBLICATIONS SHOULD BE PERFORMED. RESULTS SHOULD BE CONSIDERED IN REPRINT DECISIONS, OR IN DECISIONS TO PRODUCE NEW PRODUCTS TO SUPPORT PROGRAM DELIVERY.

17. THERE SHOULD BE FURTHER STUDY OF INVENTORY CONTROLS ASSOCIATED WITH DEPARTMENTAL PUBLICATIONS.

18. A DEPARTMENTAL COORDINATING COMMITTEE SHOULD BE ESTABLISHED TO IMPLEMENT THE FOLLOWING ACTIONS:

   a) REINFORCE AND EXPAND EXISTING MECHANISMS WHICH ENCOURAGE STAFF TO INTERACT AND SHARE INFORMATION

   b) STUDY THE DEGREE TO WHICH BARRIERS TO INFORMATION SHARING CAN BE ELIMINATED

   c) RECOMMEND THE PROPER INCENTIVES THAT MUST BE OFFERED TO PERSUADE INFORMATION HOLDERS TO CONTRIBUTE THEIR KNOWLEDGE TO A COMMON POOL.

DATE DUE - DATE DE RETOUR

DEC 2⊥ 1989

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