

Multivariate Analysis of Small Business Information Needs

Report to Industry Canada

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Ottawa and Toronto
March 2000

Introduction

In order to put the basic results in context, multivariate analysis was undertaken. A technical report (appended) presents a discussion of the research techniques employed. Substantively, the analysis involved exploring the relationship between various subjective and objective factors (see below) and issues that are most central to businesses' orientations toward the federal government as a business information provider.

The areas that were explored are divided into three themes:

1. General characteristics of information usage
2. General orientations toward government as an information source
3. Specific aspects of government information usage.

For each area, two approaches were applied. One involved more subjective or perceptual factors, the other the more objective characteristics of firms. The set of subjective factors focused on the perceived importance of various things:

- Challenges faced by business (questions 10-17)
- Sources of business information (Qs 21-30).
- Types of business information (Qs 36-46).

The second set pertained to the objective characteristics of the businesses:

- Urban-rural location
- Number of employees
- Total revenue
- Years in operation
- Stages of development
- Economic sector
- Region

The techniques used in this analysis produce estimates of the impact of individual factors, while controlling for all other factors in the equation. This provides a better picture of the importance of each variable.



What the results of this analysis will tell us:

1. How well we can predict each of the dependent variables noted (i.e. the main questions explored in each area).
2. Of more practical use, the significance and relative importance of each factor.

We are able to develop *profiles* that identify the characteristics that are most important in predicting general orientations toward government information, as well as use of government services. The profiles identify the most important characteristics after a great many other variables have been taken into account. Thus, we are better able to single out those features of companies that are the most fundamental drivers of their orientation toward and use of government information services for business.

Information Usage, Preference and Satisfaction

Adequacy of Current Information Sources

Generally speaking, how well does the information that you obtain from your various sources meet your needs as a business manager? (Q.34)

Subjective Factors

We used this question to explore the relationship between how well current information sources are performing and the top challenges facing the business, and the importance of different types and sources of information.

The degree to which some of the factors impact on how well current information sources are performing is statistically significant. The items listed below were all significant or near significant.

Perceptions that information needs are being met *increases* as the perceived importance of each of the following increases:

- ❑ The Government of Canada as an information source. This variable has the largest effect (i.e. it is the most significant predictor of information sufficiency).
- ❑ The media as an information source.
- ❑ Other managers/colleagues as an information source (just short of conventional significance).



- ❑ Domestic or international competition as a challenge (just short of conventional significance).
- ❑ Information on business trends.
- ❑ Benchmarking information (just short of conventional significance).

As the perceived importance of information from suppliers increases, the perception that needs are being met decreases.

These results provide two kinds of information on opportunities for Industry Canada. Where an increase in a particular driver produces an increase in the perception that needs are met, firms that are high on this driver can be attracted to Industry Canada information sources by stressing the information types, source and challenges connected with the driver. Where an increase in a particular driver causes a reduction in satisfaction, firms that are high on this driver can be attracted to Information Canada sources by either de-emphasizing a particular type or source of information or by consciously improving the quality of information connected with that source or type of information in Industry Canada services. These possibilities should be kept in mind when considering all of the subsequent analyses.

Objective Factors

Here we explored the relationship between how well current information sources are performing and the characteristics of participating businesses, including size of firm, age, stage of development, region and sector.

We can predict only a limited amount of variation in meeting information needs from firm characteristics. While these factors have some significance, they are less strong than the more subjective factors discussed above.

The specific factors that were significant or near significant include:

- ❑ Rural firms are more likely than urban firms to think that their information needs are being met.
- ❑ The older the business and the higher its revenues, the more widespread the perception that information needs are being met.
- ❑ Being from any region except Atlantic Canada increases the perception that information needs are met.

No other business characteristic was significant, including stage of development (although a few sectors were somewhat more satisfied with current sources).



Level of Activity in Looking for Information

Focusing on your business as a whole, how active are you in terms of looking for information to help you address the challenges or opportunities facing your business? (Q.34)

This analysis enables us to identify the characteristics of active information seekers. In general, firms of this kind would be an appropriate target group for attempts to increase business use of Industry Canada products and services. However, it is also true that one could adopt a remedial strategy, and use the results to identify firms with low levels of information seeking with a view to improving their activity, but this is a more difficult strategy.

Subjective Factors

There is a significant relationship between the subjective factors and the level of information search activity of a business. Factors that were significant or near significant are presented below.

The level of search activity *increases* as the perceived importance of each of the following increases:

- The Government of Canada as an information source.
- Industry or trade associations as an information source.
- Outside consultants as an information source.
- Other managers/colleagues as an information source (just short of conventional significance)
- Information on one's industry/sector.
- Information on developing management skills.
- Information on accessing finance/capital (just short of conventional significance).

Conversely, the level of information search activity *decreases* as the perceived importance of each of the following increases:

- Information from provincial governments.
- Information from suppliers.
- The perception of technology issues as a challenge.



The factors that are most significant are information about their industry/sector, followed by the provincial and federal governments as a source of information.

Objective Factors

The results for the business characteristics are more modest but still noteworthy. Specific factors that were significant or near significant include:

- ❑ Rural businesses tend to be lower than urban ones in terms of their level of search activity.
- ❑ The larger the company, both in terms of employees and revenues, the higher the level of activity.
- ❑ Being located in the West reduces the level of information search activity.

The regional dimension has the largest effect.

Level of Use of the Internet

To what extent does your business use the Internet for business purposes? This does not include employees using the Internet for personal reasons. (Q.65)

Subjective Factors

Once again, there is a significant relationship between the subjective factors and the issue being assessed, in this case the level of Internet use by businesses. In this instance, there is a major overall predictive impact. Factors that were significant or near significant are presented below.

The level of Internet use *increases* as the perceived importance of each of the following increases:

- ❑ The Internet as an information source. Not surprisingly, this was the factor that was most significant in terms of 'predicting' Internet use.
- ❑ Industry/trade associations as an information source (just short of conventional significance).
- ❑ E-business as a challenge facing their business.
- ❑ Information on new technologies.



- ❑ Information on innovation.
- ❑ Information on foreign markets.

Conversely, the level of Internet use *decreases* as the perceived importance of each of the following increases:

- ❑ The media as an information source.
- ❑ Suppliers as an information source.
- ❑ Information on government services available to business.
- ❑ Information on labour markets in Canada.
- ❑ Information on accessing finance/capital (just short of conventional significance).

Objective Factors

The results are again more modest but still significant. Specific factors that were significant or near significant include:

- ❑ Rural businesses are less likely to be Internet users than urban firms.
- ❑ The more employees, the higher the level of Internet use.
- ❑ Being in the natural resources/harvesting, construction, retail, accommodation/food, landscaping/horticulture, personal services, restoration sectors reduces the level of Internet use.
- ❑ Being in the real estate, arts/entertainment, legal, consulting/ communications, computers sector increases the level of Internet use.
- ❑ Being located in Ontario reduces the level of Internet use (just short of conventional significance)

Preference for Pro-active vs. Requested Information

Which do you prefer – receiving information on a proactive basis or only when you have requested it? (Q.73)

Subjective Factors

There is a major predictive impact of the subjective factors on the preferred way for receiving information. Factors that were significant or near significant are presented below.



The likelihood of preferring to receive information on a pro-active basis increases as the perceived importance of each of the following increases:

- ❑ Outside private sector consultants as a source of information.
- ❑ Information accessing finance/capital.
- ❑ Information on benchmarking.
- ❑ Information on wages and salaries.
- ❑ Information on innovation.

The likelihood of preferring to receive information only when requested increases as the perceived importance of each of the following increases:

- ❑ Suppliers as a source of information. This is the single factor with the most significant relationship (in statistical terms) to managers' preferences.
- ❑ Provincial governments as a source of information.
- ❑ The Internet as a source of information.
- ❑ The challenge of retaining valued employees.
- ❑ The challenge of attracting capital/financing.
- ❑ Information on one's industry/sector.

Clearly, a wide range of subjective factors is at work here. It appears that certain firms are concerned with staying up-to-date with comparative performance, financing, remuneration and standards data and prefer proactive data distribution as a result of this (it may be that they do not know where to find such information).

Objective Factors

The overall predictive power of these variables is reasonable but not strong. The specific factors that were significant or near significant were:

- ❑ The higher the business revenues, the more likely information will be wanted only when requested.
- ❑ Rural businesses are more likely to opt for information only when requested.
- ❑ The older the business, the more likely information will be wanted on a proactive basis.
- ❑ Being located in Quebec makes it more likely that information will be wanted on a proactive basis.



Preference for Electronic Information vs. Hard Copy

Do you tend to prefer receiving information electronically or in hard copy? (Q.74)

Subjective Factors

The findings here were again significant. The likelihood of preferring electronic information increases as the perceived importance of each of the following increases:

- ❑ The Government of Canada as an information source.
- ❑ The Internet as an information source.
- ❑ Industry/trade associations as a source of information.
- ❑ The challenge of e-business (just short of conventional significance).
- ❑ Information on wages and salaries.

The likelihood of preferring hard copy increases as the perceived importance of each of the following increases:

- ❑ Suppliers as an information source.
- ❑ Provincial governments as an information source.
- ❑ The media as an information source.
- ❑ Outside/private consultants as an information source (just short of conventional significance).
- ❑ The challenge of training and skills development.
- ❑ The challenge of government regulations and compliance.
- ❑ The challenge of obtaining financing/capital (just short of conventional significance).
- ❑ Information on benchmarking.
- ❑ Information on government services available to business.
- ❑ Information on new technologies (just short of conventional significance).

The following factors were the most influential: the Government of Canada and the Internet as information sources, and information on wages and salaries. Wages and salaries information seems to recur as an important area where rapid and unfiltered information is preferred.



Objective Factors

The overall predictive power of these variables is reasonable. However, it should be noted that they work best in predicting the group that prefers hard copy. The impacts of specific variables are:

- ❑ The higher the number of employees, the more likely that electronic information will be preferred.
- ❑ Being in the natural resources/harvesting, utilities, construction, manufacturing, wholesale, retail, transportation/warehousing, finance/insurance, accommodations/food, automotive or personal services sectors increases the likelihood that hard copy will be preferred.
- ❑ Being in the computer sector increases the likelihood that electronic information will be preferred.
- ❑ Being located in any region other than Atlantic Canada increases the likelihood that hard copy will be preferred. This is most true of Quebec and Ontario.

Employee size, being in the accommodation/food sector, and region are the most influential factors.

Government as a Source of Business Information

Importance of Government of Canada as a Source of Business Information

Please rate... the importance of the Government of Canada as a source of business information for your business. (Q.22)

Subjective Factors

There is a significant relationship between subjective factors and the perceived importance of the Government of Canada as a source of business information.

Perception of the importance of the federal government as a source of business information *increases* as the perceived importance of the following increases:

- ❑ Provincial governments as an information source.
- ❑ Banks/financial institutions as a source of information.
- ❑ The Internet as an information source (just short of conventional significance).
- ❑ Information on government services available to business.



- ❑ Information on wages and salaries.

Perception of the importance of the federal government as a source of business information *decreases* as the perceived importance of the following increases:

- ❑ Suppliers as an information source.
- ❑ Government regulations and compliance as a challenge (just short of conventional significance).
- ❑ Technology issues as a challenge (just short of conventional significance).
- ❑ Information on innovation.
- ❑ Information on business trends (just short of conventional significance).
- ❑ Information on foreign markets (just short of conventional significance).

The relationship between levels of government is by far the strongest. Its significance and direction suggest that business managers perceive various levels of government as complementary as opposed to competitive sources of information for business.

The negative impact of technology change and information on innovation is interesting. At the same time, the positive impact of Internet information suggests that the federal government is positively connected with the development of infrastructure based on current technology. What we are speculating is that the federal government may not be seen as a source of technology and information that are specifically relevant to particular kinds of businesses, but it may be seen as a potential promoter of generic information infrastructure that would be relevant to the distribution of a wide variety of information types. The government tends to be perceived as a good source of information for business on wages and salaries.

Objective Factors

Results tend to be more modest but still significant. The perceived importance of the Government of Canada as a source of business information *increases* in relation to each of the following:

- ❑ The older the business.
- ❑ The greater the total revenues of the company.
- ❑ Being in the construction, arts/entertainment, automotive, landscaping/horticultural (just short of conventional significance), or legal sector.

Conversely, the perceived importance of the Government of Canada as a source of business information *decreases* in relation to the following:



- ❑ The higher the stage of development.
- ❑ Being in the finance/insurance, consulting/communications, or restoration sector.
- ❑ Being in the West.

The impact of the arts/entertainment and region (i.e. the West) are the largest. The impact to the stages of development of a business is also relatively large, and this is one of the few instances in which it is significant.

Importance of Information About Government Services

Please rate... the importance of information on government services available to business to your business (Q.46)

Subjective Factors

Once again, the overall results are significant. While the results are impressive, it should be noted that the dependent variable is drawn from one of the batteries that, excluding the dependent variable, is used in the set of predictors. Thus, strong overall explanation is not unexpected.

The perceived importance of information on government services available to business *increases* as the perceived importance of the following increase:

- ❑ Information from the Government of Canada.
- ❑ Information from provincial governments.
- ❑ Information from the media.
- ❑ Government regulations and compliance as a challenge.
- ❑ Keeping valued employees as a challenge (just short of conventional significance).
- ❑ Information on accessing financing/capital.
- ❑ Information on developing management skills.
- ❑ Information on benchmarking.
- ❑ Information on labour markets.
- ❑ Information on new technologies.

Conversely, the perceived importance of information on government services available to business *decreases* as the perceived importance of the following increase:

- ❑ Information from the Internet.
- ❑ Accessing financing/capital as a challenge.



The impact of information on accessing capital was the most significant, followed by the provincial and federal governments as sources of information. This likely means that government in general, regardless of jurisdiction or level, is often regarded as a source of financing.

It is interesting to note that the challenge of accessing financing/capital had a negative effect while the importance of information on the same topic had a large positive effect. That is, firms that are highly challenged in the area are not linking up with information on government services for business, but firms that feel information on financing is important are linking up.

Objective Factors

The predictive power is again modest, but significant, and comparable to other predictive applications of the characteristics of firms.

The perceived importance of information on government services business *is highest* in relation to the following:

- ❑ Being in the arts/entertainment, personal services, construction, real estate or wholesale sector (just short of conventional significance).
- ❑ Being from Quebec or Ontario (both just short of conventional significance).

Conversely, being in utilities, admin support, automotive, landscaping/ horticulture, consulting/communications or restoration sectors reduced the perceived importance of information on government services available to business.

The impact of being from the real estate and arts/entertainment sectors was the largest, followed closely by region. The sectors that associated with large, significant effects suggest that people were not just thinking of the federal level of government in responding to this question. That is, the largest sectoral effects are associated with sectors that would have major regulatory and informational links to local and provincial government, particularly real estate. In looking at the question of government services, people do not necessarily distinguish between one level of government and another.

Note also how non-sectoral characteristics such as size and revenue have no apparent importance in this area. This is worth noting. It may mean that the particular regulatory



structure and market scope of different businesses is very important in determining their perspective on government business information

Government as a Provider of Useful Business Information

I don't really think of government as a provider of useful business information (Q. 49).

Subjective Factors

Overall, the subjective drivers are less significant in this area compared to others in terms of the amount of variation explained.

The perception that government is not a provider of useful business information *decreases* as the perceived importance of each of the following increases (i.e. this is the more positive group):

- ❑ Information from the GOC (just short of conventional significance).
- ❑ Obtaining financing/capital as a challenge, (just short of conventional significance).
- ❑ E-business as a challenge.
- ❑ Technology issues as a challenge.
- ❑ Information on innovation.
- ❑ Information on one's industry/sector.
- ❑ Information on government services available to business (just short of conventional significance).

Conversely, the perception that government is not a provider of useful business information *increases* as the perceived importance of the following increases:

- ❑ Government regulation and compliance as a challenge.
- ❑ Information from other business managers/colleagues.
- ❑ Information from industry/trade associations.
- ❑ Information from banks/financial institutions.
- ❑ Information on new technologies.
- ❑ Information on foreign markets.
- ❑ Information on developing management skills.
- ❑ Information on benchmarking, (just short of conventional significance).
- ❑ Information on business trends (just short of conventional significance).



The importance of technology as a challenge ranks as the most significant factor, followed by the importance of innovation information, and regulatory and e-business challenges. The *direction* of the impact on these things suggest that businesses would like to see more service and assistance in these areas from government or may have had some positive experiences already in that regard.

In short, these are challenges or issues where people are favourably disposed to government information to business – perhaps because the firms are highly challenged and looking for any source of assistance or perhaps because they have had some positive reason or experience that has contributed to positive expectations regarding government information services.

Objective Factors

Overall, the objective factors are very limited in their predictive power in this area. Nonetheless, a few factors do appear to be relevant.

The perception that government is not a provider of useful business information is lower in relation to the following:

- ❑ Being in the landscaping/horticulture sectors.
- ❑ Being from any region of Canada except Atlantic Canada.

Conversely, the perception that government is not a provider of useful business information is higher in the following sectors: natural resource harvesting, oil/gas/mines, manufacturing, wholesale, finance/insurance, management of companies/enterprises, tourism, automotive, industry (just short of conventional significance), legal, personal services, consulting/communications sectors.

Characteristics reflecting the size and development of businesses again have no significant impact. The primary factors relate to sector or region. Note how this has become increasingly true as we have moved into the analysis of variables indicating perspectives on government. This may reflect the fact that regulatory and policy relations of business with government vary by sector. Different sectors relate differently to different levels of government, and that this overrides the impact of other characteristics of the business such as size or revenues.



Contact With or Use of Government Information Services

Contact with the federal government for business assistance

Have you, or has anyone in your business, contacted the Government of Canada in the past year for information or assistance for your business? This does not include dealing with Revenue Canada, now known as the Canada Customs and Revenue Agency, about taxation, the GST or similar matters (Q.52).

From this point on, we are dealing with dependent variables that are direct indicators of contact with and/or use of government information for business.

Subjective Factors

The subjective factors explain a significant amount of the variation in likelihood of contact. That said, the non-contact group is far better predicted than the contact group.

The likelihood of contact with the Government of Canada *increases* as the importance of each of the following increases:

- ❑ Information from the Government of Canada.
- ❑ Information from the media.
- ❑ Recruiting new employees with needed skill as a challenge. This factor has the most significance of all.
- ❑ E-business as a challenge.
- ❑ Government regulations and compliance as a challenge.
- ❑ Information wages and salaries (just short of conventional significance).
- ❑ Information on foreign markets (just short of conventional significance).

Conversely, the likelihood of contact with the Government of Canada *decreases* as the importance of each of the following increases:

- ❑ Information from provincial governments.
- ❑ Information from banks/financial institutions.
- ❑ Information from outside/private sector consultants.



In all likelihood, what we are seeing here is a variety of factors that are associated with *mildly* increased probability of contact with GOC, whereas certain firms that already have well-established relations with private sources (consultants, financial institutions) have moved into a space where government information and services are less critical.

Objective Factors

The overall variance explained is significant. Again, the model predicts those who have not contacted the federal government much better than those who have.

Specific significant effects are:

- ❑ The higher the number of employees, the higher the probability of contacting the Government of Canada.
- ❑ Being in the natural resource harvesting, oil/gas/mining, utilities (just short of conventional significance), manufacturing (just short of conventional significance), construction retail, transportation/warehousing, accommodations/food, automotive, personal services (just short of conventional significance), consulting/communications sectors reduces the probability of contacting the Government of Canada.
- ❑ Being from Ontario reduces the probability of contacting the Government of Canada.

The impact of the number of employees is by far the biggest. The largest sector effect is accommodations/food. As noted elsewhere, firm size is often a good predictor of whether or not a firm will contact government (this is not to say that there are no opportunities to encourage smaller firms to increase their contact with government).

As well, the variety of sectors that have lower levels of contact with the federal government seems to be concentrated in the traditional economy. However, part of what is being seen is the fact that some of these sectors have just as much or more to do with services and/or regulation at other levels of government.



Use of CBSC products and services

Have you ever used any products or services offered by the Canadian Business Service Centres? (Q.59)

Subjective Factors

The overall amount of variation explained is very high. This is probably due to the relatively small number of cases being examined here.

The likelihood of having used products or services offered by the CBSC's *increases* as the perceived importance of the following increases:

- ❑ Keeping valued employees as a challenge (just short of conventional significance).
- ❑ Information on foreign markets.

Conversely, the likelihood of having used any products or services offered by the CBSC's *decreases* as the perceived importance of information on new technologies increases.

The new technologies effect is the largest. This is followed by the foreign markets effect. What is interesting is how well the model performed overall based on such a small number of specific, significant drivers. In any event, the results provide a clear picture of the concerns that are driving contact with CBSC.

Objective Factors

Specific factors that were significant were:

- ❑ Being in the manufacturing, transportation/warehousing, finance/insurance sector increases the probability having contacted a CBSC.
- ❑ Being from Ontario reduces the probability of having contacted a CBSC.

The Ontario impact is the largest. Again, the small number of significant drivers gives a fairly clear picture of the drivers of contacts with CBSCs. It is worth noting that some other factors like firm size and age might become significant were some of the most insignificant variables were dropped from the equation (the significance of results is always subject to the total number of predictors in an equation and the total sample size). In this case, as company age and total revenues increase, the probability of



contacting a CBSC decreases. A bigger number of valid cases for this question would have likely made them more significant.

Attending an Info-Fair

Have you ever attended a Small Business Info-Fair? (Q.60)

Subjective Factors

As is often the case, the smaller group, fair attendees, was much less well predicted than the larger group of non-attendees.

The likelihood of having attended a Small Business Info-Fair *increases* as the perceived importance of each of the following increases:

- ❑ Information from industry/trade associations.
- ❑ Training and skills development as a challenge.
- ❑ Information on accessing finance/capital.

Conversely, the likelihood of having attended a Small Business Info-Fair *decreases* as the perceived importance of each of the following increases:

- ❑ Information from banks/financial institutions.
- ❑ Recruiting employees with needed skills as a challenge.
- ❑ Information on innovation.

The impact of training and skills development and the importance of information from industry/trade associations were the largest. People may view fairs as places where these types of information can be tracked and where tracking of other people in their sector can be pursued. Of course, there is also the ever-present perception of government as a source of money.

Objective Factors

The smaller group, fair attendees, was much less well predicted than the larger group of non-attendees. The specific factors that were significant or near significant were:

- ❑ The higher the stage of development of the business, the higher the probability of having attended a fair (just short of conventional significance).
- ❑ Being in the manufacturing, admin support, arts/entertainment (just short of conventional significance), tourism sector increases the probability of having attended a fair.



- ❑ Being in the natural resource harvesting (just short of conventional significance), retail sector (just short of conventional significance), automotive (just short of conventional significance) reduces the probability of having attended a fair.
- ❑ Being from anywhere except Atlantic Canada reduces the probability of having attended a fair.

The regional dimension was the most significant. This certainly suggests that there is some opportunity for improving the profile of fairs outside of Eastern Canada.

Stage of development does appear as *almost* significant. However, this factor and other objective characteristics of companies continue to play a limited role once we get beyond very general orientations toward information use.

Use of GOC websites

What Government of Canada websites are you aware of? (Q.62)

A variable was created from this question to indicate whether or not the business had ever accessed at least one Government of Canada websites.

Subjective Factors

The likelihood of having visited a Government of Canada website *increases* as the perceived importance of e-business as a challenge increases.

Conversely, the likelihood of having visited a Government of Canada website *decreases* as the perceived importance of the following increases:

- ❑ Information from suppliers (just short of conventional significance).
- ❑ Information from outside/private sector consultants (just short of conventional significance).
- ❑ Technology as a challenge.
- ❑ Information on labour markets.

The e-business dimension is the most important, followed by information on labour markets. An interest in e-business seems to be the main driver attracting people to sites. Alternatively, technology challenges and labour market information, that are not unimportant in other contexts, represent disincentives for site access. However, this might be a function of the content of websites and could represent an opportunity if the content were altered.



Objective Factors

Specific significant effects were:

- ❑ Rural firms are less likely to access GOC sites.
- ❑ The older the business and the higher the number of employees, the higher the probability of accessing a GOC site.
- ❑ The higher the firm revenues, the lower the probability of accessing a GOC website.
- ❑ The higher the stage of development, the lower the probability of accessing a GOC site.
- ❑ Being in the professional/scientific/technical (just short of conventional significance), automotive (just short of conventional significance), consulting/communications, computer, restoration (just short of conventional significance) sectors reduces the probability of accessing a GOC site.

The following factors are the most important: urban-rural, number of employees, revenue and stages of development. This is one of the noteworthy cases where several of these variables were important and, in fact, were the most important. It would appear that urban firms with relatively many employees, small revenues, less developed stages of development, but of higher age are more likely to have accessed GOC sites. Such profiles can be thought of as describing likely future users. Alternatively, the findings can be thought of as defining low-use profiles as a basis for future marketing opportunities (i.e. the flip side of the high users).

Why do firm size and stages of development emerge more clearly here than in most of the other analyses after the first set of variables on general information orientations? It may be that propensity to access websites (whether governmental or otherwise) reflects some general aspect of a firm's information use profile at this point in its history. In other words, it is not so much a matter of predicting access to government websites as general orientation toward the web in any form.



Concluding Comments

We present below general observations about some of the implications to be drawn from this analysis.

Generally speaking, the characteristics of a business (i.e. size, age) are only of importance when explaining general orientations toward information use (or factors such as GOC website use, which are probably good indicators of general information use patterns). They have less importance in explaining perceptions of government as an information provider and specific aspects of contact with GOC information sources. Generally, the larger the business in terms of revenues or employees, the higher the levels of information use and broader the orientation.

It would appear that general orientations toward government as a source of business information and towards specific GOC information services, with the exception of websites, have quite a bit to do with perceived challenges or with the sector in which a particular firm is located.

One can apply various interpretations to the any particular result. If a factor is a positive influence on using government information, one could say that it represents something to be emphasized in marketing future programs. Alternatively, if a factor has a negative influence on government information use, one could either say it should be de-emphasized or that it signals an area where program redesign could take advantage of a yet-unexplored area of program growth. Of course, in reality, these kinds of influence are intermingled in complex ways. To the extent that they can be untangled with the available data, some of the more specific, probable opportunities that emerge from this analysis are:

- ❑ It appears that businesses do see GOC as being compatible with a focus on Internet use. There is also a fairly consistent set of results to suggest that concern with e-business is singularly important to high information users and is also an area where firms would not be averse to getting some input and assistance from GOC. Admittedly, the exact nature of that assistance would have to be explored in more detail. In any event, the conjunction of attitudes toward government, the Internet and e-business challenges probably does represent a complex but important opportunity.
- ❑ There is also a nexus of interest in foreign market information and use of existing specific GOC services. However, there is also a sense in which those concerned



with foreign market information have their doubts about the importance of the federal government as an information source. (For instance, small businesses concerned with foreign markets are likely to be Internet users. Furthermore, they also have an existing predisposition to use conventional GOC information sources: they are more likely to have contacted the GOC in the past year and to have worked with CBSCs. However, on the general indicators of attitudes toward the federal government as an information source or as a provider of useful business information they have a negative or skeptical view.)

- There are regional differences in results that suggest imbalances in the use of government services and satisfaction with them.
- Some other areas where there is a sense that there is a high disposition to information use, an attitude to government information that is not totally negative albeit somewhat skeptical, and where there is specific use of GOC information services are:
 - Firms interested in media information
 - Benchmarking information
 - Wages and salaries information
 - Firms interested in monitoring their industry/sector

Certainly, other areas such as innovation and technology hold some promise, but it would appear as though firms are more interested in government as a developer of infrastructure and services to enable the better use of infrastructure, than in the provision of detailed technical information for a specific industry from government. That is, small business managers do not expect government to be knowledgeable about the details of their sector, but there are certain types of Internet infrastructure, training and generic Internet e-business technology that might be useful to a wide variety of businesses.

Finally, it worth noting that the analysis provides some information to support the idea that certain soft information sectors such as arts and entertainment might be particularly fertile ground for new services and products.

