

AN ANALYSIS OF THE BUSINESS DEMAND
FOR IMPROVED TELECOMMUNICATION SERVICES
IN RURAL CANADA

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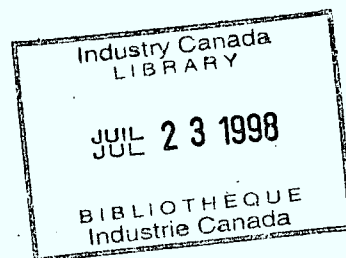
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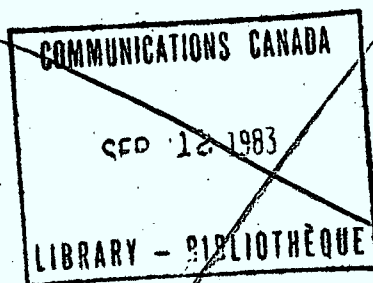
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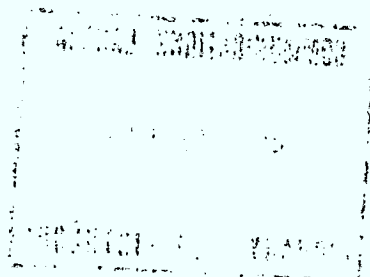
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- slightly less than three quarters (71.4%) of all establishments have only one telephone line although the average is closer to two (1.6).
- the majority (73.8%) of rural businesses in Canada have private line service for their main business line.
- businesses in rural Canada which have party-line service tend to be more physically isolated, and belong to the agricultural sector.
- over half (57.9%) of all businesses in rural Canada pay no more than \$20 a month for basic telephone service (including tax), while the average is \$67.18.
- in terms of long distance charges (excluding tax), almost two-thirds (64.7%) of all rural Canadian businesses spend at most \$50 a month, with an average expenditure of \$67.82.
- essentially two-thirds (66.0%) of all rural businesses in Canada spent \$1,000 or less in total for telephone services in 1980 or the last fiscal year. The national average was \$1,642.83.

EXECUTIVE SUMMARY

This report analyzes the results of a survey of 2,244 rural businesses. These establishments were selected to represent a statistically reliable sample of the approximately 129,000 businesses in rural Canada. In this report, a number of aspects of business telephone and mobile radio services are analyzed to determine the underlying concerns of rural establishments and forecast what services they require in the short term.

Results are presented for four major Standard Industrial Classification (SIC) divisions in each of two size groups (the **Agriculture, Trade and Service** divisions for both **small** and **large** establishments, **Construction** for **small** businesses, and **Manufacturing** for **large** businesses). In addition, national results and data for all **small** (i.e. less than 20 employees) and all **large** (i.e. at least 20 employees but not more than 500) establishments are presented. Some key findings are:

- almost all (98.9%) rural businesses have at least one telephone set and, in fact, the majority (55.9%) have between two and four sets.

- in rural Canada, receiving or placing orders received the highest average score as the basic motivation for using a business telephone.
- other reasons (such as unspecified calls, emergency calls, or calls for data transmission) received the second highest average score, and was followed by sales calls, that is follow-up calls and calls concerning advertising, public relations or promotions.
- a profile of businesses which use their phones for each of these reasons, as well as for administration, personal reasons, information, service and financial reasons, was developed using various business characteristics (such as number of full-time employees, gross annual revenues, seasonality, physical isolation, number of separate business locations, SIC division and regional location). This analysis was undertaken at the national level, as well as for each SIC division and size group.
- the majority of Canadian rural businesses consider every aspect of telephone service to be important (i.e., either "extremely important" or "important").

- in "relative" terms, the billing service and the speed and cost of installation are the least important attributes.
- most (85.6%) establishments in rural Canada are satisfied (i.e., either "very satisfied" or "satisfied") with their overall telephone service. Indeed, the majority of businesses are satisfied with every aspect of service except the size of free calling area (43.8% satisfied).
- at the national level, it was found that as satisfaction with overall telephone service increases, so does the likelihood that businesses will:
 - have private line service
 - be less physically isolated
 - be located in the Prairie region
 - not be located in the B.C. region.
- in rural Canada, businesses indicated that the postal service is the service which requires the most improvement.
- according to the average national rating for each of six public services, telephone service ranked second, and CB or mobile radio services fourth.

- at the national level, as the intensity of need for improvement in the telephone service increases, so does the tendency for businesses to:
 - be less satisfied with their present overall telephone service
 - have party-line service for their main business line
 - be located in Quebec, and not in the Prairie region.
- both users and non-users of CB/mobile radio services rated the need for improvement in six public services, in the same general order. That is, postal service is ranked as the top priority, with telephone service second, and CB/mobile radio services fourth.
- despite the overall trend, CB/mobile radio service users rated the need for improvement in these services significantly higher than did non-users. Additionally, users placed a significantly lower priority on improvements in the telephone service.
- the survey results indicate that there is a strong short term demand for an improved telephone service, and that the demand curves are inelastic (i.e., relatively insensitive to price). In fact, the majority (60%) would subscribe to an "improved service" within twelve months if there was a 25% price increase,

and just less than half (45%) would still subscribe when faced with a 100% price increase.

- the findings also suggest that the demand for an improved service is mainly due to the provision of a larger free calling area (rather than the offer of private line service).
- a profile of those respondents who would have a greater tendency to subscribe to an improved telephone service at each of the three price increases (i.e., 25%, 50% and 100%) was developed by relating the level of short term demand to a set of potential descriptor variables (at the national level only).
- less than ten percent (8.0%) of the establishments in rural Canada use a computerized service or data bank which is remote from the office location.
- while only 7.6% of the "small" establishments use a remote computerized service, roughly three times as many (24.4%) "large" businesses use this type of service.

- in rural Canada, less than ten percent (7.8%) of all businesses are planning to make regular use of a computerized service or data bank withing the next year. A further 27.5% of the businesses do not know whether or not they will make use of such a service.
- while the results for small businesses are essentially the same as the national data, a large proportion of large businesses (22.0%) plan to use a computerized service withing three years.
- almost all (95.8%) of the employers in rural Canada do not use any teletype equipment (i.e., Telex or TWX).
- a much larger proportion (23.4%) of large businesses, than of small organizations (3.7%) do use teletype equipment.
- less than two percent (1.7%) of all rural businesses plan to subscribe to teletype equipment within three years, and a further 21.3% did not know.
- in rural Canada, 13.5% of all businesses currently use General Radio Service (GRS)/Citizen's Band (CB).

- a relatively lower proportion (10.8%) of large businesses, than of small organizations (13.7%) use GRS/CB.
- at the national level, users of GRS/CB services were found to:
 - generally use the service on land (92.1%)
 - employ less than 4 units (79.0%)
 - own the equipment
 - incur total purchase costs of no more than \$600
 - have had the service, on average, for 4 years.
- less than ten percent (6.9%) of the businesses in rural Canada use private commercial services.
- approximately three times as many large establishments (19.2%), as small ones (6.6%), use private commercial services.
- the following observations concerning private commercial service users (at the national level) were noted:
 - almost all businesses reported land applications
 - the majority (67.7%) of businesses use at least four units
 - most (83.3%) businesses own their equipment and paid between \$2000 and \$6000 in total for the equipment
 - the average length of usage is 5 years
 - these establishments have more full-time employees and more separate business locations

- users tend to have higher gross annual revenues.
- 3.9% of all businesses presently use General Mobile Service.
- roughly twice as many large businesses, as small ones, use this service (7.1% vs 3.5%).
- at the national level, users of general mobile service were found to:
 - have at least two units (53.3%)
 - own their equipment
 - be dissatisfied with their current overall telephone service.
- data on Restricted Common Carrier Mobile Radio Service (RCCMRS) users is not presented due to the small user population (the greatest number of users in any of the analysis categories is 15 or 3.2% of all large businesses).
- Paging (public and private commercial) users exist primarily in the service sector of businesses in rural Canada.

- in fact, while only 2.2% of all businesses reported using this service, almost one quarter (24.8%) of the large service organizations utilize paging services.
- large businesses in the service sector which use paging equipment tend to:
 - use the service on land (98.8%)
 - employ at least 4 units (52.9%)
 - generally own the equipment (68.0%)
 - incurred, on average, a total purchase cost of \$3078
 - monthly rental fees averaged \$94.50
 - used the service for at least 2 years (84.6%)
 - have more full-time employees
 - is located in the Prairie region.
- in summary, close to one quarter (23.8%) of all businesses in rural Canada use at least one mobile radio system.
- the total user population among small businesses is 23.5%, and among large organizations is 37.7%.
- satisfaction with overall telephone service is not significantly related to whether or not rural businesses use CB/mobile radio services.
- while GRS/CB services and private commercial services are considered to be the two most important services at

the national level (44.6% and 34.7% respectively), and for small businesses (45.9% and 34.7%), large businesses consider private commercial and paging services to be most important (48.5% and 19.6% respectively).

- over one third (38.0%) of the rural businesses reported an increasing trend in the frequency of making calls on their most important equipment, and almost half (45.0%) indicated no change.
- at least half of the rural businesses in Canada indicated that their mobile radio system (i.e., either GRS/CB, private commercial or general mobile service) was mainly used for communication between vehicles.
- the most often mentioned reason for not using any CB/mobile radio equipment was "no need" (73.4% of mentions).
- other major reasons were that the equipment was "too expensive", or that the business anticipated "problems" with using these services.

- the majority of businesses in rural Canada consider every attribute of CB/mobile radio services to be important (i.e., either "extremely important" or "important"), with the exception of connection to the phone network.
- in rural Canada, almost three quarters (72.6%) of all businesses are satisfied (i.e., either "very satisfied" or "satisfied") with the overall service of their CB/mobile radio equipment.
- in "relative" terms, fewer businesses (55.5%) are satisfied with the range of their equipment, than with any other attribute - particularly the ease of getting a channel when needed (80.3% satisfied).
- a greater proportion of both large and small agricultural establishments are relatively less satisfied with CB/mobile radio services.
- the results of this survey indicate that there is a short-term demand for a combined telephone and mobile radio service among businesses in rural Canada. Slightly more than one-third (36%) of these businesses would purchase the equipment needed for this service at

a price of \$300, and the proportion drops to only 29% at the \$700 price level.

- as hypothesized, current "users" of CB/mobile radio services are significantly more likely to purchase the necessary equipment for this service, than are "non-users".
- satisfaction with current service (i.e., CB/mobile radio services) does not contribute significantly to the demand for the new service offering.
- a profile of those businesses which would have a greater tendency to purchase the new service, at each of the three different price levels (i.e., \$300, \$500 and \$700) was developed by relating the level of demand to a set of potential descriptor variables (at the national level only).
- approximately one quarter (26.5%) of the businesses which presently use CB/mobile radio services, plan to change their system within the next three years. Of these organizations, over half (64.0%) plan to switch to a different system, rather than adding more units/sets.

- in rural Canada, approximately one tenth (10.9%) of those businesses which do not currently use CB/mobile radio services, are planning to make regular use of some sort of mobile radio equipment within the next three years.
- for both small and large businesses, agricultural organizations are the most interested in utilizing CB/mobile radio services.

I. INTRODUCTION

1.1 Background

The present document is one of a series of four, reporting on an empirical analysis of the need and demand for improved telecommunication services in rural Canada; it focuses on **business telephone and mobile radio services**.

The identification of the needs of rural people and the analysis of their demand is one of the many facets of Phase II of the Rural Communications Program¹; its *raison d'être* has been expressed by Keith Richardson (DOC) in the following fashion:

"The Rural Communications Program was established by the Department of Communications as a result of growing concern about the apparently increasing disparity in the level of communications services available in urban and rural Canada ... The basic problems with rural communications are related to cost, i.e. the high cost of providing services from a distribution point to subscribers scattered over a wide geographic area. This fact, coupled with a relatively small market base, results in a high unit cost per subscriber and hence service which is "uneconomic" at affordable rates. Fortunately, at this point in time, several new technologies appear to have the potential for altering the cost equations in a significant way. Briefly, studies have identified the most promising technologies for the delivery of services to rural homes to be:

¹ "Present Status of Rural Communications in Canada", Inter-Branch Working Group on Rural Communications, Department of Communications, Ottawa, (July 1976).

- broadband networks based on fiber optic or coaxial cables
- satellite direct to home broadcasting
- radio telephone distribution systems

Each technology has its own special capabilities ...; however which technology or technologies should be brought forward is not obvious, partly because the Department does not yet have a clear understanding of the service requirements of the rural subscriber and his ability and willingness to pay for improvement."¹

This statement gives the rationale behind the analysis of demand and clarifies the nature of the input required. The purpose of this report is to provide that input with respect to business telephone and mobile radio services. Results dealing with residential telephone service, residential television service, residential mobile radio service can be found in companion reports.^{2,3,4}

Demand analysis and forecasting is a difficult exercise; the validity of the results rests upon:

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- ¹ Richardson, K., "Study of the Demand for Communication Services in Rural Canada - Field Survey - Domestic Segment". Planning Report, Department of Communications, Ottawa, (May 1980), p.3.
 - ² Bourgeois, J.C. and Camprieu, R. (de), "An Analysis of the Residential Demand for Improved Television Services in Rural Canada", DEMAND Research Consultants Inc., Ottawa, (March, 1982).
 - ³ Bourgeois, J.C. and Camprieu, R. (de), "An Analysis of the Residential Demand for Mobile Radio Services in Rural Canada", DEMAND Research Consultants Inc., Ottawa, (March, 1982).
 - ⁴ Bourgeois, J.C. and Camprieu, R. (de), "An Analysis of the Residential Demand for Improved Telephone Services in Rural Canada", DEMAND Research Consultants Inc., Ottawa, (March, 1982).

- 1) the research objectives that are pursued,
- 2) the relevance of a series of assumptions and operational definitions, and
- 3) the appropriateness of the methodological apparatus set up to infer needs and demand forecasts.

The research objectives underlying this report are stated in section 1.2, and a summary of the methodology is given in section 1.3. Appendix A provides a more detailed account of the methodology.

1.2 Objectives

The overall objective of this report is to provide a **need analysis** and **demand forecasting** with respect to two communication services (telephone and mobile radio), for rural **businesses**. Specific actionable objectives have been identified as follows.

1.2.1 Objectives of Need Analysis

- Survey current usage patterns and costs with respect to telephone service and mobile radio service. The information will indicate how and at what costs rural businesses currently satisfy their telecommunication needs with these two media.
- Identify the motivations underlying the current usage (or non-usage) of telephone and mobile radio. This will indicate why (or alternatively what for) rural businesses use (or do not use) these services.
- Estimate the degree of satisfaction with the various aspects of their current telephone and mobile radio service.
- Estimate the strength of the need for improvement in telephone and mobile radio service relative to other communications services.

- Identify the perceived importance of the various characteristics of telephone and mobile radio service. If there is a need for improvement in these services, the information will indicate what exactly needs to be improved.

1.2.2 Objectives of Demand Forecasting

- Estimate the "short-term" (one year time horizon) demand for an improved telephone service (private line and extended free call area).
- Estimate the "short-term" (one year time horizon) demand for a service combining the benefits of mobile radio and telephone services.

1.2.3 Extent of Analysis

Need analysis and demand estimates will be derived:

- on a national basis
- for the following SIC divisions:
 - "large" businesses (20 full time employees or more)
 - Agriculture (SIC code 1)
 - Manufacturing (SIC code 5)
 - Trade (SIC code 8)
 - Service (SIC code 10)
 - All "large" businesses
 - "small" establishments (less than 20 full time employees)
 - Agriculture (SIC code 1)
 - Construction (SIC code 6)
 - Trade (SIC code 8)
 - Services (SIC code 10)
 - All "small" businesses

The survey also covers general data on each business unit surveyed. This information can be used to identify "which type of business establishment needs what"; however the extent and depth of this analysis will be limited to a few relationships

explicitly requested by the Department of Communications, although further analyses are also possible.

1.3 Overview of Methodology

This section gives a brief account of the methodology described in Appendix A and, in more detail, in two companion reports.^{1,2}

The data required to answer the research questions underlying the objectives was collected by means of a self-administered questionnaire mailed to a sample of 5,983 "rural employers" drawn from the Business Register Master File (BRMF). The terms "rural" and "employers" are defined in Appendix A. The mail sample size was chosen under the assumption that a response rate of 20% would yield a basic target of 100 returns in each of the subgroups identified in section 1.2.3. The 100 returns target allows for the provision of estimates with an accuracy of +10% at the 95% level of confidence, as requested³ by the Department of Communications.

The present document reports on the analysis of 2,244 usable questionnaires. The questionnaire is reproduced in Appendix B and the forecasting model used is discussed in Appendix A. Two different weighting schemes were used to produce overall national estimates and national estimates for the large and small categories separately (see Appendix A).

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- 1 Brown, Steve and Richardson, Keith, "Sampling Frame for the Rural Residential and Business Demand Surveys", Department of Communications, Ottawa, (May 1981).
 - 2 Brown, Steve, "Planning and Operational Aspects of a Mail Survey of Employers in Rural Canada", Department of Communications, Ottawa, (May 1981).
 - 3 Richardson, Keith, "Study of the Demand for Communications Services in Rural Canada - Field Survey - Business Segment", Planning Report, Department of Communications, Ottawa, (December 1980), pp. 7-10.

II. Analysis of Results

2.1 Telephone and Data/Message Services

2.1.1 Services Currently Used

2.1.1.1 Number of Telephone Sets and Lines¹

In Canada 1.1% of all rural businesses do not have a telephone, while the majority (55.9%) have between two and four sets and the average is 3. Of the small businesses² in Canada, approximately two thirds (65.9%) have at most two telephone sets, while a further 22.5% have three or four. There is a statistically significant³ relationship between the Standard Industrial Classification (SIC) of small businesses, and the number of telephone sets used. For example, while almost half (52.8%) of small service businesses have no more than two telephones, this proportion increases to 71.2% for construction businesses (see Table 1). In fact, the average number of telephone

¹ Based on responses to Questions 2 and 3. The questionnaire is reproduced in Appendix B.

² Small businesses are defined to be those with less than 20 full-time employees.

³ All measures of association are deemed statistically significant if they reach the 5.0% level of significance or less.

TABLE 1
Number of Telephone Sets
SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
0	0.5% (1)	1.2% (2)	1.5% (4)	1.6% (6)	1.1% (5)	1.1% (5)
1	33.8 (68)	35.9 (61)	24.3 (65)	25.9 (97)	30.7 (137)	30.0 (138)
2	36.3 (73)	34.1 (58)	34.8 (93)	25.3 (95)	34.1 (153)	33.5 (154)
3-4	21.9 (44)	19.4 (33)	23.6 (63)	20.0 (75)	22.5 (101)	22.4 (102)
5-9	5.0 (10)	8.2 (14)	13.9 (37)	19.7 (74)	9.6 (43)	10.2 (47)
10 or more	2.5 (5)	1.2 (2)	1.9 (5)	7.5 (28)	1.9 (9)	2.8 (13)
Total	100.0 (201)	100.0 (170)	100.0 (267)	100.0 (375)	100.0 (447)	100.0 (460)
Average ¹	2.6	2.3	2.8	4.0	2.7	3.0

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the SIC divisions, "all small businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

¹ The "mean" number of telephone sets.

TABLE 2
Number of Telephone Sets
LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
0	0.0% (0)	0.0% (0)	1.0% (1)	0.6% (2)	0.5% (2)	1.1% (5)
1	19.6 (10)	3.6 (11)	1.0 (1)	1.9 (6)	5.1 (24)	30.0 (138)
2	17.7 (9)	8.2 (25)	5.8 (6)	4.0 (13)	8.1 (37)	33.5 (154)
3-4	31.4 (16)	14.5 (44)	6.7 (7)	13.6 (44)	16.2 (74)	22.4 (102)
5-9	25.5 (13)	35.5 (108)	44.2 (46)	25.4 (82)	32.5 (149)	10.2 (47)
10 or more	5.9 (3)	38.2 (116)	41.4 (43)	54.5 (176)	37.6 (172)	2.8 (13)
Total	100.0 (51)	100.0 (304)	100.0 (104)	100.0 (323)	100.0 (457)	100.0 (460)
Average¹	4.0	11.7	10.6	19.0	12.4	3.0

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the SIC divisions, "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

¹ The "mean" number of telephone sets.



sets ranges from a low of just over two in the construction industry, to four for services. For all small businesses the average is just under 3 (ie; 2.7).

Only 0.5% of all large businesses¹ have no telephone and almost three quarters (70.1%) have more than four telephone sets. Ownership of greater or fewer telephone sets is significantly related to the SIC division of large businesses. Although 85.6% of the large trade organizations in rural Canada have at least five telephone sets, this is only true for less than a third (31.4%) of large agricultural businesses (see Table 2). While the average number of sets for all large rural businesses is over 12, the average ranges from four for agricultural businesses, to 19 for those in the services division.

In rural Canada, almost three quarters (71.4%) of all businesses have only one telephone line (see Table 3), although the average is 1.6. The findings are similar for all small rural businesses but there is a significant relationship between the number of telephone lines and SIC division. While just over one half (53.8%) of businesses in the service division have only one line, this is true for 86.0% of those in

¹ Large businesses have 20 to 499 employees.

TABLE 3
Number of Different Telephone Lines
SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
0	0.0% (0)	0.0% (0)	0.4% (1)	0.5% (2)	0.2% (1)	0.2% (1)
1	86.0 (172)	75.9 (129)	67.6 (177)	53.8 (199)	72.7 (323)	71.4 (325)
2	7.5 (15)	17.1 (29)	20.2 (53)	26.8 (99)	17.4 (77)	17.6 (80)
3-4	4.5 (9)	5.9 (10)	9.9 (26)	15.4 (57)	8.0 (35)	8.6 (39)
5 or more	2.0 (4)	1.2 (2)	1.9 (5)	3.5 (13)	1.7 (8)	2.2 (10)
Total	100.0 (200)	100.0 (170)	100.0 (262)	100.0 (370)	100.0 (444)	100.0 (456)
Average ¹	1.3	1.4	1.5	1.9	1.5	1.6

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the SIC divisions, "all small businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

¹ The "mean" number of different telephone lines.

TABLE 4
Number of Different Telephone Lines
LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONA
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
0	0.0% (0)	0.0% (0)	0.0% (0)	0.3% (1)	0.1% (0)	0.2% (1)
1	57.7 (30)	16.5 (50)	8.7 (9)	10.2 (33)	19.0 (87)	71.4 (325)
2	21.2 (11)	23.7 (72)	18.3 (19)	26.6 (86)	25.4 (116)	17.6 (80)
3-4	17.3 (9)	38.2 (116)	41.4 (43)	35.3 (114)	34.1 (155)	8.6 (39)
5 or more	3.9 (2)	21.7 (66)	31.7 (33)	27.6 (89)	21.4 (98)	2.2 (10)
Total	100.0 (52)	100.0 (304)	100.0 (104)	100.0 (323)	100.0 (455)	100.0 (456)
Average ¹	1.8	3.8	4.3	4.3	3.7	1.6

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the SIC divisions, "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

1. The "mean" number of different telephone lines.

agriculture. The average number of telephone lines varies from just over 1 (1.3) for agricultural organizations, to almost 2 (1.9) for service businesses.

With regard to large rural businesses, most (55.5%) have at least three telephone lines and, in fact, the average is almost four (3.7). While this is generally the case for the SIC divisions, there is a statistically significant relationship between the number of lines and the industrial classification. For instance, over half (57.7%) of the large agricultural businesses have only one telephone line whereas the majority (73.1%) of those in the trade division have at least three lines (see Table 4). These differences may be further highlighted by examining the average number of lines used. Agricultural businesses, on the average, have less than two (1.8) different lines, compared to over four (4.3) for businesses in the trade or service sectors.

2.1.1.2 Line Mix¹

As indicated in the previous section, the majority (71.4%) of all rural businesses have only one telephone

¹ Question 4.

line. This is the case regardless of the type of service received, that is, private line service, two-party, four-party or multi-party service. However, in relative terms, a larger proportion of businesses who receive party-line service, than those who have private lines, have only one line (see Table 5). This is also true for small businesses in general, although not necessarily for businesses in each SIC division. For example, a relatively larger proportion of the small agricultural businesses with private lines or two-party service have only one line, than do those with four or multi-party service.

With regard to large businesses, fewer respondents with private lines or multi-party service have only one line than is the case for those with two or four party service (see Table 6). In fact, approximately 85 percent of the businesses in the manufacturing, trade and service sectors which have private lines, have more than one. On the other hand, the majority (53.5%) of the large agricultural businesses with private line service have only one line.

TABLE 5

**Line Mix
SMALL BUSINESSES**

		SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
		AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
Private							
Lines:	1	88.3%	78.9%	71.1%	53.6%	72.2%	70.4%
		(68)	(112)	(167)	(177)	(236)	(238)
	2	7.8	13.4	18.3	27.0	18.0	18.3
		(6)	(19)	(43)	(89)	(59)	(62)
	3 or more	3.9	7.7	10.6	19.4	9.8	11.2
		(3)	(11)	(25)	(64)	(32)	(38)
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		(77)	(142)	(235)	(330)	(327)	(338)
Two-Party							
Lines:	1	91.7%	80.0%	35.7%	66.7%	79.6%	78.0%
		(44)	(12)	(5)	(16)	39)	(39)
	2 or more	8.3	20.0	64.3	33.3	20.4	22.0
		(4)	(3)	(9)	(8)	(10)	(11)
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		(48)	(15)	(14)	(24)	(49)	50)
Four-Party							
Lines:	1	82.0%	92.3%	84.6%	78.6%	83.6%	82.1%
		(50)	(12)	(11)	(11)	(46)	(46)
	2 or more	18.0	7.7	15.4	21.4	16.4	17.9
		(11)	(1)	(2)	(3)	(9)	10)
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		(61)	(13)	(13)	(14)	(55)	(56)
Multi-Party							
Lines:	1	83.3%	85.7%	70.0%	70.6%	80.0%	78.1%
		(20)	(6)	(7)	12)	(24)	(25)
	2 or more	16.7	14.3	30.0	29.4	20.0	21.9
		(4)	(1)	(3)	(5)	(6)	(7)
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		(24)	(7)	(10)	(17)	(30)	32)

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the SIC divisions, "all small businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

TABLE 6

**Line Mix
LARGE BUSINESSES**

SIC DIVISION

	SIC DIVISION			ALL LARGE BUSINESSES		NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
Private						
Lines: 1	53.5%	15.8%	10.4%	14.9%	19.4%	70.4%
	(23)	(46)	(10)	(44)	(81)	(238)
2	23.3	25.0	20.8	28.5	26.6	18.3
	(10)	(73)	(20)	(84)	(111)	(62)
3 or more	23.3	59.2	68.8	56.6	54.0	11.2
	(10)	(173)	(66)	(167)	(225)	(38)
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	(43)	(292)	(96)	(295)	(417)	(338)
Two-Party						
Lines: 1	85.7%	71.4%	10.0%	51.7%	51.6%	78.0%
	(6)	(5)	(1)	(15)	(16)	(39)
2 or more	14.3	28.6	90.0	48.3	48.4	22.0
	(1)	(2)	(9)	(14)	(15)	(11)
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	(7)	(7)	(10)	(29)	(31)	(50)
Four-Party						
Lines: 1	66.7%	62.5%	50.0%	40.0%	63.2%	82.1%
	(2)	(5)	(2)	(4)	(12)	(46)
2 or more	33.3	37.5	50.0	60.0	36.8	17.9
	(1)	(3)	(2)	(6)	(7)	(10)
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	(3)	(8)	(4)	(10)	(19)	(56)
Multi-Party						
Lines: 1	100.0%	40.0%	33.3%	25.6%	33.3%	78.1%
	(1)	(4)	(2)	(10)	(10)	(25)
2 or more	0.0	60.0	66.7	74.4	66.7	21.9
	(0)	(6)	(4)	(29)	(20)	(7)
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	(1)	(10)	(6)	(39)	(30)	(32)

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the SIC divisions, "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

2.1.1.3 Main Business Line¹

Roughly three quarters (73.8%) of the rural businesses in Canada have private line service for their main business line. Although this is also the case for all small businesses, there is a significant relationship between the type of service and SIC division. Approximately half as many small agricultural organizations, as those in the other SIC classifications, have private line service (see Table 7). In fact, almost one quarter of the agricultural businesses have two-party (22.8%), or four-party service (26.7%).

A relatively larger proportion (87.6%) of large businesses have private line service than is the case for small businesses (73.5%). While in each SIC division, the majority of large businesses have private line service for their main line, there is a significant relationship with the type of business (see Table 8). Comparatively more large manufacturing organizations, than agricultural businesses, have private service (i.e. 95.1% versus 78.9%). On the other hand, a larger proportion of large service

¹ Question 5.

TABLE 7

Main Business Line

SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
Private Line	40.6% (82)	81.3% (139)	89.0% (234)	87.6% (325)	73.5% (327)	73.8% (337)
Two-Party Line	22.8 (46)	5.9 (10)	3.4 (9)	5.1 (19)	9.5 (42)	9.4 (43)
Four-Party Line	26.7 (54)	7.6 (13)	4.6 (12)	3.5 (13)	10.9 (49)	10.7 (49)
Multi-Party Line	9.9 (20)	5.3 (9)	3.0 (8)	3.8 (14)	6.1 (27)	6.1 (28)
Total	100.0 (202)	100.0 (171)	100.0 (263)	100.0 (371)	100.0 (445)	100.0 (457)

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the SIC divisions, "all small businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

TABLE 8
Main Business Line
LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
Private Line	78.9% (41)	95.1% (289)	86.5% (90)	84.6% (274)	87.6% (401)	73.8% (337)
Two-Party Line	15.4 (8)	1.3 (4)	5.8 (6)	3.7 (12)	4.0 (18)	9.4 (43)
Four-Party Line	5.8 (3)	1.6 (5)	1.9 (2)	2.2 (7)	3.0 (14)	10.7 (49)
Multi-Party Line	0.0 (0)	2.0 (6)	5.8 (6)	9.6 (31)	5.4 (25)	6.1 (28)
Total	100.0 (52)	100.0 (304)	100.0 (104)	100.0 (324)	100.0 (457)	100.0 (457)

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the SIC divisions, "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

organizations have multi-party service, than do any of the other SIC divisions.

A statistical measure was computed to measure the degree of association between the type of service of the main business line, and various business characteristics.¹ The results of this analysis for rural businesses in Canada indicate that a number of the correlates are significant.²

At the national level, the results indicate that businesses with party-line service are more likely to:

- be more physically isolated³. A larger proportion of businesses with multi-party service, than with private lines, are more isolated than the national average (54.8% vs 29.5%).
- be in the agricultural sector. Relatively more of the businesses with party-line service, than with private lines, are agricultural (14.8% of those with private lines versus 63.8% with two-party service, 64.0% with four-party service, and 41.6% with multi-party service).

1 These characteristics are:

- number of full-time employees at this location
- total gross annual revenue at this location
- physical isolation
- main activity
- region

2 Only those relationships with a Pearson Correlation Coefficient which exceeds ± 0.10 are reported, and further discussed with their associated significant crosstabulation. This practise will be continued throughout the report.

3 Physical isolation is determined by the distance to the nearest city and to the nearest bank.

Small businesses with party service for their main business line, are more likely to:

- be more physically isolated. Almost twice as many respondents with multi-party service as with private lines, are more isolated than is the average for small businesses (55.2% vs 28.7%).
- have fewer full-time employees at this location.
- be in the agricultural sector. A larger proportion of businesses with multi-party service, than with private lines, are in this sector (42.5% vs 15.0%).
- not be in the service division. Comparatively more businesses with private line service, than with multi-party service, are in this sector (24.6% vs 14.4%).

Examining the results of this analysis for small businesses in each SIC division, the following conclusions may be made with regard to the type of service on the main business line:

a) small agricultural businesses with party line service tend to:

- be more physically isolated. A larger proportion of the businesses with multi-party service, than with private lines, are more isolated than is the average for small agricultural employers (55.0% vs 28.8%).
- have fewer full-time employees at this location.

b) small construction businesses with party-line service were found to be more physically isolated.

- c) for small trade businesses and small organizations in the service sector, the type of main business line was not significantly associated with any business characteristics.

Large businesses with party-line service tend to:

- be more physically isolated.
- be agricultural businesses. A larger proportion of those businesses with two-party service, than of those with a private line, are in the agricultural sector (32.1% vs 6.8%).
- be in the service sector. While over half (56.8%) of the businesses with multi-party service are in this sector, this is true of only just over a third (36.3%) of those with private lines.
- not be in manufacturing. Roughly three times as many businesses with private lines, as those with multi-party lines, are in this SIC division (27.8% vs 9.1%).
- be located in the Prairie region, or in B.C. Relatively more businesses located in these regions have multi-party service, than private lines (in the Prairies, 44.8% vs 22.3%; in B.C.: 19.7% vs 9.9%).
- not be located in Quebec or Ontario. On the other hand, large businesses located in these regions are more likely to have private lines, than multi-party lines (in Quebec, 31.5% vs 5.2%; in Ontario, 19.3% vs 15.5%).

The results of this analysis, carried out for large businesses in each SIC division, indicates the following:

- a) large agricultural businesses with party-line service are more likely to be more physically isolated.

- b) as the tendency to have party-line service on the main business line increases for large manufacturing employers, so does the tendency for the business to:
- have higher gross annual revenues.
 - be located in the Prairie region. While one half (50.0%) of the businesses with multi-party service are situated in this region, this is true for less than one tenth (6.6%) of those with private line service.
- c) with regard to large trade businesses, no significant relationships exist between the type of telephone service received and business characteristics.
- d) those large businesses which are in the service sector, and have party-line service are more likely to be located in the Prairie region. A larger proportion of the organizations with multi-party service, than with private lines, are located in this region (58.1% vs 36.1%).

2.1.1.4 Usage of Remote Computerized Service¹

Less than ten percent (8.0%) of businesses in rural Canada use a computerized service or data bank which is remote from the office location. Of those businesses which do use such a service, the majority (79.0%) do not access the service by a terminal on location. A similar proportion (7.6%) of small businesses use a remote computerized service or data bank (see Table 9). However, there is a significant relationship between

¹ Question 7.

TABLE 9
Remote Computerized Services
SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
Accessed by Terminal on Location						
Yes	7.1% (1)	28.6% (2)	19.4% (6)	7.7% (3)	20.9% (7)	21.0% (7)
No	92.9 (13)	71.4 (5)	80.7 (25)	92.3 (36)	79.1 (25)	79.0 (27)
Total with Service:	7.5% (15)	4.7% (8)	12.6% (33)	11.0% (41)	7.6% (33)	8.0% (36)

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the SIC divisions, "all small businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

TABLE 10
Remote Computerized Services
LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONA
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
Accessed by Terminal on Location:						
Yes	12.5% (1)	28.6% (14)	34.2% (14)	13.8% (12)	22.7% (24)	21.0% (7)
No	87.5 (7)	71.4 (35)	65.9 (27)	86.2 (75)	77.3 (83)	79.0 (27)
Total with Service:	15.4% (8)	16.5% (49)	40.4% (42)	27.5% (90)	24.4% (111)	8.0% (36)

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the SIC divisions, "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

the type of small business, and use of computer services. Less than five percent (4.7%) of small construction companies use this type of service, while this proportion almost triples (12.6%) for businesses in the trade classification. As was the case at the national level, the majority (79.1%) of all small businesses do not use a terminal on location. This is true regardless of the SIC division.

On the other hand, approximately one quarter (24.4%) of all large businesses use a computerized service or data bank remote from the office location. Usage of such a service varies from 15.4% of large agricultural organizations, to 40.4% of those businesses in the trade division (see Table 10). This relationship is significant, as is the relationship between SIC divisions and whether or not the service is accessed by a terminal on location. While roughly three quarters (77.3%) of all large businesses which use this type of service, do not use a terminal on location, this proportion varies from 65.9% of "trade" businesses, to 87.5% of the large agricultural businesses.

In order to measure the degree of association between the likelihood of using remote computer



services and various characteristics of businesses¹, a statistical measure was computed. The resulting data, although not significant at the national level, or for all small and all large companies, indicated that **small trade businesses** which tend to use remote computer services are more likely to:

- **have more full time employees.** Roughly one quarter more of the businesses which use computer services, than those which do not, have between 4 and 10 full-time employees at this location (75.8% vs 48.5%).
- **be more physically isolated.**

Similarly, **small businesses** in the service sector which use computer services tend to:

- **have more full-time employees at this location.** While the majority (82.9%) of the businesses which use this type of service have between 4 and 10 full-time employees, this is not the case for those organizations which do not use this type of service (45.0%).
- **have higher total gross revenues for this location.** Relatively more of these businesses earn over \$300,000 in a year (68.8% vs 20.2%).

¹ These characteristics are:

- number of full-time employees at this location;
- total gross annual revenue at this location;
- physical isolation;
- main activity of the organization; and,
- regional location.

For small businesses in the agricultural and construction divisions, no significant relationships exist between using remote computer services and business characteristics. This is also the case for large businesses in the manufacturing sector.

Large agricultural businesses which use remote computer systems or data banks are more likely to:

- have more full-time employees at this location.
- have higher total annual gross revenues.

Those large businesses which are involved with trade and utilize a computer system, tend to be located in the Prairie region, or in Ontario. Relatively more of these businesses, than those which do not use such a system, are located in the Prairies (33.3% vs 16.1%), or in Ontario (28.6% vs 16.1%).

Large businesses in the service sector which use a remote computerized service, are likely to:

- be less physically isolated.
- be located in the Prairie region or B.C. A larger proportion of the businesses which use such a service, than those which do not, are located in the Prairies (45.6% vs 39.2%), or in B.C. (21.1% vs 9.7%).

2.1.1.5 Usage of Teletype Equipment¹

The majority (95.8%) of rural businesses in Canada do not use any teletype equipment (i.e. Telex or TWX). Similarly, a small percentage (3.7%) of small businesses use this type of equipment. Yet, examining the various SIC divisions, there is a significant relationship with usage of teletype equipment (see Table 11). Only one percent of the small agricultural organizations use equipment of this nature, while usage increases to over five percent (5.6%) of those businesses in the service sector.

A larger proportion of large businesses (23.4%) use teletype equipment. As was the case for small businesses, there is a significant relationship between the type of business and whether or not Telex or TWX equipment is utilized (see Table 12). While less than ten percent (7.7%) of large agricultural employers use teletype equipment, this proportion more than triples for manufacturing businesses (36.0%).

¹ Question 9.

TABLE 11
Usage of Teletype Equipment
SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
YES	1.0% (2)	1.7% (3)	3.0% (8)	5.6% (21)	3.7% (16)	4.2% (19)
NO	99.0 (195)	98.3 (169)	97.0 (256)	94.4 (353)	96.3 (428)	95.8 (436)
Total	100.0 (197)	100.0 (172)	100.0 (264)	100.0 (374)	100.0 (444)	100.0 (456)

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the SIC divisions, "all small businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

TABLE 12
Usage of Teletype Equipment
LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
YES	7.7% (4)	36.0% (109)	30.1% (31)	20.4% (67)	23.4% (107)	4.2% (19)
NO	92.3 (48)	64.0 (194)	69.9 (72)	79.6 (261)	76.6 (351)	95.8 (436)
Total	100.0 (52)	100.0 (303)	100.0 (103)	100.0 (328)	100.0 (457)	100.0 (456)

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the SIC divisions, "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

The relationship between usage of teletype equipment and various business characteristics¹ was investigated. The results of this exercise, at the national level, suggest that rural businesses with teletype equipment tend to:

- **have more full-time employees.** While over half (56.9%) of the businesses which do not use teletype equipment have less than 4 employees at this location, this is true for only 29.7% of those which do have this type of equipment.

This analysis indicated that for all small businesses, and for most SIC divisions, there were no significant relationship between subscription to any teletype equipment and business characteristics. However, for small businesses in the service sector, those which do use this type of service tend to have higher total annual gross revenues.

On the other hand, for all large businesses it was found that those which use teletype services are more likely to:

-
- ¹ These characteristics are:
- number of full-time employees at this location;
 - total gross annual revenues for this location;
 - physical isolation;
 - main activity of the organization; and,
 - regional location.

- **have more full-time employees at this location.** Approximately twice as many of these employers, as those which do not use this type of service, have over 60 full-time employees (42.4% vs 20.0%).
- **have higher gross annual revenues.** Relatively more of these organizations earned over \$300,000 in their last year (96.4% vs 81.2%)
- **be in manufacturing.** A larger proportion of these businesses are in the manufacturing sector (38.0% vs 21.8%).

Examining the various industrial classifications for large businesses, the following conclusions may be made:

- a) **large agricultural organizations which subscribe to teletype services tend to have more full-time employees at one location.**
- b) **large businesses in the manufacturing sector which use this type of equipment are more likely to:**
 - **have more full-time employees.** Essentially twice as many businesses which use this type of service, as those which do not, have more than 60 full-time employees (68.8% vs 34.0%).
 - **have higher gross annual revenues.**
 - **be located in Ontario or B.C.** Relatively more of these businesses are in Ontario (23.9% vs 16.0%), or B.C. (12.8% vs 4.1%).
- c) **in the trade division, large businesses which use teletype equipment tend to have higher gross annual revenues.**
- d) **large businesses in the service sector which subscribe to teletype equipment are likely to be located in the Prairie region.** Comparatively more of the organizations which do use Telex or TWX, than those which do not, are in the Prairie region (59.7% vs 36.4%).

2.1.1.6 Expenses for Telephone Services¹

Over half (57.9%) of all businesses in rural Canada pay no more than \$20 a month for basic telephone service (including tax), although the average is \$67.18. In fact, less than one fifth (17.1%) pay more than \$50 a month. The results found for small businesses in general are similar to the national data in that the majority (59.1%) pay \$20 or less a month for basic service and the average charge is \$59.70. There is, however, a significant relationship between the main activity of small businesses, and the basic monthly rate (see Table 13). While almost all (84.3%) small agricultural employers pay no more than \$20 a month, this is true for less than half (44.6%) of those organizations involved in trade. This is further exemplified by the average basic monthly charge which varies from \$18.69 in the agricultural sector, to \$85.78 in the trade division.

Not surprisingly, large businesses tend to pay more for basic service. Indeed, the majority (59.2%) of these businesses pay more than \$100 a month, and the average basic rate is roughly six times that of small businesses (\$347.81 versus \$59.70). The basic monthly

1. Question 14.

TABLE 13
Basic Monthly Charge (Including Tax)
SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
≤ \$10	59.3% (64)	27.9% (29)	11.9% (20)	22.7% (51)	29.8% (78)	29.2% (79)
\$11-\$20	25.0 (27)	29.8 (31)	32.7 (55)	26.2 (59)	29.3 (77)	28.7 (77)
\$21-\$50	12.0 (13)	24.0 (25)	36.9 (62)	24.0 (54)	25.3 (66)	25.0 (68)
\$51-\$100	0.9 (1)	4.8 (5)	9.5 (16)	12.4 (28)	8.1 (21)	8.3 (22)
\$101-\$500	2.8 (3)	11.5 (12)	7.7 (13)	12.4 (28)	6.7 (18)	7.5 (20)
≥ \$501	0.0 (0)	1.9 (2)	1.2 (2)	2.2 (5)	0.8 (2)	1.3 (4)
Total	100.0 (108)	100.0 (104)	100.0 (168)	100.0 (225)	100.0 (262)	100.0 (270)
Average	\$18.69	\$78.94	\$85.78	\$63.54	\$59.70	\$67.18

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the SIC divisions, "all small businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

TABLE 14

Basic Monthly Charge (Including Tax)

LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
≤ \$10	24.3% (9)	1.1% (2)	1.6% (1)	3.1% (6)	5.0% (14)	29.2% (79)
\$11-\$20	32.4 (12)	3.7 (7)	3.2 (2)	3.6 (7)	8.0 (22)	28.7 (77)
\$21-\$50	21.6 (8)	15.0 (28)	9.7 (6)	12.4 (24)	14.7 (41)	25.0 (68)
\$51-\$100	2.7 (1)	10.7 (20)	6.5 (4)	20.2 (39)	13.1 (37)	8.3 (22)
\$101-\$500	13.5 (5)	39.0 (73)	61.3 (38)	42.0 (81)	37.9 (106)	7.5 (20)
≥ \$501	5.4 (2)	30.5 (57)	17.7 (11)	18.7 (36)	21.3 (60)	1.3 (4)
Total	100.0 (37)	100.0 (187)	100.0 (62)	100.0 (193)	100.0 (280)	100.0 (270)
Average	\$79.30	\$461.51	\$341.65	\$310.02	\$347.81	\$67.18

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the SIC divisions, "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

bill incurred by large businesses varies significantly by SIC code. This is demonstrated by the fact that over three quarters (78.3%) of large agricultural organizations pay \$50 or less a month, whereas roughly the same proportion (79.0%) of businesses in the trade sector pay over \$100 a month (see Table 14). Additionally, the average basic monthly charge for manufacturing organizations is almost six times that of large agricultural businesses (\$461.51 versus \$79.30).

In terms of long distance charges (excluding tax), almost two thirds (64.7%) of all rural Canadian businesses spend at most \$50 a month, while the national average expenditure is \$67.82. A corresponding proportion (65.9%) of all small businesses spend no more than \$50 for monthly long distance calls. Examining the long distance charges incurred by each SIC division, it is apparent that there is a significant relationship. Over half (59.5%) of the small construction employers pay up to \$30 for long distance charges, while, in contrast, less than forty percent (38.9%) of the businesses classified as services pay only this amount (see Table 15). The average expenditure on long distance ranges from a low of \$44.79 in the construction grouping, to more than twice this amount (\$109.49) for services.

TABLE 15

Long Distance Charges (Excluding Tax)

SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
≤ \$10	16.2% (12)	25.5% (12)	17.8% (13)	22.1% (21)	21.4% (28)	21.1% (28)
\$11-\$30	33.8 (25)	34.0 (16)	21.9 (16)	16.8 (16)	26.9 (36)	26.3 (36)
\$31-\$50	14.9 (11)	19.2 (9)	15.1 (11)	17.9 (17)	17.6 (23)	17.3 (23)
\$51-\$100	24.3 (18)	14.9 (7)	19.2 (14)	15.8 (15)	19.4 (26)	19.5 (26)
\$101-\$250	9.5 (7)	4.3 (2)	23.3 (17)	17.9 (17)	11.8 (16)	12.1 (16)
\$251-\$500	1.4 (1)	2.1 (1)	2.7 (2)	4.2 (4)	1.5 (2)	1.9 (3)
≥ \$501	0.0 (0)	0.0 (0)	0.0 (0)	5.3 (5)	1.4 (2)	1.8 (2)
Total	100.0 (74)	100.0 (47)	100.0 (73)	100.0 (95)	100.0 (132)	100.0 (135)
Average	\$47.43	\$44.79	\$68.52	\$109.49	\$60.26	\$67.82

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the SIC divisions, "all small businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

TABLE 16
Long Distance Charges (Excluding Tax)
LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
≤ \$10	0.0% (0)	3.4% (3)	4.0% (1)	3.4% (3)	4.2% (5)	21.1% (28)
\$11-\$30	0.0 (0)	2.3 (2)	0.0 (0)	6.8 (6)	5.5 (7)	26.3 (36)
\$31-\$50	22.2 (2)	3.4 (3)	8.0 (2)	3.4 (3)	6.1 (8)	17.3 (23)
\$51-\$100	44.4 (4)	11.4 (10)	20.0 (5)	26.1 (23)	18.4 (23)	19.5 (26)
\$101-\$250	22.2 (2)	22.7 (20)	28.0 (7)	33.0 (29)	27.4 (34)	12.1 (16)
\$251-\$500	11.1 (1)	17.1 (15)	28.0 (7)	14.8 (13)	18.8 (23)	1.9 (3)
≥ \$501	0.0 (0)	39.8 (15)	12.0 (7)	12.5 (13)	19.6 (24)	1.8 (3)
Total	100.0 (9)	100.0 (88)	100.0 (25)	100.0 (88)	100.0 (123)	100.0 (135)
Average	\$126.33	\$712.59	\$290.40	\$288.40	\$389.94	\$67.82

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the SIC divisions, "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

As was the case with the basic monthly charge, large businesses incur higher long distance charges. On the average, these organizations spent \$389.94 on toll calls, which may be compared to \$60.26 for small companies (see Table 16). The type of business is significantly associated with the toll charges as, for instance, slightly more than three times as many businesses in the manufacturing sector, as in services, paid over \$500 (39.8% versus 12.5%). For businesses with at least 20 full-time employees, long distance charges vary from \$126.33 in agriculture, to \$712.59 in manufacturing.

In rural Canada, over half (53.6%) of all businesses pay no more than \$5 a month for "other" phone charges (excluding tax), although the national average is \$67.44. This is also the case for all small businesses, whereas the majority (56.3%) of all large businesses pay over \$10 a month. Indeed, the average for large businesses is \$90.01. Despite the fact that there are differences in "other" charges across the SIC divisions, there is no significant relationship between these costs and the type of business (see Tables 17 and 18).

Finally, examining the total telephone charges for 1980 or the last fiscal year, essentially two-thirds

TABLE 17
Other Phone Charges (Excluding Tax)
SMALL BUSINESSES

SIC DIVISION					ALL SMALL BUSINESSES	NATIONAL
AGRICULTURE	CONSTRUCTION	TRADE	SERVICES			
≤ \$2	50.0% (15)	38.7% (12)	20.3% (12)	39.7% (23)	35.1% (25)	34.5% (26)
\$3-\$5	26.7 (8)	9.7 (3)	13.6 (8)	22.4 (13)	19.2 (14)	19.1 (14)
\$6-\$10	10.0 (3)	12.9 (4)	18.6 (11)	8.6 (5)	14.2 (10)	14.2 (11)
\$11-\$20	3.3 (1)	12.9 (4)	20.3 (12)	13.8 (8)	12.7 (9)	12.9 (10)
\$21-\$50	10.0 (3)	16.1 (5)	17.0 (10)	10.3 (6)	11.6 (9)	11.8 (9)
≥ \$51	0.0 (0)	9.7 (3)	10.2 (6)	5.2 (3)	7.2 (5)	7.5 (6)
Total	100.0 (30)	100.0 (31)	100.0 (59)	100.0 (58)	100.0 (72)	100.0 (75)
Average	\$5.43	\$18.10	\$189.69	\$12.62	\$66.80	\$67.44

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the SIC divisions, "all small businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

TABLE 18

Other Phone Charges (Excluding Tax)

LARGE BUSINESSES

SIC DIVISION					ALL LARGE BUSINESSES	NATIONAL
AGRICULTURE	MANUFACTURING	TRADE	SERVICES			
≤ \$2	0.0% (0)	5.9% (3)	22.2% (4)	11.9% (8)	11.4% (9)	34.5% (26)
\$3-\$5	0.0 (0)	17.7 (9)	0.0 (0)	20.9 (14)	15.9 (13)	19.1 (14)
\$6-\$10	40.0 (2)	17.7 (9)	16.7 (3)	13.4 (9)	16.4 (14)	14.2 (11)
\$11-\$20	20.0 (1)	17.7 (9)	11.1 (2)	19.4 (13)	17.9 (15)	12.9 (10)
\$21-\$50	0.0 (0)	15.7 (8)	33.3 (6)	19.4 (13)	19.9 (17)	11.8 (9)
≥ \$51	40.0 (2)	25.5 (13)	16.7 (3)	14.9 (10)	18.5 (15)	7.5 (6)
Total	100.0 (5)	100.0 (51)	100.0 (18)	100.0 (67)	100.0 (83)	100.0 (75)
Average	\$72.00	\$41.06	\$39.83	\$176.87	\$90.01	\$67.44

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the SIC divisions, "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

(66.0%) of all the businesses in rural Canada spent \$1,000 or less. A slightly higher proportion (67.4%) of small businesses spent similar amounts while, conversely, over half (56.9%) of all large businesses spent over \$4,000 in the same time period.

The average expenditure for small businesses was \$1,434.87, slightly lower than the national average of \$1,642.83. Across the various industrial classifications, average telephone costs ranged from \$682.36 for agricultural businesses, to \$2,392.28 in the services sector (see Table 19). There is, in fact, a significant relationship between total annual telephone charges, and the SIC division. By way of example, almost one third (30.3%) of small agricultural organizations spent at most \$250 on telephone service, roughly twice as many as in the service (14.5%) and construction (15.4%) sectors, and almost six times the proportion (5.4%) of businesses in the trade division. On the other hand, while 22.4% of businesses in the trade division spent over \$2,000, this is true for only 6.0% of the agricultural organizations.

With respect to large businesses, the average expenditure for telephone services in 1980 or the last fiscal year, was \$9,236.88, almost six times the national average. The average costs incurred by

TABLE 19

Total Annual Telephone Charges

SMALL BUSINESSES

SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
≤ \$250	30.3%	15.4%	5.4%	17.2%	16.8%
(50)	(21)	(12)	(44)	(63)	(63)
\$251-\$500	29.7	26.5	19.3	24.3	23.8
(49)	(36)	(43)	(56)	(89)	(89)
\$501-\$1000	26.1	25.7	29.2	25.9	25.4
(43)	(35)	(65)	(72)	(95)	(95)
\$1001-\$2000	7.9	15.4	23.8	16.6	16.5
(13)	(21)	(53)	(45)	(61)	(62)
\$2001-\$4000	4.2	9.6	13.5	9.9	10.1
(7)	(13)	(30)	(41)	(36)	(38)
\$4001-\$7000	1.2	2.9	5.8	3.4	3.8
(2)	(4)	(13)	(24)	(12)	(14)
≥ \$7001	0.6	4.4	3.1	2.6	3.6
(1)	(6)	(7)	(22)	(10)	(14)
Total	100.0	100.0	100.0	100.0	100.0
(165)	(136)	(223)	(304)	(365)	(375)
Average	\$682.36	\$1476.90	\$1836.14	\$2392.28	\$1434.87
				\$1642.83	

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the SIC divisions, "all small businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

TABLE 20

Total Annual Telephone Charges

LARGE BUSINESSES

SIC DIVISION						
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES	ALL LARGE BUSINESSES	NATIONA
≤ \$250	18.2% (8)	0.0% (0)	0.0% (0)	0.7% (2)	2.3% (9)	16.8% (63)
\$251-\$500	15.9 (7)	0.4 (1)	0.0 (0)	1.0 (3)	2.8 (11)	23.8 (89)
\$501-\$1000	15.9 (7)	4.4 (12)	3.3 (3)	7.9 (23)	6.8 (27)	25.4 (95)
\$1001-\$2000	15.9 (7)	10.6 (29)	10.0 (9)	17.6 (51)	12.9 (52)	16.5 (62)
\$2001-\$4000	13.6 (6)	12.0 (33)	15.6 (14)	23.1 (67)	18.3 (74)	10.1 (38)
\$4001-\$7000	6.8 (3)	16.4 (45)	23.3 (21)	20.3 (59)	17.7 (71)	3.8 (14)
≥ \$7001	13.6 (6)	56.2 (154)	47.8 (43)	29.3 (85)	39.2 (158)	3.6 (14)
Total	100.0 (44)	100.0 (274)	100.0 (90)	100.0 (290)	100.0 (402)	100.0 (375)
Average	\$2599.84	\$13454.46	\$10310.66	\$6843.07	\$9236.88	\$1642.83

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the SIC divisions, "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

businesses in each SIC division varies from a low of \$2,599.84 in agriculture, to a high of \$13,454.46 in manufacturing (see Table 20). Over half (56.2%) of large manufacturing businesses spent more than \$7,000 in total for telephone services, whereas similar expenses were incurred by less than one in five (13.6%) large agricultural organizations. Furthermore, while almost one quarter of the businesses in the trade (23.3%) and service (20.3%) sectors spent between \$2,000 and \$4,000, this was the case for under one tenth (6.8%) of the agricultural sector. These costs are significantly related to the type of business.

2.1.2 Motivations

2.1.2.1 Index for Each Motivation

In rural Canada, receiving **orders** from clients, or ordering merchandise received the highest average score as the basic motivation for using a business telephone.¹ **Other** reasons such as unspecified calls, emergency calls, or calls for data transmission, received the second highest average score, and was followed by **sales** calls, that is, follow-up calls and calls concerning advertising, public relations, or promotions.

For all small businesses, the various reasons for using a telephone are ranked in the same order as is the case at the national level. This, however, is not true for each SIC division. In the trade and construction sectors, while **orders** are the primary motivation, **sales** ranked second and **other** dropped into the third position (see Table 21). On the other hand, in the agricultural and service divisions, **other** was rated first, with **orders** in second position, and **personal** calls third.

¹ The question (question 6) used to gather this data was open, that is, respondents were providing "top-of-mind" awareness.

TABLE 21

Index¹ for Each Motivation For Using a Telephone
SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
Orders	2.61	3.62	4.50	1.85	3.13	3.13
Other	3.02	1.10	1.07	1.88	1.81	1.81
Sales	0.91	1.66	1.39	0.71	1.24	1.25
Administration	0.61	1.05	0.81	1.55	1.04	1.05
Personal	1.10	0.40	0.28	1.73	0.78	0.79
Information	0.81	0.59	0.65	0.91	0.75	0.75
Service	1.05	0.66	0.67	0.32	0.68	0.67
Finance	0.05	0.60	0.25	0.13	0.23	0.23

1. Mean score for each motivation. The higher the score, the more important the reason. This score was constructed by giving a score of 5 for first mention, 4 for second mention, 3 for third mention, 2 for fourth mention and 1 for fifth mention.

TABLE 22

Index¹ for Each Motivation for Using a Telephone

LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
Orders	3.26	4.55	4.60	1.88	3.36	3.13
Other	1.88	1.15	1.10	1.88	1.50	1.81
Sales	1.82	2.66	2.02	0.46	1.45	1.25
Administration	1.94	1.04	1.00	1.77	1.58	1.05
Personal	0.48	0.10	0.09	2.68	1.14	0.79
Information	0.96	0.32	0.67	1.07	0.74	0.75
Service	0.58	0.33	0.73	0.24	0.35	0.67
Finance	0.18	0.54	0.50	0.14	0.33	0.23

NOTE: Mean score for each motivation. The higher the score, the more important the reason. This score was constructed by giving a score of 5 for first mention, 4 for second mention, 3 for third mention, 2 for fourth mention and 1 for fifth mention.

All large businesses rated receiving or placing orders as the primary reason for using the phone, as was the case at the national level. However, contrary to the national results and those for small businesses, administrative calls ranked second and were followed by other (see Table 22). Orders ranked first in each SIC division with the exception of services, where personal calls were first and orders second. Administration received the second highest average score among large agricultural organizations while sales held this position in the manufacturing and trade sectors. However, in all cases, other calls ranked third.

2.1.2.2 Correlates

In order to profile those businesses which use the telephone for each of the eight major motivations, a statistical measure was computed to measure the degree of association between each motivation and various business characteristics¹. The results for rural

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- ¹ These characteristics are:
- the number of full-time employees at this location
 - the gross annual revenues for this location
 - seasonality (i.e. the ratio between the number of full-time employees during full operation and low activity)
 - physical isolation
 - the number of separate office locations
 - SIC division
 - regional location

Canada indicate that a number of the correlates are significant, although the strength of the relationships are typically low (as indicated by the Pearson Correlation Coefficients).

From these results, the following national observations may be made:

a) businesses which use their telephone mainly for receiving or placing orders tend to:

- be in the trade or construction sectors. A larger proportion of those businesses which mentioned this motivation, than those which did not, are in the trade (32.3% vs 11.8%) or construction sectors (14.0% vs 9.6%).

b) those who indicated that they use the phone for other reasons are more likely to:

- be involved with agriculture. Relatively more of these businesses are in the agriculture sector (43.4% vs 15.3%).

c) sales as a primary motivation for using a business phone, was not significantly related to any business characteristics.

d) the results indicate that those who mentioned using the telephone for administration are more likely to:

- be in the services division. A larger proportion of these organizations, than those which did not mention administration, are in the service sector (36.9% vs 19.0%).

e) businesses which tend to use the telephone for personal reasons also tend to:

- be in the service sector. More of these businesses are service organizations (56.8% vs 16.9%).

- f) gaining or providing **information**, as a motivation for using a business phone, was not significantly related to any characteristics, at the national level.
- g) the motivation of providing **service** to clients was also not significantly associated with any characteristics of businesses in rural Canada.
- h) similarly, **financial reasons** were not significantly related to any business characteristics.

The same analysis was undertaken for small and large businesses in general, and for each SIC division. The results are presented in the following pages.

For all **small businesses** it was found that:

- a) businesses which mentioned receiving or placing **orders** as a motivation tend to:
 - **be in the trade or construction sectors.** Relatively larger proportions of these businesses, than of those which did not mention this motive, are in the trade (32.7% vs 11.9%), or construction sectors (14.2% vs 9.7%).
- b) those which indicated using the phone for **other** reasons, are likely to be:
 - **in the agricultural sector.** Comparatively more of the small businesses which mentioned other reasons as a main use of the phone, than of those which did not mention this reason, are in the agricultural sector (43.9% vs 15.6%).
- c) the results indicate that small businesses which use the phone mainly for **sales calls**, are more likely to:
 - **have higher gross annual revenues.**

- d) businesses which tend mainly to be motivated to use the phone for **administrative** purposes are likely to:
- be in the service sector. Almost twice as many of the organizations which are mainly motivated by this reason, as those which are not, are in the service division (36.5% vs 18.6%).
- e) similarly, small businesses which tended to mention **personal** reasons more often, also tended to:
- be in the service sector. While over half (54.3%) of these businesses are in the service sector, only 16.8% of those which did not mention this motive are in this sector.
- f) obtaining or providing information, servicing clients, and financial motivations, were not significantly related to any business characteristics.

The results of this analysis for **small businesses in the agriculture sector** indicate that:

- a) the more businesses tend to use the phone to place or receive **orders**, the more likely they are to:
- have relatively more full-time employees.
- b) businesses which were more likely to mention **other** reasons as motivations for using the phone tend to:
- have fewer full-time employees.
 - be in a less seasonal activity.¹
- c) small agricultural employers which stressed the use of the phone for **sales** calls are more likely to:

¹ That is, the ratio of full-time employees during full operation to full-time employees during low activity is higher.

- **have more full-time employees.** More than twice as many of the employers which mentioned sales, than those which did not, have between 4 and 10 full-time employees (61.1% vs 25.3%).
 - **have higher gross annual revenues.** Roughly five times as many of these organizations earned over \$300,000 in their last year (53.9% vs 10.1%).
 - **be less physically isolated.**
 - **be in a more seasonal activity.**
- d) those businesses which use the phone more for **administration**, tend to:
- **have more full-time employees.** Relatively more businesses which emphasized administration, than those which did not mention it, have between 4 and 10 full-time employees (66.7% vs 26.5%).
 - **be in a more seasonal type of business.** A larger proportion of the businesses which mentioned administration, than those which did not, are in a seasonal activity (76.7% vs 44.0%).
- e) small businesses in the agriculture sector which indicated that they use the phone for **personal** reasons, tend to:
- **have fewer full-time employees.** Almost all (93.3%) of these employers have less than four full-time employees (versus 64.1% of those which did not mention personal reasons).
 - **be in a less seasonal activity.**
- f) providing or obtaining **information**, as a motivation for using the phone, was not significantly related to any business characteristics.
- g) businesses which mentioned **servicing** clients as a main use of the phone, are more likely to:
- **be more physically isolated.**



- h) those organizations which indicated that they used the phone for financial matters, tend to:

- have more separate business locations.

For small businesses in the construction sector, the results of this analysis suggest that:

- a) sales calls, giving or obtaining orders or information, and personal calls, as motivations for using a business phone, were not significantly related to any business characteristics.

- b) businesses which are motivated to use the phone for other reasons, tend to:

- have higher gross annual revenue.

- c) small construction organizations which mentioned administration as a main motivation tend to:

- be more physically isolated. Relatively more of the businesses which mentioned this motivation are more physically isolated than is the average for small construction employers (43.6% vs 34.2%).

- d) those businesses which are primarily motivated to use the phone to service clients, tend to:

- have fewer full-time employees. Comparatively more of these organizations have less than 4 full-time employees (78.6% vs 53.2%).

- e) small construction businesses which use the phone to deal with financial matters are more likely to:

- have more full-time employees.
- be in a less seasonal activity. In fact, a larger proportion of the organizations which mentioned service, than those which did not, are not in a seasonal activity at all (53.8% vs 36.2%).

With regard to small businesses in the trade sector, the results suggest that:

- a) placing or receiving orders, other general calls, personal calls, and sales calls, as motivations for using the phone, were not significantly related to any business characteristics.
- b) businesses which stressed the use of the phone for administrative reasons are more likely to:
 - be more physically isolated.
 - have more separate business locations. A relatively smaller proportion of these employers have only one office location (76.5% vs 90.7%).
 - be located in the Atlantic region. A larger proportion of the businesses which mentioned administration frequently, than of those which did not mention it, are located in the Atlantic region (38.9% vs 15.9%).
- c) businesses which are mainly motivated to use the phone to obtain or provide information are likely to:
 - have more full-time employees. A larger proportion of the organizations that mentioned information, than of those which did not, have between 4 and 10 full-time employees (65.1% vs 48.2%).
 - have higher gross annual revenue. Relatively more of these businesses earned over \$300,000 in their last year (44.4% vs 36.1%).
 - be more physically isolated.
- d) small trade businesses which stressed the use of the phone for providing service to clients tend to:
 - have higher gross annual revenue.
- e) organizations which use the phone to deal with financial matters, are more likely to:

- have more full-time employees.
- be more physically isolated.
- be involved in a more seasonal activity.

For small businesses in the service division, the results of this analysis indicate that:

a) receiving or placing orders, sales calls, providing or obtaining information, and service calls, as motivations for using a business phone, were not significantly related to any business characteristics.

b) those businesses which mentioned other, miscellaneous reasons for using the phone tend to:

- have fewer full-time employees. A larger proportion of the businesses which mentioned these reasons more often, than of those which did not mention other reasons, have less than 4 full-time employees (71.0% vs 44.1%).

c) businesses which use the phone mainly for administrative purposes are more likely to:

- be located in the Ontario region. Relatively more of these businesses are in the Ontario region (31.3% vs 18.8%).
- have more full-time employees. While the majority (68.7%) of the businesses which use the phone mainly for administration have between 4 and 10 full-time employees, this is the case for less than half (44.2%) of those which did not mention this motivation.

d) those organizations which mentioned personal reasons as a main use of their phone tend to:

- have more full-time employees. A larger proportion of these businesses have between 4 and 10 full-time employees (76.0% vs 40.9%).

- have higher gross annual revenue. Over half (58.6%) of the businesses which mentioned these reasons frequently, earned over \$300,000 in their last year, whereas this was the case for only 17.0% of those which did not mention this reason.
 - be located in the Prairie region. Comparatively more of these organizations are located in the Prairies (64.0% vs 37.2%).
- e) small businesses in the service sector which tend to use the phone more for financial matters, also tend to:
- have more full-time employees
 - have higher gross annual revenues.
 - be involved in a more seasonal activity. A larger proportion of the businesses which mentioned financial matters than those which did not, are in a seasonal activity (71.4% vs 29.4%).

For all large businesses, the results of this analysis indicate that:

- a) for large businesses in general, four of the eight motivations were not significantly related to any business characteristics. These motives were: administration, financial, providing or obtaining information, and other, miscellaneous calls.
- b) businesses which are motivated to use the phone mainly for receiving or placing orders, tend to:
- be in the manufacturing or trade sectors. Relatively more of the businesses which mentioned orders most often, than of those which did not mention this motivation, are in the manufacturing sector (35.2% vs 15.0%), or in the trade division (18.0% vs 5.8%).

- have fewer separate business locations. A smaller proportion of these organizations have more than 3 separate locations (9.3% vs 19.3%).
- c) those large businesses which are more likely to use the phone for sales activities, also tend to:
 - be located in the Quebec or Ontario regions. Comparatively more of these employers are in Quebec (38.0% vs 26.2%), or Ontario (24.7% vs 15.7%).
 - be in the manufacturing sector. A larger proportion of the businesses which are mainly motivated to use the phone for sales, than of those which did not mention sales, are in the manufacturing division (54.2% vs 16.7%).
 - have more full-time employees.
- d) businesses which are more likely to use the phone to provide service, are also more likely to:
 - be in a more seasonal activity.
- e) those organizations which use the phone for personal reasons are more likely to:
 - be located in the Prairie Region. Over twice as many of these businesses are in the Prairies (52.1% vs 18.6%).
 - be in the service sector. Almost all (98.7%) of the organizations which stressed personal reasons are in the service sector (compared to 20.2% of those which did not mention this reason).
 - have more separate business locations. A larger proportion of these businesses have more than 3 separate locations (31.6% vs 12.2%).

The results of this undertaking for large agricultural businesses suggest that:

- a) significant results for the relationships between most motivations and business characteristics, were not obtained.
- b) businesses which were more likely to mention motivations which fall into the other category, were also more likely to:

- have fewer full-time employees.

- c) those businesses which use their phones for sales, tend to:

- have more full-time employees.

The results found in the large manufacturing sector indicate that:

- a) businesses which reported administration as a strong motivation for using the phone are more likely to:

- be located in the Atlantic region. Relatively more of these businesses are located in the Atlantic region (26.1% vs 16.1%).

- have more full-time employees.

- be in a more seasonal activity.

- have higher gross annual revenue.

- have more separate business locations.

- b) those employers which use the phone mainly to obtain or provide information tend to:

- have higher gross annual revenues.

- c) large manufacturing organizations which use the phone mostly for service calls, are more likely to:

- have more full-time employees.

- have higher gross annual revenues.

- d) the remaining motivations were not significantly related to any business characteristics.

With regard to large businesses in the trade division, the following observations may be made:

- a) large organizations which use the phone mainly to receive, or to place orders, are more likely to:

- be less physically isolated.

- b) businesses which mentioned other, miscellaneous reasons for using the phone, tend to:

- have more full-time employees.

- be more physically isolated.

- be located in the Atlantic region. Relatively more of the employers which mentioned other reasons, than those which did not, are located in this region (38.5% vs 28.0%).

- c) those organizations which are more likely to consider sales as the main motivation for using the phone, tend to:

- have higher gross annual revenues.

- d) large trade organizations which indicated that administration was a main motivation for using the phone, were more likely to:

- have higher gross annual revenues.

- e) businesses which tend to use the phone for personal reasons, also tend to:

- be more physically isolated.

- f) the three remaining motivations were not significantly related to any business characteristics.

For large businesses in the service sector, the results of this analysis suggest that:

- a) businesses which use the telephone mainly to place or receive orders tend to:
 - be located in the Ontario or B.C. regions. Relatively more of the businesses which are mainly motivated by this reason, than those which did not mention orders, are in Ontario (21.7% vs 8.8%), or in B.C. (17.4% vs 11.7%).
- b) those businesses which mentioned other, miscellaneous reasons more often, tend to:
 - have higher gross annual revenues.
- c) large businesses in the service division, which emphasized personal calls, were more likely to:
 - be located in the Prairie or Atlantic regions. Comparatively more of these businesses are in the Prairie (48.7% vs 30.8%), or Atlantic regions (18.5% vs 10.5%).
- d) organizations which are more likely to use the phone mainly for financial matters tend to:
 - have higher gross annual revenues.
- e) the remaining motivations were not significantly related to any business characteristics.

2.1.3 Importance of Telephone Service Attributes¹

The majority of Canadian rural businesses consider every aspect of telephone service to be important (i.e. either "extremely important" or "important"). However, in "relative" terms, billing service is the least important attribute and, to a lesser degree, the speed and cost of installation are unimportant as well. Conversely, overall clarity of communications, reliability of service, and speed of repair are relatively more important than any of the other attributes. These findings are also evident for small businesses in general, although there are some minor differences in the various SIC divisions. For example, in the agricultural sector, reliability of service and speed of repair are relatively more important than any other aspects of service (see Table 23). Furthermore, overall clarity of communication, and availability of a line are considered important by the second largest proportion of businesses. This is not surprising if one recalls (from Section 2.1.1.3) that relatively more small agricultural employers have party-lines for their main business line, than is the case for small businesses in the other SIC categories.

¹ Question 11.

TABLE 23
Importance of Attributes¹
SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
Overall						
Clarity	97.0%	97.6%	97.0%	95.7%	96.3%	96.3%
Reliability						
of Service	99.0	94.2	97.0	93.0	96.1	96.2
Speed of						
Repair	99.0	96.5	97.0	92.5	96.0	96.1
Availability						
of Line	97.0	94.8	94.7	90.0	94.0	94.0
Cost of Long						
Distance	90.0	93.4	94.3	88.8	90.6	90.7
Size of Free						
Calling Area	92.9	92.4	90.8	88.1	90.1	90.1
Operator						
Service	81.7	81.4	83.0	79.8	82.1	82.1
Number of						
Parties on						
Line	85.6	84.6	80.3	76.7	82.1	82.1
Call Essential						
Services	81.1	76.2	80.3	79.1	80.8	80.6
Basic Charge	75.3	76.8	84.6	80.2	78.8	79.0
Speed of						
Installation	69.2	80.7	79.8	76.4	75.4	75.6
Cost of						
Installation	65.2	78.2	80.6	69.2	71.4	71.5
Billing						
Service	66.2	69.9	71.7	70.5	68.5	68.6

1. Numbers presented indicate the percent of businesses which consider each attribute "extremely important" or "important".

TABLE 24
Importance of Attributes¹
LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONA
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
Overall Clarity	98.0%	97.4%	97.2%	98.8%	98.2%	96.3%
Reliability of Service	100.0	99.0	99.1	99.4	99.0	96.2
Speed of Repair	98.1	98.7	100.0	99.4	99.3	96.1
Availability of Line	88.2	96.7	96.2	96.1	96.4	94.0
Cost of Long Distance	96.2	96.4	95.2	92.7	94.6	90.7
Size of Free Calling Area	96.2	83.3	93.3	86.8	88.0	90.1
Operator Service	78.9	79.0	79.3	85.1	81.4	82.1
Number of Parties on Line	82.4	77.8	84.0	83.1	81.4	82.1
Call Essential Services	75.5	64.8	63.8	82.0	72.8	80.6
Basic Charge	84.3	84.1	88.5	83.6	84.8	79.0
Speed of Installation	79.6	79.1	81.0	86.5	82.7	75.6
Cost of Installation	66.7	73.1	78.9	81.7	76.3	71.5
Billing Service	67.3	66.6	76.2	75.1	71.3	68.6

¹ Numbers presented indicate the percent of businesses which consider each attribute "extremely important" or "important".

For large businesses in general, the reliability of service, and speed of repair are, in relative terms, more important than any other aspects of service. Although the overall clarity of communication is rated as important by a larger proportion of these businesses than at the national level, it is essentially the third most important attribute for large businesses. This is also true for large organizations in each SIC division (see Table 24). In fact, the results in each sector for large businesses are very similar, with only a few minor exceptions.

2.1.4 Satisfaction

2.1.4.1 Satisfaction with Telephone Service Attributes¹

A large majority (85.6%) of Canadian rural businesses are satisfied (i.e. either "very satisfied" or "satisfied") with their overall telephone service. Indeed, the majority of businesses are satisfied with every aspect of service except the size of free calling area (43.8%). In addition, the cost of long distance calling is relatively less satisfactory as a comparatively smaller proportion (63.3%) of respondents indicated satisfaction with this service attribute.

Satisfaction with each aspect of service remains essentially the same for small businesses in general, and in each SIC division. However, there are some differences such as those which appear in the agricultural sector. In relative terms, small agricultural employers are less satisfied with the number of parties on their line, and the availability of a line (see Table 25). This finding is in keeping with the earlier results which indicate that small agricultural organizations place relatively more importance on these aspects of service, and are more likely to have a party line as their main business line (see Sections 2.1.1.3 and 2.1.3).

¹ Question 12.

TABLE 25
Satisfaction with Attributes¹
SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
Billing Service	93.5%	92.3%	93.5%	96.2%	93.9%	93.9%
Operator Service	92.3	84.0	88.1	91.0	88.1	88.1
Overall Clarity	85.4	81.2	89.3	88.8	86.4	86.3
Speed of Installation	88.4	79.9	86.9	86.7	85.6	85.5
Reliability of Service	82.9	87.1	88.2	84.5	84.6	84.4
Speed of Repair	79.5	90.0	85.5	86.6	83.6	83.6
Number of Parties on Line	62.9	87.4	93.0	92.3	81.6	81.9
Call Essential Services	75.5	82.3	83.9	81.4	79.7	79.7
Availability of Line	62.0	82.7	87.0	86.8	77.8	77.9
Basic Charge	82.9	71.3	74.1	76.8	75.9	75.9
Cost of Installation	80.3	70.9	72.1	76.2	75.0	74.9
Cost of Long Distance	70.0	65.5	62.5	62.9	63.5	63.3
Size of Free Calling Area	45.2	40.6	44.2	44.8	43.8	43.8
Service in General	86.1	86.8	88.1	86.6	85.7	85.6

¹ The numbers presented indicate the percent of businesses which are "very satisfied" or "satisfied" with each service attribute.

TABLE 26
Satisfaction with Attributes¹
LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
Billing Service	92.2%	95.4%	98.1%	94.4%	94.9%	93.9%
Operator Service	80.8	87.5	89.4	88.9	87.5	88.1
Overall Clarity	82.4	80.9	88.6	87.5	83.4	86.3
Speed of Installation	78.9	84.3	92.4	80.3	82.3	85.5
Reliability of Service	78.9	78.2	87.6	85.0	78.6	84.4
Speed of Repair	80.8	84.4	88.6	84.2	83.2	83.6
Number of Parties on Line	89.4	95.1	98.9	94.8	93.4	81.9
Call Essential Services	84.0	81.5	82.9	79.4	81.3	79.7
Availability of Line	84.0	81.7	94.2	85.5	83.2	77.9
Basic Charge	66.7	72.3	81.6	74.8	75.5	75.9
Cost of Installation	74.0	73.4	77.7	67.9	71.6	74.9
Cost of Long Distance	50.0	55.2	60.6	59.9	58.6	63.3
Size of Free Calling Area	33.3	48.0	47.6	41.1	43.9	43.8
Service in General	75.0	82.3	96.2	86.1	83.2	85.6

¹ The numbers presented indicate the percent of businesses which are "very satisfied" or "satisfied" with each service attribute.

The majority (83.2%) of all large businesses are satisfied with their overall telephone service (see Table 26). In fact, the relative satisfaction level for each service attribute is essentially the same as at the national level. One main exception is that the number of parties on line is the second most satisfactory aspect of service, relative to all others. This is not surprising recalling that a larger proportion (87.6%) of large businesses have private line service (compared to 73.5% of small businesses).

Satisfaction with service in general varies to some degree throughout the SIC divisions, ranging from three quarters (75.0%) of large agricultural businesses, to almost all (96.2%) of the large organizations in the trade sector. In fact, large businesses in agriculture tend to be relatively less satisfied with a number of service attributes, most notably the size of free calling area (33.3% satisfied versus 41% to 48% in the other SIC divisions), the cost of long distance calling (50.0% satisfied compared to 55% to 61%), and the basic monthly charge (66.7% satisfied versus 72% to 82%).

2.1.4.2 Correlates of Overall Satisfaction

A profile of those businesses which are satisfied with their overall telephone service was developed.

This was accomplished by relating the level of satisfaction with phone service in general to a set of potential descriptor variables.¹ This exercise would provide a better understanding of which businesses in rural Canada receive satisfactory service and which do not.

The results of this analysis, at the national level, suggest that those businesses which are satisfied with their overall telephone service tend to:

- **have fewer parties on their main business line.** A larger proportion of those businesses which are satisfied, as opposed to those who are not, have private line service (76.3% vs 59.4%). As the number of parties on a line increases, so does the proportion of dissatisfied businesses. While only 11.6% of those with a private line are dissatisfied, this proportion more than triples (37.1%) for those with multi-party service.
- **be less physically isolated.**
- **be located in the Prairie region.** Almost twice as many of these businesses are in the Prairie region (36.6% vs 19.1%)

¹ These variables are:

- type of service for main business line (i.e. number of parties);
- telephone expenses;
- physical isolation;
- number of full-time employees at one location;
- total gross annual revenue at one location;
- number of separate business locations;
- type of main activity; and,
- regional location.

- not be located in the B.C. region. Relatively fewer of the businesses which are satisfied, than those which are not, are in B.C. (8.2% vs 19.8%).

Small businesses which expressed satisfaction with their telephone service in general, are more likely to:

- have fewer parties on their main business line. Relatively more of the businesses which are satisfied, than of those which are not, have a private line (76.0% vs 58.5%). While only 11.5% of those businesses with a private line are dissatisfied with their overall service, this is true of 37.6% of those with multi-party service.
- be less physically isolated.
- be located in the Prairie region. A larger proportion of these organizations are located in the Prairies (36.8% vs 19.2%).
- not be located in the B.C. region. Less than half as many of these employers are in B.C. (8.3% vs 19.6%).

Examining the results for small agricultural businesses, it appears that those which are satisfied with their current overall service tend to:

- have fewer parties on their main business line. Almost half (41.6%) of the businesses which are satisfied have a private line, whereas only 29.6% of those who are dissatisfied have the same service. While only 10.4% of the businesses with a private line are dissatisfied with their service, 26.3% of those with multi-party service are not satisfied.
- have lower long distance expenses.

- are less physically isolated.
- have fewer separate business locations.
- be located in the Ontario or Prairie regions. Relatively more of these businesses are located in Ontario (24.0% vs 11.1%) or the Prairies (46.1% vs 29.6%).

Small businesses in the construction sector which are presently satisfied with their telephone service in general are more likely to:

- have fewer parties on their main business line. A larger proportion of satisfied businesses, than those which are not, have private line service (84.7% vs 59.1%). While only 9.6% of the businesses with private line service are dissatisfied, 62.5% of those with multi-party service are not satisfied with their overall telephone service.
- be less physically isolated.

The results of this analysis for small trade businesses suggest that firms which indicated satisfaction with telephone service in general tend to:

- have fewer parties on their main business line. Almost all (91.7%) of the businesses which are satisfied with their service have a private line, whereas this is true for only two-thirds (67.7%) of those which are not satisfied. On the other hand, while only 9.1% of those who have private line service are dissatisfied, 50.0% of those with multi-party service are dissatisfied.
- have lower gross annual revenues.

Small businesses in the service sector which are satisfied with their overall telephone service, are more likely to:

- have fewer parties on their main business line.
- have a lower basic monthly phone bill.
- be less physically isolated.
- be located in the Prairie region. Roughly four times as many of the organizations which are satisfied, as opposed to those which are not, are located in the Prairie region (48.3% vs 12.2%).

Large businesses which expressed satisfaction with their telephone service in general, tend to:

- have lower long distance expenses.
- be located in the Prairie region. Approximately twice as many of the large businesses which are satisfied, as those which are not, are located in the Prairies (27.8% vs 13.0%).
- not be located in the B.C. region. Relatively fewer of these businesses are located in B.C. (7.6% vs 24.3%).

The results of this analysis for large agricultural employers suggest that those which are satisfied with their overall telephone service are more likely to:

- have lower basic monthly phone bills.

Large businesses in the manufacturing sector which reported satisfaction with their telephone service, tend to:

- have lower long distance expenses.
- be located in the Quebec or Ontario regions. Relatively more of these organizations are located in Quebec (50.4% vs 45.3%), or Ontario (20.3% vs 13.2%).
- not be located in B.C. Roughly one fifth as many of these employers are in the B.C. region (4.5% vs 20.8%).

Examining the results for large trade businesses, it appears that those organizations which are satisfied with their present telephone service in general, are more likely to:

- be less physically isolated.
- have more separate business locations.

Large businesses in the service sector which expressed satisfaction with the overall telephone service, tend to:

- have lower long distance expenses.
- be less physically isolated.
- be located in the Prairie region. Approximately twice as many businesses which are satisfied with their service, as those which are not, are located in the Prairie region (44.6% vs 20.0%).



- not be located in the B.C. region. A smaller proportion of these organizations are in the B.C. region (8.6% vs 35.6%).

2.1.5 Perceived Need for Improvement

2.1.5.1 Priority of Need Relative to Other Telecommunication Services¹

Businesses in rural Canada feel that the postal service is the service which requires the most improvement (i.e. with the highest average score among six services). According to the average rating for each service, telephone services rank second, and CB or mobile radio services fourth (see Table 27).

Although generally the rankings are similar for all small businesses and those in each SIC division, some differences are worth noting. Small agricultural organizations indicated a slightly higher need for improvement in data transmission services, than in telegraph services, the reverse of the national trend. These same businesses also reported a stronger need for improved CB or mobile radio services, relative to the rating indicated by the other sectors (although these services remain in fourth position). Additionally, the agricultural sector places a relatively lower emphasis on improvement in telephone service, than do the other SIC divisions. On the other hand, businesses in the service sector indicate a comparatively higher need for improvement in telephone service, almost to the same degree as the postal services.

¹ Question 1

TABLE 27

Index of Perceived Need for Improvement
for Each Service¹

SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
Postal Service	43.3	41.3	40.8	37.9	41.1	41.0
Telephone Service	20.2	31.9	29.8	33.2	28.7	28.7
Express Delivery Services	19.3	19.5	20.2	22.2	18.2	18.1
CB or Mobile Radio Services	11.7	3.3	5.3	3.6	7.6	7.7
Telegraph or Telex/TWX Services	2.3	2.5	2.4	3.2	2.5	2.5
Data Transmission Services	2.7	1.2	2.1	2.2	1.7	1.8

¹ Mean score for each service. The higher the score, the more necessary improvements are, relative to the other services. These scores were derived from a 100 point allocation task.

TABLE 28

Index of Perceived Need for Improvement
for Each Service¹

LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
Postal Service	28.0	40.1	44.0	38.1	35.0	41.0
Telephone Service	21.9	24.8	22.9	24.6	26.8	28.7
Express Delivery Services	15.9	17.1	11.8	17.5	16.0	18.1
CB or Mobile Radio Services	26.5	11.5	5.6	8.8	10.9	7.7
Telegraph or Telex/TWX Services	2.7	6.9	3.0	4.4	4.6	2.5
Data Transmission Services	4.6	2.7	10.0	7.4	6.0	1.8

¹ Mean score for each service. The higher the score, the more necessary improvements are, relative to the other services. These scores were derived from a 100 point allocation task.

Large businesses follow the national pattern with one exception; data transmission services rank fifth, rather than sixth, relative to all other services (see Table 28). This is the case in both the agricultural and service sectors, while this service ranks fourth in the trade division, and sixth among manufacturing businesses. Large agricultural employers rated CB or mobile radio services second in terms of need for improvement, just slightly less important than postal services. Conversely, businesses in the trade sector rated CB or mobile radio services fifth.

2.1.5.2 Correlates of Intensity of Need for Improvement in Telephone Services

The association between the intensity of need for improvement in telephone service, and various business characteristics¹ was investigated. The analysis was undertaken in order to profile those users who most strongly felt improvements were necessary.

¹ These characteristics are:

- current service and satisfaction with service;
- cost of service;
- physical isolation;
- number of full-time employees;
- number of separate locations;
- motivations for using telephone;
- main activity of the organization; and,
- region

At the national level, the results of this analysis indicate that as the intensity of need for improvement in telephone service increases, so does the likelihood that the business will:

- be less satisfied with their present telephone service. While almost half (42.5%) of those businesses which indicated that telephone service most needed improvement¹ (in relation to five other services) are dissatisfied with their current service, this is true of only 2.4% of those who feel no improvements are necessary.
- have more parties on their main business telephone line.
- be located in Quebec. A larger proportion of these businesses are located in Quebec (30.5% vs 13.9%).
- not be located in the Prairie region. Relatively fewer businesses which feel telephone service requires the most improvement are in the Prairie region (17.8% vs 36.9%).

For all small businesses, those which place more emphasis on the need for improvement in telephone service tend to:

- be dissatisfied with their present phone service. For example, far more of those businesses which indicated this service requires the most improvement, than of those who feel it needs no improvement, are dissatisfied (42.6% vs 2.3%).

¹ Those businesses which indicated that telephone service requires improvement the most (i.e. more than any other service), are defined to be those who allocated 71 to 100 points (from a maximum of 100) to telephone service.

- have more parties on their main line.
- be in the Quebec region. Just over twice as many of these businesses are in the Quebec region (29.9% vs 13.7%).
- not be located in the Prairie region. Approximately half as many of the businesses who feel improvements are most necessary in this service, as those who do not, are in this region (18.0% vs 37.0%).

With regard to small agricultural businesses, as the need for improvement in telephone service increases, so does the likelihood that these businesses will have more parties on their main line.

The relative need for improvement in telephone service was not significantly related to any business characteristics for small construction organizations.

The results of this analysis for small businesses in the trade sector indicate that the higher the need for improvement in telephone service is, the more likely it is that the business will:

- have fewer telephone sets.
- have more parties on their main business line.
- not have mentioned sales as the main reason for using a telephone.
- have mentioned administration as a main motivation for using the phone. A relatively larger proportion of the businesses which feel telephone service needs the most improvement, than those who feel no improvements are necessary, are primarily motivated to use the phone for administration (20.0% vs 6.3%).

- be located in Quebec. Almost three times as many of these businesses are in Quebec (40.0% vs 15.0%).

For those small businesses which are in the services division, as the need for improvement in telephone service increases, so does the tendency for the business to:

- pay more for long distance calls.
- be less physically isolated.
- have mentioned financial reasons as a motivation for using the telephone.
- be located in Quebec. Roughly five times as many of the businesses which emphasized the need for improvement in telephone service are located in this region (30.3% vs 6.2%).
- not be located in the Prairie region. Less than half as many of these organizations are in the Prairie region (21.2% vs 50.5%).

As the intensity of need for improvement in telephone service increases for large businesses in general, so does the likelihood that these businesses will:

- be dissatisfied with their current service. A larger proportion of these businesses indicated dissatisfaction with their current service (38.3% vs 3.6%).
- be located in the Quebec region. Over twice as many of the businesses which indicated telephone service needs the most improvement, are located in this region (57.4% vs 21.5%).

Large agricultural businesses which reported a stronger need for improvement in telephone service, tend to have more parties on their main business line.

In the manufacturing sector, as the intensity of the need for improvement in telephone service increases, so does the likelihood that large businesses will:

- be less physically isolated.
- be dissatisfied with their present service. Comparatively more of the businesses which indicated this service requires the most improvement, are dissatisfied with their current service (37.5% vs 1.3%).
- be located in the Quebec region. Over twice as many of these businesses are in the Quebec region (79.2% vs 37.2%).

The results of this analysis for large businesses in the trade sector indicate that the higher the need for improvement in telephone service, the more likely it is that the business will:

- have fewer telephone sets.
- be less satisfied with their current telephone service.

With regard to large businesses in the service division, as the need for improvement in telephone service increases, so does the tendency for businesses to:

- not subscribe to teletype equipment. All (100.0%) the businesses which feel telephone service needs the most improvement do not use teletype equipment, compared to 74.5% of those who feel no telephone improvements are necessary.
- be dissatisfied with their present telephone service. While half (50.0%) of these businesses are dissatisfied with the current telephone service, this is true for only 1.1% of those who feel no improvements are needed.
- be motivated to use their telephone mainly for sales reasons.
- not use the telephone in order to provide information.
- not use the business telephone for personal reasons.
- be located in the Quebec region. Relatively more of these businesses are located in Quebec (45.5% vs 11.6%).

2.1.6 Short Term Demand

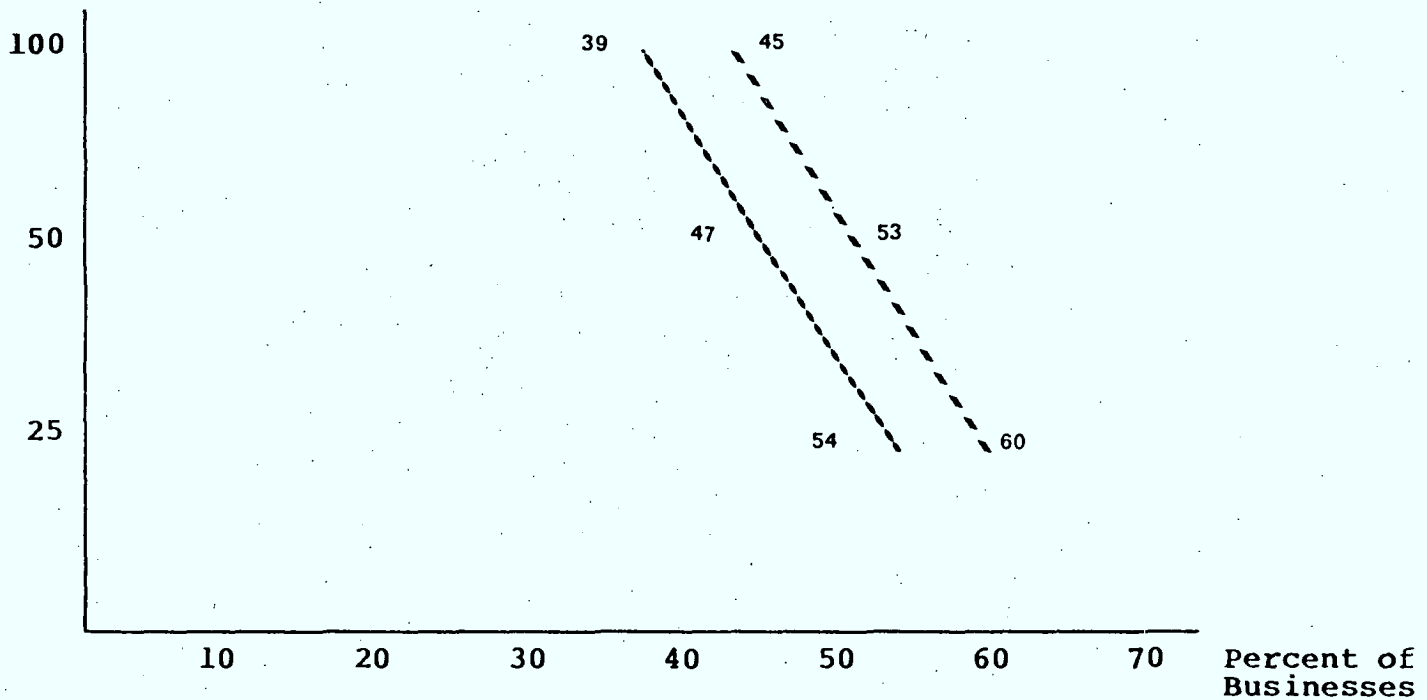
2.1.6.1 Forecasts for Improved Telephone Service

Respondents in businesses in rural Canada were offered an improved telephone service¹ at one of three different price increases (i.e. either a 25%, 50% or 100% increase in their basic monthly charge). They were then asked if their organization (at that location) would subscribe to this new service within the next twelve months. The majority (60%) indicated that they would subscribe to this service at a price increase of 25% and, in fact, over half (53%) would still subscribe if the increase was 50%. As would be expected, as the price increase climbs, the proportion of businesses which would purchase the new service decreases. Of those businesses faced with a 100% increase in basic charges, somewhat less than half (45%) would be interested in the new service offering. Graph 1 presents the maximum likelihood estimate curve, in addition to a conservative estimate of the demand curve. Although the conservative estimate is lower, the results still indicate a fairly substantial demand for an improved telephone service.

¹ That is, a service comparable to that available in large cities. It would provide a private line with a larger free calling area (see Question 15).

GRAPH 1
PRICE-DEMAND RELATIONSHIP
FOR
IMPROVED TELEPHONE SERVICE
(National)

Percent Increase
 In Basic
 Monthly Charge
 %



----- Maximum Likelihood Estimate
 _____ Conservative Estimate

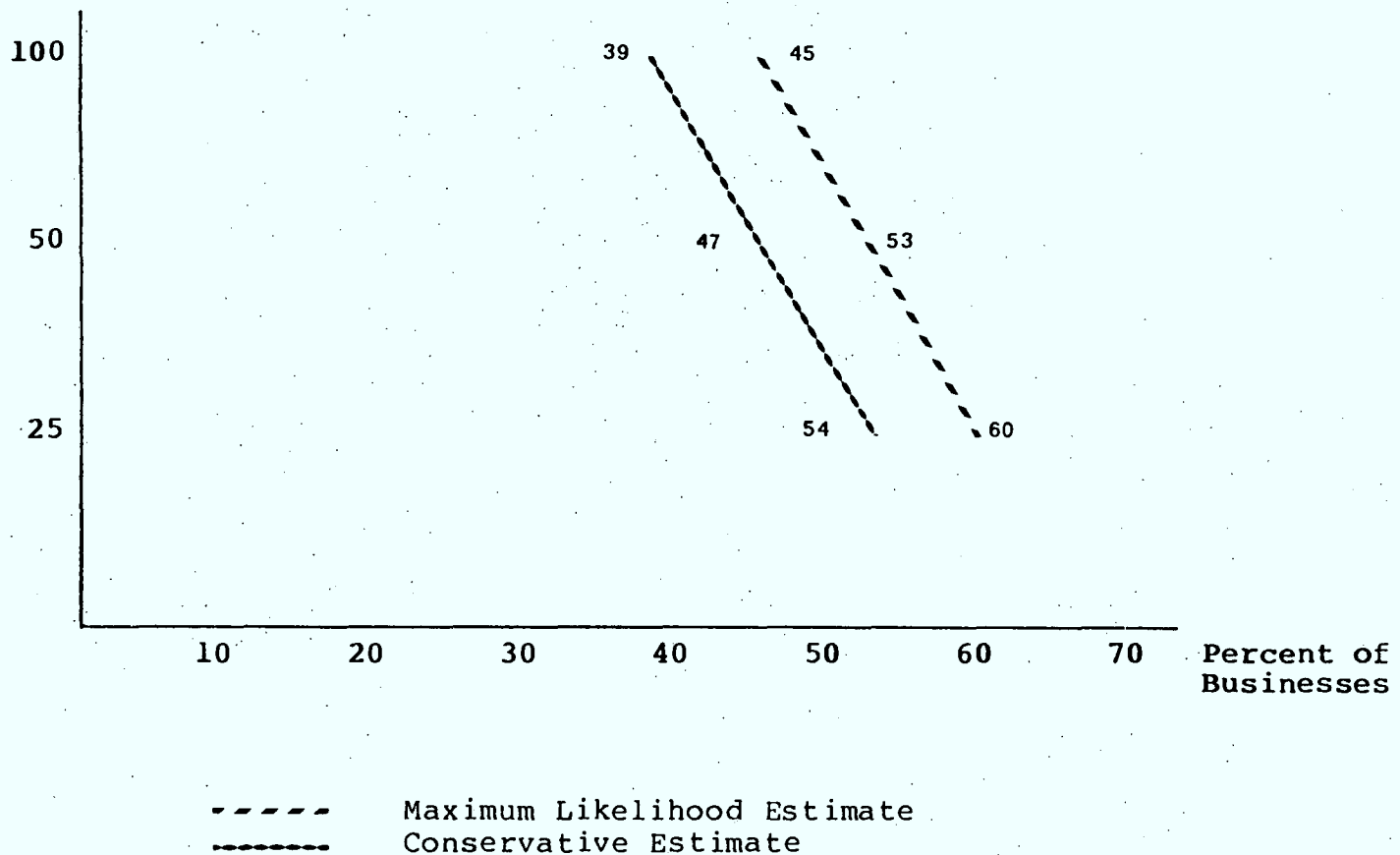
The estimated level of demand (i.e. the maximum likelihood estimate) is not expected to vary, in 68% of the cases, by more than $\pm 4.1\%$ from the indicated levels.

In order to identify whether the demand for this service stems more from the private line offering, or the larger free calling area, it is useful to review some earlier findings. Almost three quarters (73.8%) of rural businesses already have private line service for their main business line (see Section 2.1.1.3). So, while 82.1% of all rural businesses consider the number of parties on their line important, 81.9% are currently satisfied with this aspect of service (refer to Section 2.1.3 and 2.1.4.1). On the other hand, although a larger proportion (90.1%) of businesses consider the size of free calling area to be important, less than half (43.8%) are satisfied with their present free calling area. These findings suggest that the demand for the improved service offering is mainly due to the provision of a larger free calling area.

The demand curve estimates for all small businesses in rural Canada are the same as the national estimates (see Graph 2). However, the maximum likelihood estimates for each SIC division do generally differ

GRAPH 2
PRICE-DEMAND RELATIONSHIP
FOR
IMPROVED TELEPHONE SERVICE
(All Small Businesses)

Percent Increase
In Basic
Monthly Charge
%



The estimated level of demand (i.e. the maximum likelihood estimate) is not expected to vary, in 68% of the cases, by more than $\pm 4.2\%$ from the indicated levels.

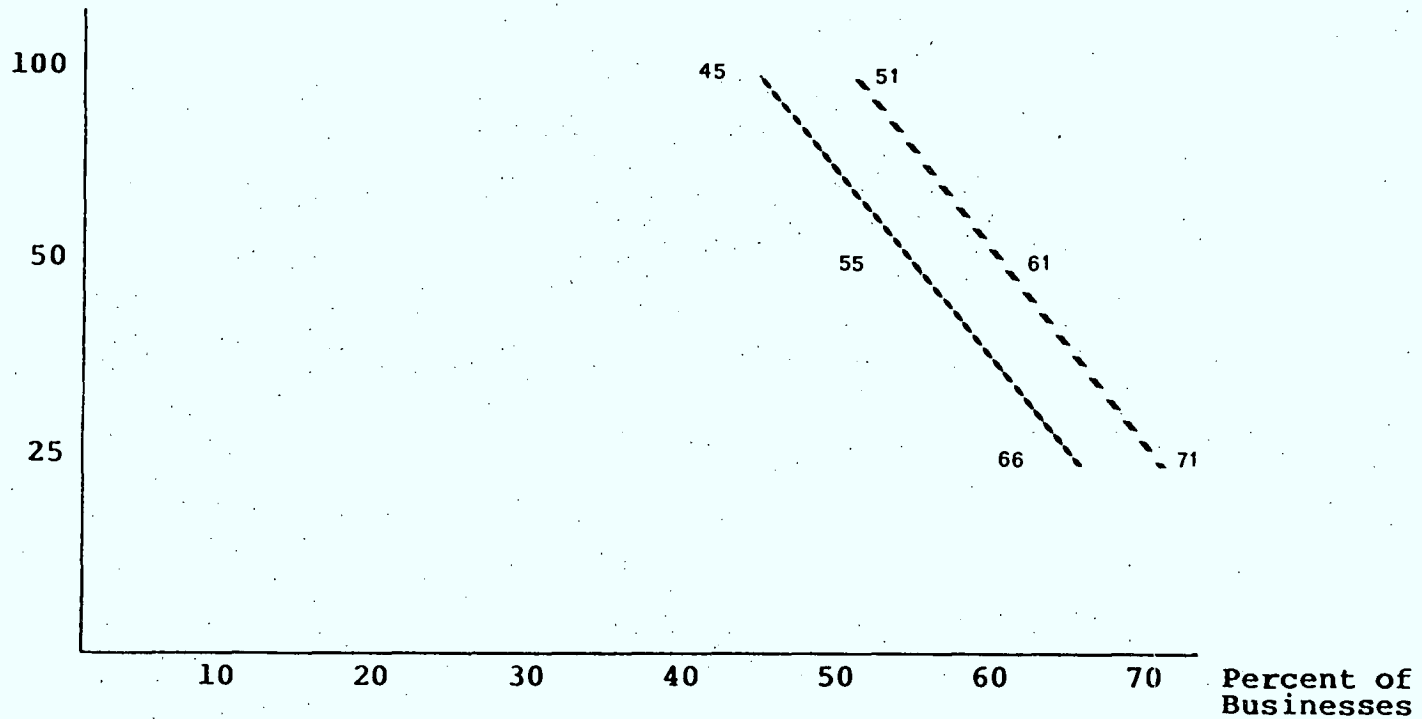
significantly¹ for small businesses (see Graphs 3 to 6). The most notable difference may be seen in the agricultural sector, where a relatively larger proportion of businesses indicated that they would subscribe to an improved service despite the price increase. These results are not surprising, recalling that less than half (40.6%) of these businesses presently have private line service. Thus, in this sector, while 85.6% of the businesses consider the number of parties on their line important, only 62.9% are satisfied with the current status of this aspect of service. Combining this finding with the fact that less than half (45.2%) of these businesses are satisfied with their free calling area (while 92.9% consider this service attribute important), explains the significantly higher demand for improved service in this sector.

1 There are two exceptions:

- small agricultural firms are not significantly different from those in the construction sector at a price increase of 100%.
- small trade businesses are not significantly different from those in the service division, when the price increase is 100%.

GRAPH 3
PRICE-DEMAND RELATIONSHIP
FOR
IMPROVED TELEPHONE SERVICE
(Small Businesses - Agriculture Sector)

Percent Increase
 In Basic
 Monthly Charge
 %



----- Maximum Likelihood Estimate
 _____ Conservative Estimate

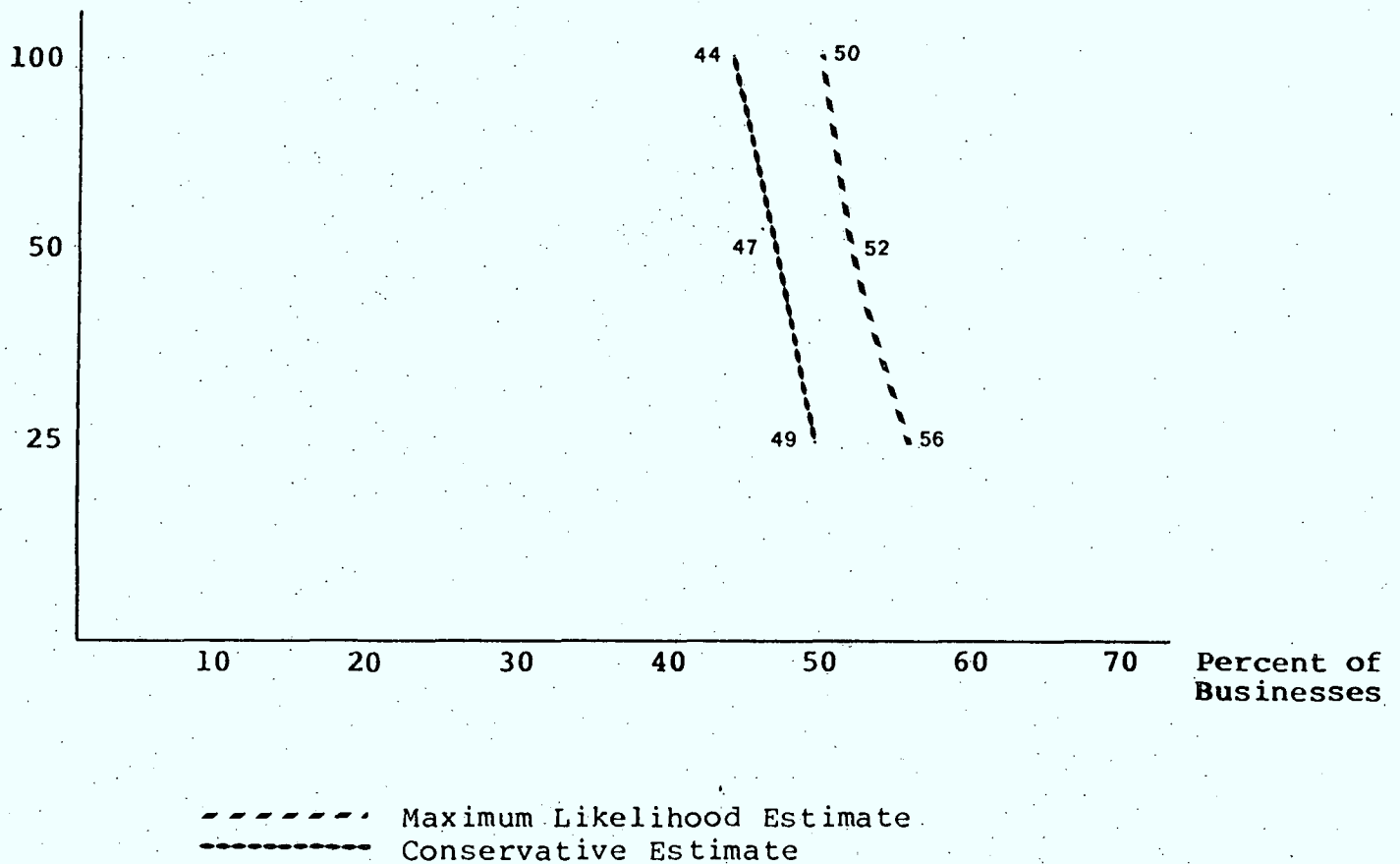
The estimated level of demand (i.e. the maximum likelihood estimate) is not expected to vary, in 68% of the cases, by more than $\pm 6.2\%$ from the indicated levels.

GRAPH 4

PRICE-DEMAND RELATIONSHIP
FOR
IMPROVED TELEPHONE SERVICE

(Small Businesses - Construction Sector)

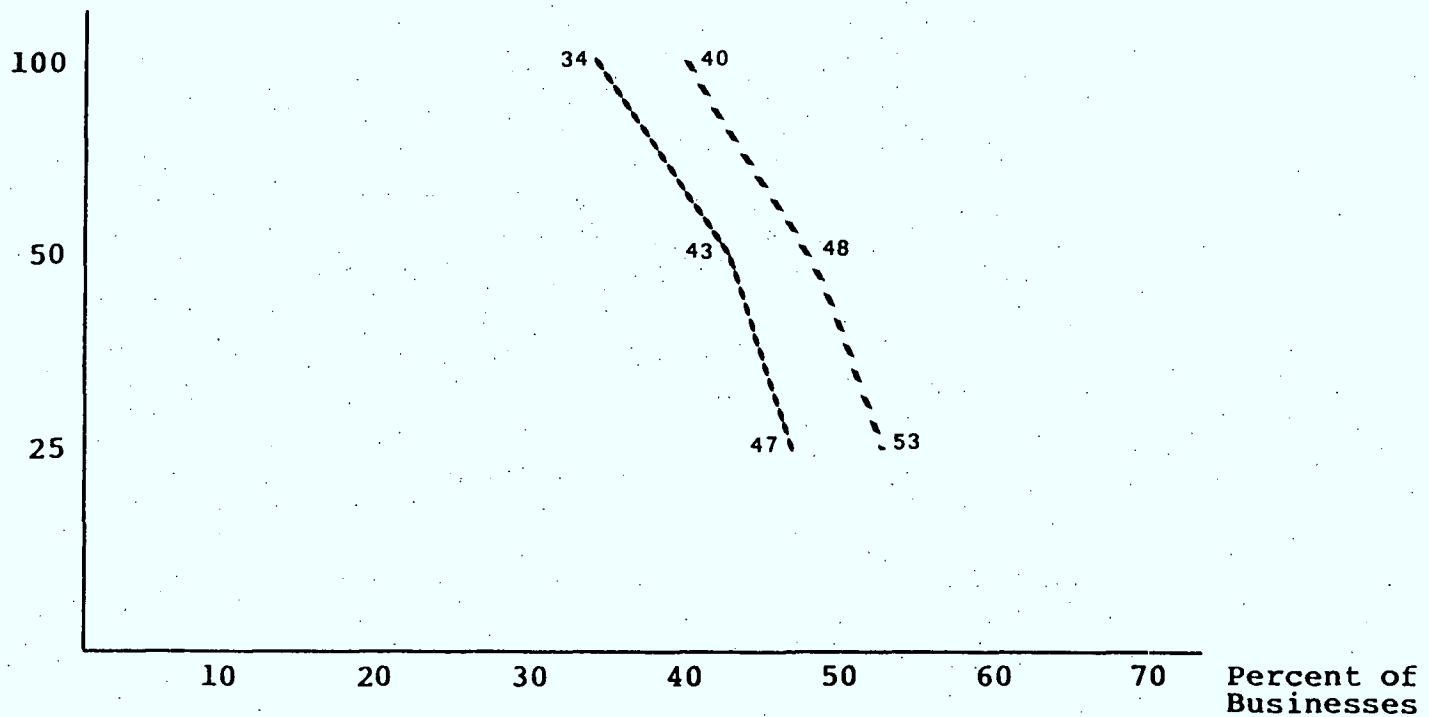
Percent Increase
In Basic
Monthly Charge
%



The estimated level of demand (i.e. the maximum likelihood estimate) is not expected to vary, in 68% of the cases, by more than $\pm 6.9\%$ from the indicated levels.

GRAPH 5
PRICE-DEMAND RELATIONSHIP
FOR
IMPROVED TELEPHONE SERVICE
(Small Businesses - Trade Sector)

Percent Increase
In Basic
Monthly Charge
%



----- Maximum Likelihood Estimate
----- Conservative Estimate

The estimated level of demand (i.e. the maximum likelihood estimate) is not expected to vary, in 68% of the cases, by more than $\pm 5.5\%$ from the indicated levels.

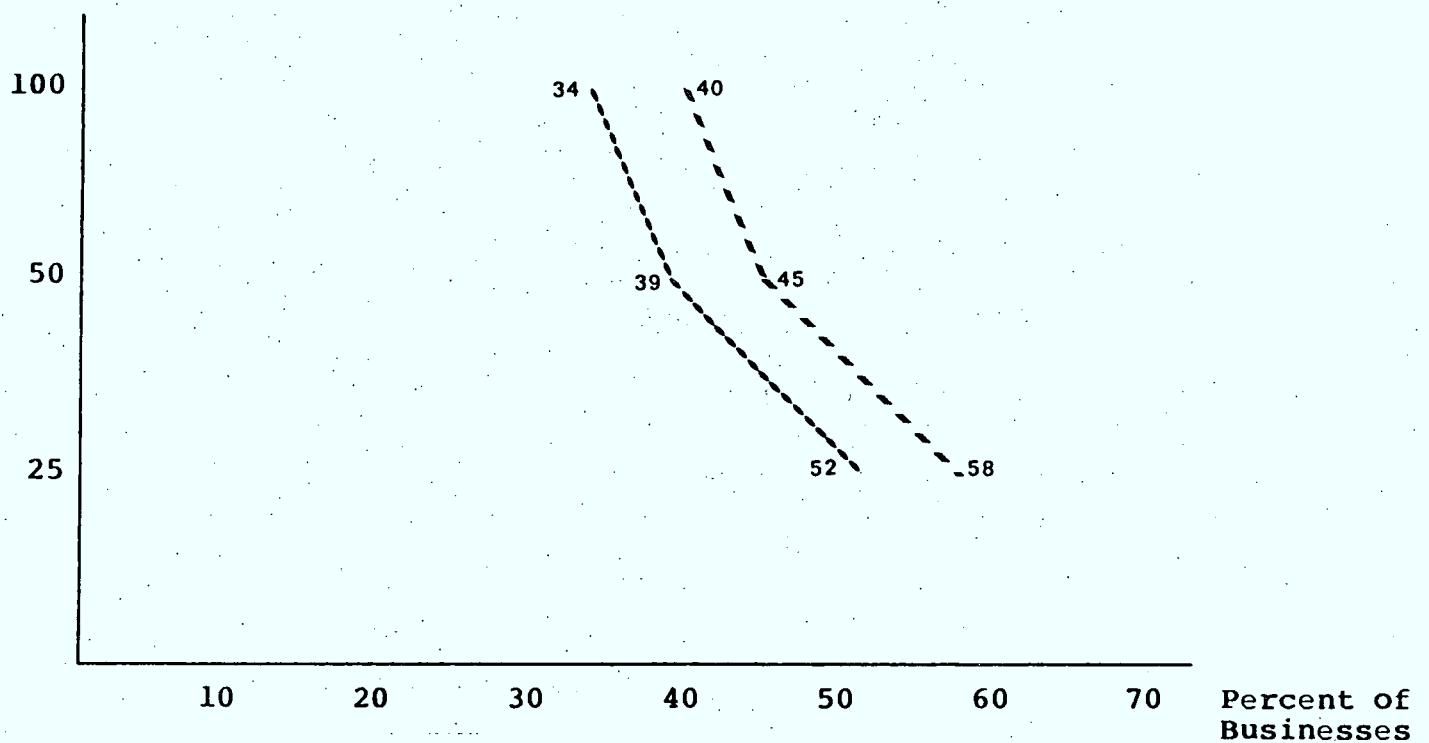
GRAPH 6

PRICE-DEMAND RELATIONSHIP
FOR
IMPROVED TELEPHONE SERVICE

(Small Businesses - Service Sector)

Percent Increase
In Basic
Monthly Charge

%



----- Maximum Likelihood Estimate
----- Conservative Estimate

The estimated level of demand (i.e. the maximum likelihood estimate) is not expected to vary, in 68% of the cases, by more than $\pm 4.8\%$ from the indicated levels.

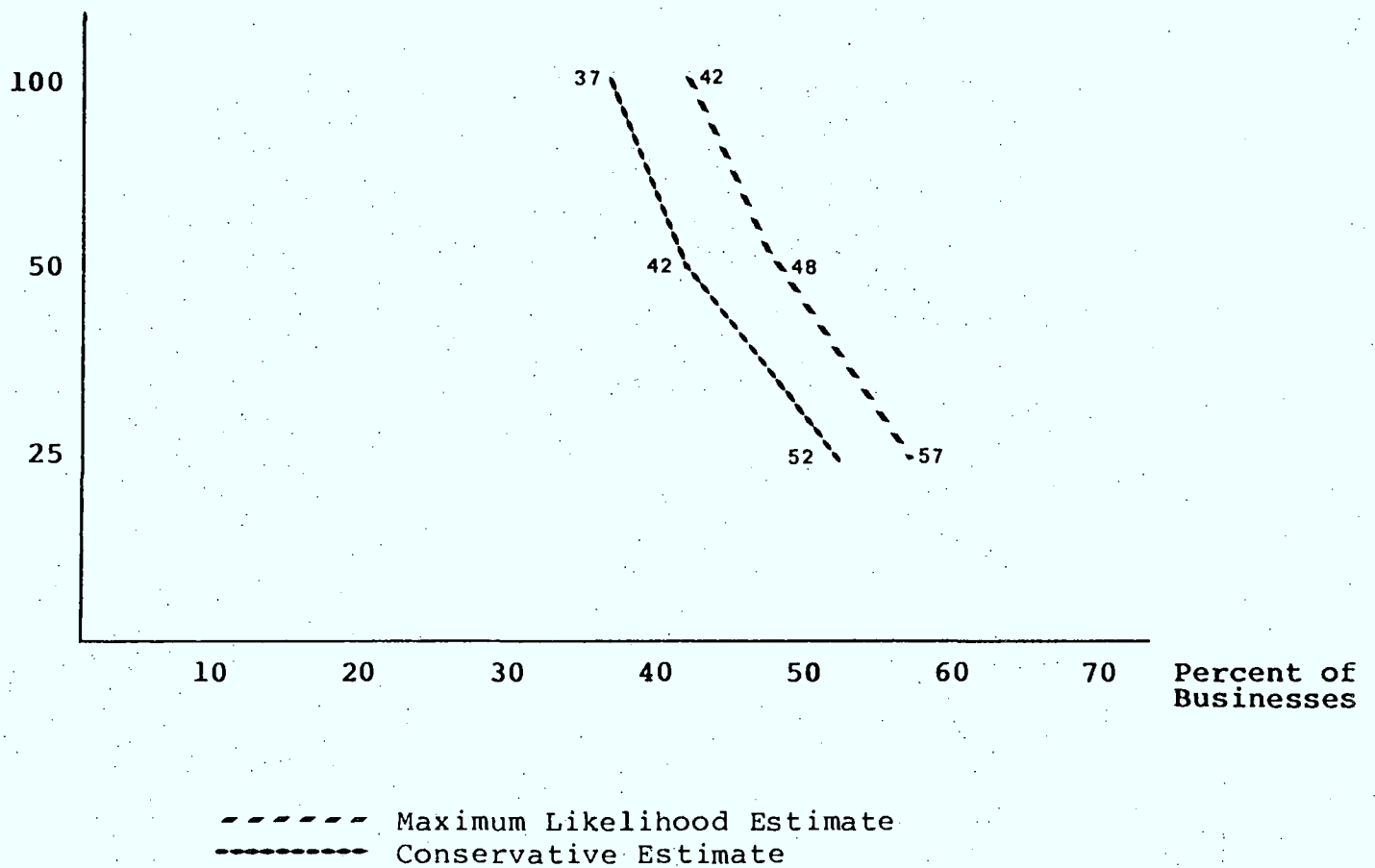
With regard to all large businesses, although the level of demand is similar to the national estimates, and those for all small businesses, they are significantly lower (see Graph 7). Yet, over half (57%) of these organizations would still subscribe to the new service offering if the price increase was 25%. The somewhat lower demand for this service among large businesses is understandable as a larger proportion of these organizations currently have private line service (87.6% versus 73.8% at the national level), and are satisfied with this aspect of their service (93.4% versus 81.9% at the national level). However, a correspondingly low proportion (43.9%) of large businesses are satisfied with the size of their free calling area, which contributes to their demand for service improvements.

Generally, the demand curves for each SIC division for large businesses are similar to the estimates for all large businesses (see Graphs 8 to 10)¹. In fact,

¹ Demand estimates are not presented for large businesses in the agriculture division, as there were not enough cases (i.e. less than 30 businesses were offered the improved service at each price increase). It would, therefore, be unwise to draw conclusions from the data generated.

GRAPH 7
PRICE-DEMAND RELATIONSHIP
FOR
IMPROVED TELEPHONE SERVICE
(All Large Businesses)

Percent Increase
In Basic
Monthly Charge
%



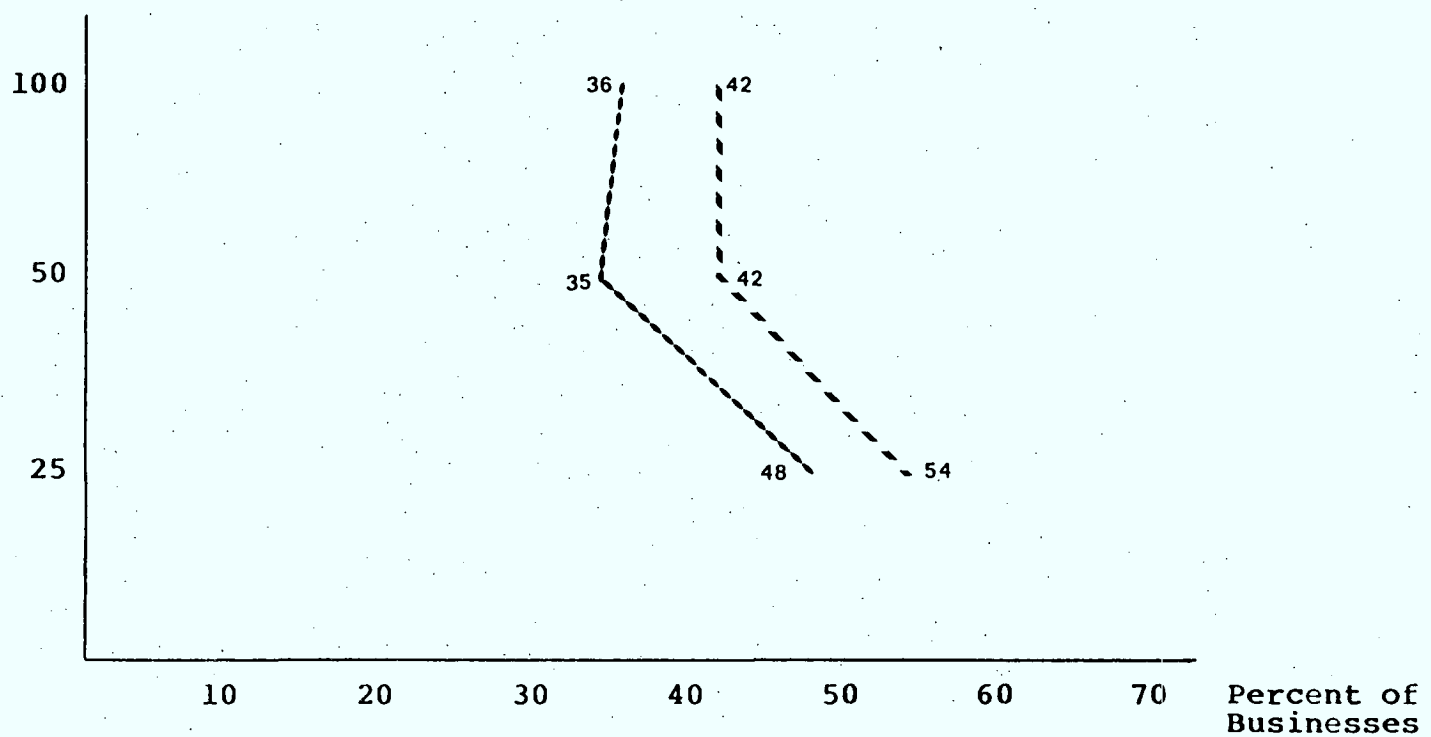
The estimated level of demand (i.e. the maximum likelihood estimate) is not expected to vary, in 68% of the cases, by more than $\pm 4.3\%$ from the indicated levels.

GRAPH 8

PRICE-DEMAND RELATIONSHIP
FOR
IMPROVED TELEPHONE SERVICE

(Large Businesses - Manufacturing Sector)

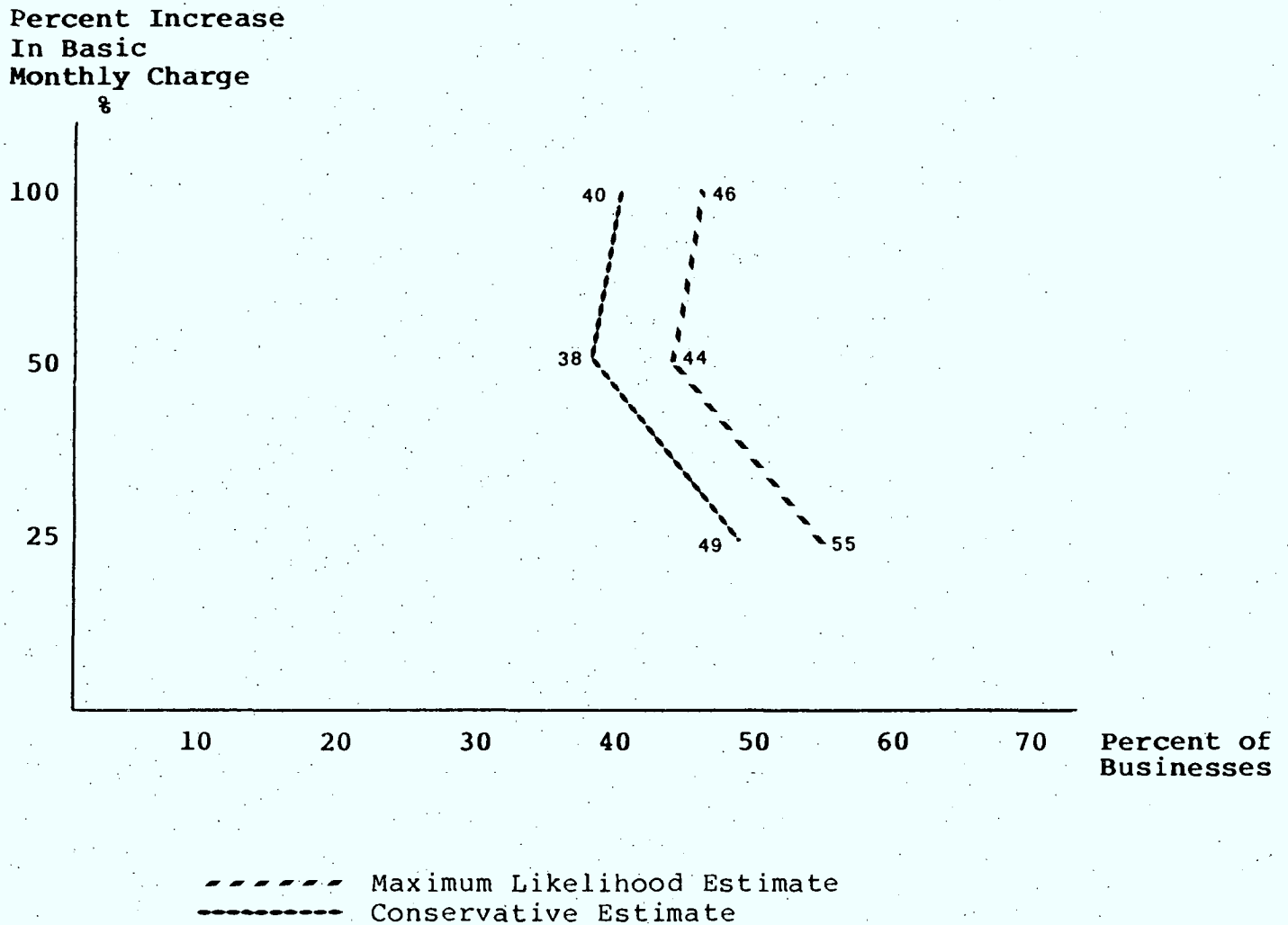
Percent Increase
In Basic
Monthly Charge
%



----- Maximum Likelihood Estimate
----- Conservative Estimate

The estimated level of demand (i.e. the maximum likelihood estimate) is not expected to vary, in 68% of the cases, by more than $\pm 5.7\%$ from the indicated levels.

GRAPH 9
PRICE-DEMAND RELATIONSHIP
FOR
IMPROVED TELEPHONE SERVICE
(Large Businesses - Trade Sector)



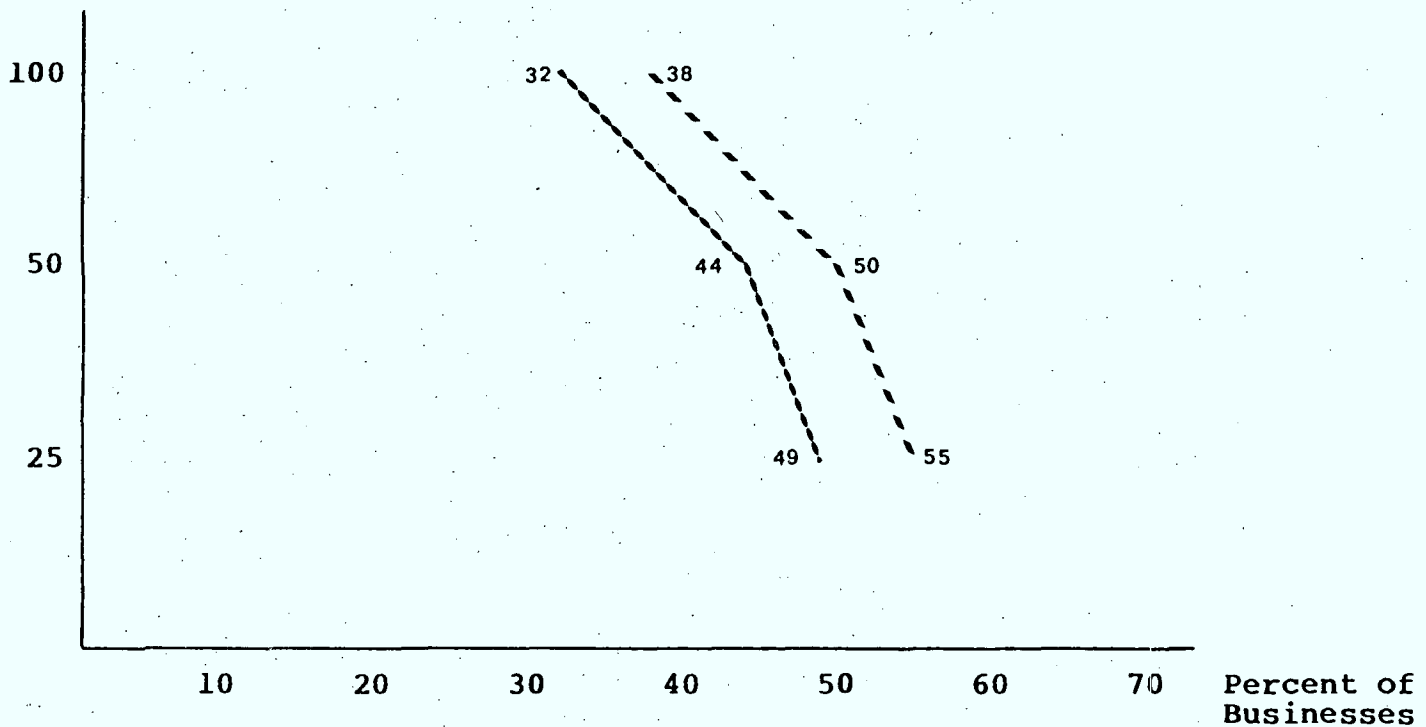
The estimated level of demand (i.e. the maximum likelihood estimate) is not expected to vary, in 68% of the cases, by more than $\pm 9.6\%$ from the indicated levels.

GRAPH 10

**PRICE-DEMAND RELATIONSHIP
FOR
IMPROVED TELEPHONE SERVICE**

(Large Businesses - Service Sector)

Percent Increase
In Basic
Monthly Charge
%



----- Maximum Likelihood Estimate
 _____ Conservative Estimate

The estimated level of demand (i.e. the maximum likelihood estimate) is not expected to vary, in 68% of the cases, by more than $\pm 5.0\%$ from the indicated levels.

no one curve is significantly different from the estimates generated by the other sectors at each level of price increase.

The demand curve estimates presented in Graphs 1 to 10 indicate that there is a demand for improved telephone service in rural Canada, and that the demand curves are inelastic.¹ Furthermore, it was found that the demand stems from the offering of a larger free calling area, more than from the idea of receiving private line service.

2.1.6.2 Correlates of Demand for Improved Telephone Service

A profile of those businesses which would have a greater tendency to subscribe to the improved telephone service at each of the three different price increases, was developed. This was accomplished by relating the level of demand for the new service to a set of

¹ A given percentage change in price results in a smaller percentage change in demand, suggesting a relatively lower sensitivity to price.

potential descriptor variables¹. This profiling exercise would provide us with a better understanding of the "different" customers existing at each price. The analysis was only carried out at the national level.

As the likelihood that respondents will purchase the improved telephone service at a price increase of 25% increases, so does the likelihood that businesses in rural Canada will:

- have more parties on their main business line.
- be dissatisfied with the number of parties on their line. A larger proportion of those businesses which would definitely subscribe to this service, than of those who would not, are dissatisfied with the number of parties on their line (30.0% vs 9.2%).
- be dissatisfied with the size of their free calling area.
- be dissatisfied with their ability to call free to essential services.
- be dissatisfied with the availability of a line when wanted.

¹ These variables are:

- satisfaction with telephone service attributes;
- need for improvement in telephone service;
- motivations for using a business phone;
- the number of telephone sets and lines;
- type of service on the main business line;
- telephone expenses;
- physical isolation;
- number of full-time employees at this location;
- total annual gross revenues at this location;
- number of separate business locations;
- SIC division; and,
- regional location.

- be dissatisfied with telephone service in general.

The more likely businesses are to subscribe to the improved telephone service when the proposed price increase is 50%, the more these businesses tend to:

- have more parties on their main business line.
- be dissatisfied with the number of parties on their line. More of those businesses which would certainly subscribe to an improved telephone service, than of those which would not, are presently dissatisfied with the number of parties on their line (37.3% vs 3.1%).
- be dissatisfied with the size of their free calling area.
- be dissatisfied with their ability to call, free of charge, to essential services.
- be dissatisfied with the availability of a line when needed. Almost four times as many businesses which would definitely subscribe, as those which would not, are dissatisfied with this aspect of service (40.3% vs 10.4%).

When the proposed price increase for this improved service is 100%, it was observed that as the likelihood that businesses would purchase it increases, so does the likelihood that the businesses will:

- have more parties on their main business line.
- be dissatisfied with the number of parties on their line. Roughly four times as many businesses which would definitely subscribe to the new service, as those which would not, are not satisfied with the number of parties on their line (35.6% vs 8.9%).



- not be satisfied with the size of their free calling area. While almost two-thirds (67.4%) of these businesses are dissatisfied with this aspect of service, this is true for less than half (40.6%) of those who would not subscribe to this service.
- be dissatisfied with the availability of a line when they want it. A larger proportion of these businesses are not satisfied with the line availability (44.9% vs 13.8%).
- be dissatisfied with their telephone service in general.

2.1.6.3 Usage Intentions with Respect to Computerized Service and Teletype Equipment¹

In rural Canada, less than ten percent (7.8%) of all businesses are planning to make regular use of a computerized service or data bank (at their present location), within the next three years. However, a further 27.5% of the businesses do not know whether or not they will make use of such a service. Thus, this proportion of rural businesses may be considered as potentially interested in this service. The results for small businesses in general are essentially the same as the national data. On the other hand, interest in this type of service is significantly related to the SIC division. For instance, while less than five percent (4.7%) of the small construction organizations

¹ Question 8 and 10.

reported plans to use a computer service or data bank, roughly twice as many (9.6%) of the agricultural businesses indicated similar plans (see Table 29).

As might be expected, a larger proportion of large businesses - in fact almost one quarter (22.0%) - indicated that they planned to use a computerized service within three years. Adding approximately another third (32.3%) of the businesses, those which were not sure of their plans, suggests that the potential market among large businesses may be closer to fifty percent. As was the case for small businesses, plans to utilize such a service among large organizations are significantly associated with the SIC division. For large businesses, the proportion of employers which have definite plans to use a computerized service varies from less than ten percent (9.6%) of the agricultural businesses, to almost one third (31.6%) of the trade organizations (see Table 30).

It is interesting to note that while a relatively larger proportion of the small agricultural businesses (compared to other small businesses) plan to use this type of service, among large businesses a relatively smaller proportion of agricultural organizations have such plans.

TABLE 29

Planning Use of Computerized Service
SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
Yes	9.6% (19)	4.7% (8)	9.3% (24)	9.2% (34)	7.5% (33)	7.8% (35)
No	57.1 (113)	63.7 (109)	61.5 (158)	68.5 (252)	65.1 (287)	64.7 (292)
Don't Know	33.3 (66)	31.6 (54)	29.2 (75)	22.3 (82)	27.4 (121)	27.5 (124)
Total	100.0 (198)	100.0 (171)	100.0 (257)	100.0 (368)	100.0 (441)	100.0 (451)

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the SIC divisions, "all small businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

TABLE 30

Planning Use of Computerized Service
LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
Yes	9.6% (5)	23.7% (70)	31.6% (31)	17.3% (55)	22.0% (98)	7.8% (35)
No	48.1 (25)	42.9 (127)	37.8 (37)	49.7 (158)	45.7 (204)	64.7 (292)
Don't Know	42.3 (22)	33.5 (99)	30.6 (30)	33.0 (105)	32.3 (144)	27.5 (124)
Total	100.0 (52)	100.0 (296)	100.0 (98)	100.0 (318)	100.0 (446)	100.0 (451)

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the SIC divisions, "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

In order to profile those organizations which are interested in using a computerized service or data bank, the association between their plans to use such a service and business characteristics¹ were investigated. The results of this analysis, at the national level, indicate that businesses which plan to use this type of service are more likely to:

- have more full-time employees at this location. A smaller proportion of those businesses which plan to use a computer service, than of those which do not, have less than 4 full-time employees (30.8% vs 61.9%).
- be in the agricultural or trade sectors. Comparatively more of these businesses are in the agricultural (31.4% vs 22.9%), or trade sectors (24.7% vs 19.8%).

Similarly, for small businesses in general, organizations which plan to use a computerized service or data bank are more likely to:

- have more full-time employees at the one location. Roughly half as many of the small businesses which plan to use this type of service, as those which do not, have less than 4 full-time employees (32.9% vs 63.0%).

¹ These characteristics are:

- the number of full-time employees at this location;
- the total gross annual revenues for this location;
- the number of separate business locations;
- physical isolation;
- type of main activity; and,
- regional location.

- be in the agricultural, trade or finance sectors. Relatively more of these businesses are in the agricultural (33.4% vs 23.2%), trade (25.4% vs 20.0%), or finance (14.4% vs 1.7%) divisions.

Small businesses in the agricultural sector which plan to use a computer service within three years tend to have more separate business locations.

Small construction organizations which intend to utilize such a service, are more likely to have more full-time employees at one location.

The results for small businesses in the trade sector suggest that those which are currently planning to use a computer service are more likely to:

- be more physically isolated.
- have more full-time employees. Less than half as many of these businesses have 3 or fewer full-time employees (25.0% vs 55.1%).

Small organizations in the service sector which reported plans to use this type of service within three years, tend to:

- have more full-time employees. for example, while only 14.7% of the employers which do plan to use a computer service have less than 4 full-time employees, this is true of almost two-thirds (62.7%) of those which have no such plans.

- have higher gross annual revenues. Three quarters (75.0%) of these organizations earned over \$300,000 in their last year, compared to only 15.3% of those with no plans to use a computer service.
- have more separate business locations. Roughly five times as many of these organizations have more than 3 separate business locations (51.5% vs 9.3%).

For large businesses in general, organizations which plan to make regular use of a computerized service or data bank within the next three years tend to:

- have more full-time employees.
- have higher gross annual revenues.
- be in the trade or finance sectors. Relatively more of these businesses are in the trade (15.2% vs 9.5%) or finance (7.2% vs 0.5%) sectors.

No significant relationships were found between large agricultural employers which plan to use a computerized service and the various business characteristics.

Large manufacturing organizations which intend to utilize such a service, are more likely to:

- have more full-time employees. A larger proportion of the employers with plans to use a computerized service, than of those which do not, have more than 60 full-time employees at one location (64.3% vs 36.2%).

have higher gross annual revenues.

The results for large businesses in the trade sector suggest that organizations which have plans to use a computerized service or data bank are relatively less likely to be located in the Atlantic region. A smaller proportion of these businesses are in the Atlantic region (12.9% vs 32.4%).

Large organizations in the service sector which reported plans to use this type of service within three years, tend to have more full-time employees at one location.

Businesses in rural Canada which do not presently subscribe to any teletype equipment, were asked if they were planning to make regular use of such equipment within the next three years. Less than two percent (1.7%) of all businesses indicated that they do have plans of this nature. However, a further 21.3% did not know if they would be using this type of equipment or not. So, a portion of this group may also be future users of teletype equipment.

While the results for all small businesses are essentially the same as the national results, a relatively higher proportion (4.3%) of large businesses

reported plans to subscribe to teletype equipment. Similarly, a comparatively larger percentage (30.4%) of large businesses were unsure about future plans for this type of service. For both small and large businesses, the relationship between plans to subscribe to teletype equipment and SIC division was insignificant (see Tables 31 and 32).

In view of the small number of businesses which do plan to use this type of service (i.e. the largest number is 14 large businesses), it would be misleading to profile this segment of businesses in rural Canada. Thus, this analysis was not undertaken.

TABLE 31

Planning Use of Teletype Equipment

SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
Yes	2.3% (4)	2.0% (3)	1.7% (4)	1.2% (4)	1.8% (7)	1.7% (7)
No	72.5 (129)	75.8 (116)	74.3 (176)	82.4 (272)	77.0 (305)	77.0 (311)
Don't Know	25.3 (45)	22.2 (34)	24.1 (57)	16.4 (54)	21.2 (84)	21.3 (86)
Total	100.0 (178)	100.0 (153)	100.0 (237)	100.0 (330)	100.0 (396)	100.0 (404)

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the SIC divisions, "all small businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

TABLE 32

Planning Use of Teletype Equipment

LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
Yes	2.3% (1)	5.5% (10)	5.7% (4)	3.7% (9)	4.3% (14)	1.7% (7)
No	65.1 (28)	59.1 (107)	62.9 (44)	69.1 (167)	65.3 (213)	77.0 (311)
Don't Know	32.6 (14)	35.4 (64)	31.4 (22)	27.3 (66)	30.4 (99)	21.3 (86)
Total	100.0 (43)	100.0 (181)	100.0 (70)	100.0 (242)	100.0 (326)	100.0 (404)

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the SIC divisions, "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

2.2 Mobile Radio

2.2.1 Services Currently Used

2.2.1.1 GRS (CB)

In rural Canada, 13.5% of all businesses currently use General Radio Service (GRS)/Citizen's Band (CB). Essentially the same proportion (13.7%) of small businesses use GRS/CB; usage varies among the SIC divisions from less than ten percent (8.7%) of the organizations in the service sector to more than double this proportion, (20.6%), for small agricultural employers (see Table 33).

Among all large rural businesses, a relatively lower proportion (10.8%) use GRS/CB services. As was the case with small organizations, usage ranges from a low of 8.8% in the service sector, to 21.2% of large agricultural employers (see Table 34).

At the national level, most (92.1%) of the businesses which do use GRS/CB services, use it on land, although some businesses did report water (14.3%) and/or air (3.2%) applications. For both small and large businesses, basically the same results were noted. No significant relationships were found between the SIC divisions and applications of GRS/CB services.

The majority (79.0%) of the businesses in rural Canada which use GRS/CB, employ less than 4 units and,

TABLE 33

General Radio Service (GRS)/CB Users

SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
Land	100.0% (42)	100.0% (17)	97.1% (34)	86.7% (26)	91.9% (57)	92.1% (58)
Water	4.8 (2)	11.8 (2)	8.6 (3)	20.0 (6)	14.5 (9)	14.3 (9)
Air	2.4 (1)	5.9 (1)	0.0 (0)	3.3 (1)	1.6 (1)	3.2 (2)
Total Users ¹	100.0 (42)	100.0 (17)	100.0 (35)	100.0 (30)	100.0 (62)	100.0 (63)
Percent of Businesses	20.6%	11.5%	13.8%	8.7%	13.7%	13.5%

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all small businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

¹ Note that the percentages may add to more than 100%, as some businesses use more than one application.

TABLE 34

General Radio Service (GRS)/CB Users

LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
Land	100.0% (11)	93.1% (27)	81.8% (9)	93.1% (27)	94.0% (47)	92.1% (58)
Water	0.0 (0)	27.6 (8)	18.2 (2)	13.8 (4)	16.0 (8)	14.3 (9)
Air	0.0 (0)	0.0 (0)	0.0 (0)	3.4 (1)	0.0 (0)	3.2 (2)
Total Users ¹	100.0 (11)	100.0 (29)	100.0 (11)	100.0 (29)	100.0 (50)	100.0 (63)
Percent of Businesses	21.2%	9.5%	10.4%	8.8%	10.8%	13.5%

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

¹ Note that the percentages may add to more than 100%, as some businesses use more than one application.

in fact, the average is just under 3 (i.e. 2.7). Although this is also the case for small businesses in general, a significant relationship exists between the number of units employed, and the SIC division. While over half (57.1%) of the organizations in the service sector have only one unit, most (61.5%) small agricultural organizations use 2 or 3 units (see Table 35).

As would be expected, large businesses tend to use more GRS/CB units. In fact, almost half (45.2%) use 4 or more units and the average is almost 6 (5.7). For large businesses, the association between the number of GRS/CB units, and the SIC division is not significant (see Table 36).

Essentially all businesses in rural Canada own the GRS/CB equipment¹ used, and most (69.1%) purchased the equipment for no more than \$600, although the national average is \$691. Small businesses tend to follow the national pattern, while almost half (43.6%) of all large businesses paid over \$600. Indeed, the average for large organizations is \$1186. Although there are variations among the SIC divisions for both small and

¹ Only one small business and 3 large organizations rent CRS/CB equipment.

TABLE 35
Number of GRS/CB Units Employed
SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
1	12.8% (5)	33.3% (5)	36.7% (11)	57.1% (16)	32.1% (18)	31.6% (18)
2-3	61.5 (24)	46.7 (7)	43.3 (13)	17.9 (5)	48.2 (27)	47.4 (27)
4 or more	25.6 (10)	20.0 (3)	20.0 (6)	25.0 (7)	19.6 (11)	21.1 (12)
Total	100.0 (39)	100.0 (15)	100.0 (30)	100.0 (28)	100.0 (56)	100.0 (57)
Average	3.1	2.6	2.7	3.9	2.6	2.7

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all small businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

TABLE 36

Number of GRS/CB Units Employed

LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
1	0.0% (0)	6.9% (2)	28.6% (2)	33.3% (5)	14.3% (6)	31.6% (18)
2-3	70.0 (7)	48.3 (14)	57.1 (4)	33.3 (5)	40.5 (17)	47.4 (27)
4 or more	30.0 (3)	44.8 (13)	14.3 (1)	33.3 (5)	45.2 (19)	21.1 (12)
Total	100.0 (10)	100.0 (29)	100.0 (7)	100.0 (15)	100.0 (42)	100.0 (57)
Average	3.2	5.0	2.7	7.3	5.7	2.7

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

large businesses, the relationship with purchase cost is not significant (see Tables 37 and 38)¹.

Of those businesses in rural Canada which use GRS/CB services, most (54.7%) have had the service for no more than three years, although the average is four years (4.0). This is also the case for small businesses in general, and for small businesses in the agricultural and service sectors (see Table 39). However, approximately half the businesses in the construction (50.0%) and trade sectors (52.2%) have had this service for more than three years. On the other hand, all (100.0%) large businesses have had their service for at least two years, and the average in this case is five years (5.0). Among the SIC divisions for large businesses, length of usage varies from less than four years (3.8) in the service sector, to over five years (5.2) in agriculture (see Table 40).

In order to profile users of GRS/CB services, the degree of association between businesses which make

¹ Rental costs are not presented because of the small number of businesses which rent equipment.

TABLE 37

Total Purchase Cost - GRS/CB

SMALL BUSINESSES

SIC DIVISION					ALL SMALL BUSINESSES	NATIONAL
AGRICULTURE	CONSTRUCTION	TRADE	SERVICES			
≤ \$200	8.3% (3)	20.0% (3)	30.0% (9)	43.5% (10)	20.8% (11)	21.8% (12)
\$201-\$600	58.3 (21)	40.0 (6)	40.0 (12)	34.8 (8)	49.1 (26)	47.3 (26)
≥ \$601	33.3 (12)	40.0 (6)	30.0 (9)	21.7 (5)	30.2 (16)	30.9 (17)
Total	100.0 (36)	100.0 (15)	100.0 (30)	100.0 (23)	100.0 (53)	100.0 (55)
Average	\$610	\$830	\$859	\$672	\$682	\$691

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all small businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

TABLE 38

Total Purchase Cost - GRS/CB

LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
≤ \$200	0.0% (0)	4.6% (1)	0.0% (0)	17.7% (3)	10.3% (4)	21.8% (12)
\$201-\$600	70.0 (7)	54.5 (12)	60.0 (6)	29.4 (5)	46.2 (18)	47.3 (26)
≥ \$601	30.0 (3)	40.9 (9)	40.0 (4)	52.9 (9)	43.6 (17)	30.9 (17)
Total	100.0 (10)	100.0 (22)	100.0 (10)	100.0 (17)	100.0 (39)	100.0 (55)
Average	\$622	\$966	\$671	\$1708	\$1186	\$691

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

TABLE 39

Length of Time GRS/CB Employed

SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
1 year or less	10.7% (3)	0.0% (0)	8.7% (2)	14.3% (3)	9.5% (4)	9.5% (4)
2-3 years	46.4 (13)	50.0 (6)	39.1 (9)	47.6 (10)	45.2 (19)	45.2 (19)
4 or more years	42.9 (12)	50.0 (6)	52.2 (12)	38.1 (8)	45.2 (19)	45.2 (19)
Total	100.0 (28)	100.0 (12)	100.0 (23)	100.0 (21)	100.0 (42)	100.0 (42)
Average	3.4	4.3	4.5	3.7	3.9	4.0

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all small businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

TABLE 40

Length of Time GRS/CB Employed

LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONA
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
1 year or less	11.1% (1)	0.0% (0)	0.0% (0)	6.7% (1)	0.0% (0)	9.5% (4)
2-3 years	44.4 (4)	38.5 (5)	44.4 (4)	46.7 (7)	51.7 (15)	45.2 (19)
4 or more years	44.4 (4)	61.5 (8)	55.6 (5)	46.7 (7)	48.3 (14)	45.2 (19)
Total	100.0 (9)	100.0 (13)	100.0 (9)	100.0 (15)	100.0 (29)	100.0 (42)
Average	5.2	3.9	4.5	3.8	5.0	4.0

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

use of this service, and various characteristics¹ of businesses were measured. While very few significant relationships were found, the following observations may be made:

- a) no significant relationships were found at the **national** level, or for **small businesses** in general.
- b) **small agricultural** organizations which use GRS/CB services tend to:
 - have fewer full-time employees at one location.
 - have fewer separate business locations.
 - be located in the **Prairie** region. A larger proportion of GRS/CB users, than non-users, are located in the Prairies (66.7% vs 38.9%).
- c) no significant relationships were found for **small construction businesses**.
- d) in the **trade sector**, small businesses which use GRS/CB services are more likely to:
 - have more full-time employees at one location.
- e) small businesses in the **service sector** which utilize GRS/CB services, tend to:
 - have more separate business locations.

¹ These characteristics are:

- number of full-time employees on location;
- total gross annual revenues for that location;
- number of separate business locations;
- physical isolation;
- standard industrial classification group;
- regional location; and
- satisfaction with overall telephone service.

f) large businesses in general which reported using GRS/CB services, tend to:

- have more separate business locations.
- be in the agricultural sector. Twice as many businesses which use this service, as those which do not, are in the agriculture sector (14.6% vs 7.3%).
- not be in the service division. Relatively fewer of these businesses are in the service sector (28.5% vs 38.4%).

g) large businesses in the agriculture sector, are more likely to:

- be dissatisfied with their overall telephone service.

h) large businesses in the manufacturing division which use GRS/CB services are more likely to:

- be located in the coastal regions. Relatively more of these organizations are in the Atlantic region (31.0% vs 14.9%), or in B.C. (20.7% vs 5.8%).

i) no significant relationships were found for large businesses in the trade sector.

j) large businesses in the service sector which utilize GRS/CB services, tend to:

- have more full-time employees at one location.

2.2.1.2 Private Commercial

Less than ten percent (6.9%) of the businesses in rural Canada use private commercial services. This is also the case for small businesses in general (6.6%), and in each SIC division. However, usage does vary

from 2.4% of the small organizations in the service sector to 8.3% of small agricultural businesses (see Table 41). Approximately three times as many (19.2%) large businesses as small ones, utilize this service and in this case, usage ranges from a low of 10.4% in the trade sector, to roughly one fifth (20.5%) of those in the service division (see Table 42).

For both small and large businesses, as well as at the national level, almost all businesses use this service over land, while some do report water and/or air applications. The relationship between SIC division and applications of this service was not significant for small or large businesses.

With regard to the number of private commercial units employed, the majority (67.7%) of businesses in rural Canada use at least 4 units. Indeed, the average is over 5 (5.4). Similar results were found for small businesses in general, although the number of units employed is significantly related to the SIC division. For instance, while only a third (33.3%) of the small businesses in the service sector have more than three units, this is the case for almost all (88.2%) small agricultural firms (see Table 43).

While a relatively lower proportion (61.0%) of large businesses employ more than three units, in this

TABLE 41

Private Commercial Service Users

SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
Land	94.1% (16)	90.9% (10)	100.0% (12)	100.0% (9)	93.3% (28)	93.8% (30)
Water	5.9 (1)	0.0 (0)	0.0 (0)	0.0 (0)	6.7 (2)	6.3 (2)
Air	0.0 (0)	9.1 (1)	8.3 (1)	0.0 (0)	3.3 (1)	3.1 (1)
Total Users ¹	100.0 (17)	100.0 (11)	100.0 (12)	100.0 (9)	100.0 (30)	100.0 (32)
Percent of Businesses	8.3%	6.3%	4.5%	2.4%	6.6%	6.9%

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all small businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

¹ Note that the percentages may add to more than 100%, as some businesses use more than one application.

TABLE 42

Private Commercial Service Users

LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
Land	100.0% (6)	94.9% (56)	100.0% (11)	98.5% (67)	96.6% (86)	93.8% (30)
Water	0.0 (0)	8.5 (5)	0.0 (0)	4.4 (3)	7.9 (7)	6.3 (2)
Air	0.0 (0)	8.5 (5)	9.1 (1)	0.0 (0)	4.5 (4)	3.1 (1)
Total Users ¹	100.0 (6)	100.0 (59)	100.0 (11)	100.0 (68)	100.0 (89)	100.0 (32)
Percent of Businesses	11.5%	19.3%	10.4%	20.5%	19.2%	6.9%

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

¹ Note that the percentages may add to more than 100%, as some businesses use more than one application.

TABLE 43

Number of Private Commercial Units Employed

SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
1	0.0% (0)	9.1% (1)	0.0% (0)	44.4% (4)	13.8% (4)	12.9% (4)
2-3	11.8 (2)	27.3 (3)	30.0 (3)	22.2 (2)	20.7 (6)	19.4 (6)
4 or more	88.2 (15)	63.6 (7)	70.0 (7)	33.3 (3)	65.5 (19)	67.7 (21)
Total	100.0 (17)	100.0 (11)	100.0 (10)	100.0 (9)	100.0 (29)	100.0 (31)
Average	6.1	5.1	5.5	8.8	5.1	5.4

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all small businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

TABLE 44

Number of Private Commercial Units Employed

LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONA
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
1	0.0% (0)	9.1% (5)	0.0% (0)	43.1% (28)	20.7% (17)	12.9% (4)
2-3	33.3 (2)	12.7 (7)	30.0 (3)	30.8 (20)	18.3 (15)	19.4 (6)
4 or more	66.7 (4)	78.2 (43)	70.0 (7)	26.2 (17)	61.0 (50)	67.7 (21)
Total	100.0 (6)	100.0 (55)	100.0 (10)	100.0 (65)	100.0 (82)	100.0 (31)
Average	4.7	9.7	6.0	3.2	8.6	5.4

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

category the average is almost 9 units (8.6). As illustrated for small businesses, a significant relationship exists between the number of units employed, and the industrial classification. Although only just over one quarter (26.2%) of the large businesses in the service sector employ 4 or more units, roughly three times as many (78.2%) large manufacturing organizations reported at least 4 units (see Table 44).

The majority (83.3%) of the businesses in rural Canada own their private commercial service equipment¹, and most (82.6%) of these organizations paid between \$2,000 and \$6,000 in total, for the equipment. Similar purchase costs were reported for all small businesses and, in fact, the relationship between purchase cost and SIC division was not significant (see Table 45).

Contrary to the national results, over half (52.9%) of all large businesses purchased their private commercial service equipment for more than \$6,000. Additionally, a significant relationship does exist between the industrial classification of large businesses and purchase cost. Average costs incurred

¹ Only 5 (17.9%) small and 14 (17.4%) large businesses rent their equipment.

TABLE 45

Total Purchase Cost - Private Commercial

SMALL BUSINESSES

SIC DIVISION					ALL SMALL BUSINESSES	NATIONAL
AGRICULTURE	CONSTRUCTION	TRADE	SERVICES			
≤ \$2000	11.8% (2)	0.0% (0)	22.2% (2)	20.0% (1)	17.4% (4)	17.4% (4)
\$2001-\$6000	47.1 (8)	50.0 (3)	44.4 (4)	40.0 (2)	47.8 (11)	47.8 (11)
≥ \$6001	41.2 (7)	50.0 (3)	33.3 (3)	40.0 (2)	34.8 (8)	34.8 (8)
Total	100.0 (17)	100.0 (6)	100.0 (9)	100.0 (5)	100.0 (23)	100.0 (23)
Average	\$5999	\$6382	\$5603	\$5491	\$5498	\$5536

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all small businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

TABLE 46

Total Purchase Cost - Private Commercial

LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
≤ \$2000	0.0% (0)	19.1% (8)	20.0% (1)	21.1% (8)	15.7% (8)	17.4% (4)
\$2001-\$6000	0.0 (0)	31.0 (13)	20.0 (1)	44.7 (17)	31.4 (16)	47.8 (11)
≥ \$6001	100.0 (2)	50.0 (21)	60.0 (3)	34.2 (13)	52.9 (27)	34.8 (8)
Total	100.0 (2)	100.0 (42)	100.0 (5)	100.0 (38)	100.0 (51)	100.0 (23)
Average	\$6500	\$5995	\$6201	\$5026	\$6181	\$5536

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

vary from \$5,026, as reported by organizations in the service sector, to \$6,500 in the agricultural division (see Table 46).¹

Of the businesses in rural Canada which use private commercial services, approximately half (51.5%) have had the service for 4 or more years, and the average length of usage is five years (5.0). The results for small businesses in general are similar, despite the variations among SIC divisions. The average length of time these services have been used ranges from under four years (3.7) for small businesses in the trade sector, to over five years (5.4) for small service organizations (see Table 47). A relatively larger proportion (61.6%) of large businesses have also used private commercial services for at least four years, but in this case the average is almost six (5.8). In each SIC division for large businesses, the majority of the organizations have employed this service for more than three years (see Table 48). Here, the average length of usage varies from 4.5 years for businesses in the service category, to 6.5 years for large agricultural organizations.

¹ Rental costs are not presented due to the small number of cases where equipment of this nature is rented.

TABLE 47

Length of Time Private Commercial Employed

SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
1 year or less	22.7% (5)	18.2% (2)	16.7% (2)	0.0% (0)	15.6% (5)	15.2% (5)
2-3 years	36.4 (8)	36.4 (4)	50.0 (6)	20.0 (2)	34.4 (11)	33.3 (11)
4 or more years	40.9 (9)	45.5 (5)	33.3 (4)	80.0 (8)	50.0 (16)	51.5 (17)
Total	100.0 (22)	100.0 (11)	100.0 (12)	100.0 (10)	100.0 (32)	100.0 (33)
Average	4.4	4.0	3.7	5.4	5.0	5.0

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all small businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

TABLE 48

Length of Time Private Commercial Employed

LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
1 year or less	20.0% (1)	11.3% (6)	9.1% (1)	16.1% (9)	11.0% (8)	15.2% (5)
2-3 years	20.0 (1)	26.4 (14)	36.4 (4)	30.4 (17)	27.4 (20)	33.3 (11)
4 or more years	60.0 (3)	62.3 (33)	54.5 (6)	53.6 (30)	61.6 (45)	51.5 (17)
Total	100.0 (5)	100.0 (53)	100.0 (11)	100.0 (56)	100.0 (73)	100.0 (33)
Average	6.5	5.8	5.6	4.5	5.8	5.0

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

As was done for GRS/CB users, businesses which utilize private commercial services were profiled according to the same set of characteristics. For this service, the results of this analysis suggest the following observations:

a) at the **national** level, businesses which employ private commercial service were found to:

- **have more full-time employees at one location.** Roughly half as many of the businesses which use this service, as those which do not, have less than four full-time employees (26.8% vs 58.3%).
- **have more separate business locations.**
- **have higher gross annual revenues at one location.** While over half (58.3%) of the businesses which use this service earned over \$300,000 in their last year, this is true for only 22.3% of those who do not use this service.

b) **small businesses** in general which use private commercial service, tend to:

- **have more full-time employees.** Approximately three times as many of these organizations, as non-users, have between 11 and 19 full-time employees at one location (39.6% vs 12.4%).
- **have more separate business locations.**
- **have higher gross annual revenues at one location.** Comparatively more of these businesses earned over \$300,000 in their last year (56.4% vs 21.0%).

c) the profiling exercise was not undertaken for small businesses in the various SIC divisions because of the small number of users in these categories (i.e. the greatest number of users in any one SIC division is 17).

d) for large businesses in general, those which use this service tend to:

- have more full-time employees at one location.
- have higher gross annual revenues.
- be located in western Canada. Relatively more users, than non-users, are located in the Prairies (34.7% vs 23.1%), or in B.C. (16.7% vs 9.3%).

e) no significant relationships were found for users of private commercial service in the agricultural sector.

f) in the manufacturing sector, large businesses which use this service tend to:

- be located in the coastal regions of Canada. Comparatively more of these businesses, than of non-users, are located in B.C. (23.7% vs 3.3%), or in the Atlantic region (20.3% vs 15.5%).
- have more separate business locations.
- have more full-time employees at one location. A larger proportion of users, than of non-users, have over 60 full-time employees (66.1% vs 41.9%).

g) no significant relationships were found for large trade organizations.

h) large businesses in the service sector which use private commercial service tend to:

- have higher gross annual revenues.
- have more separate business locations.
- be located in the Prairie region. Almost twice as many users, as non-users are located in the Prairies (64.7% vs 34.6%).

2.2.1.3 General Mobile Service

In rural Canada, 3.9% of all businesses presently use General Mobile Service. In view of the relatively small user population, reliable conclusions can not be drawn for the SIC divisions. Thus, the following discussion pertains only to general trends with respect to the national data, the small businesses, and the large businesses.

While essentially the same proportion (3.5%) of small businesses, as at the national level, use this service, roughly twice as many (7.1%) large businesses are users. In all cases, almost all businesses use this service on land, although there were some mentions of water and air applications (see Tables 49 and 50).

Almost half of the businesses in rural Canada (46.7%), and small businesses (53.8%) reported only one general mobile service unit, whereas two-thirds (66.7%) of the large businesses employ two or more units (see Tables 51 and 52).

Generally, the majority of businesses own the equipment they use, although for large businesses, essentially half (50.2%) rent their equipment, and a further 5.2% both own and rent (see Tables 53 and 54). Data on the purchase and rental costs are not presented since too few businesses which use this service,

TABLE 49

General Mobile Service Users

SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
Land	0.0% (0)	100.0% (13)	85.7% (6)	87.5% (7)	87.5% (14)	87.5% (14)
Water	0.0 (0)	7.7 (1)	28.6 (2)	12.5 (1)	18.8 (3)	18.8 (3)
Air	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
Total Users ¹	0.0 (0)	100.0 (13)	100.0 (7)	100.0 (8)	100.0 (16)	100.0 (16)
Percent of Businesses	0.0%	7.5%	2.6%	2.1%	3.5%	3.9%

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all small businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

¹ Note that the percentages may add to more than 100%, as some businesses use more than one application.

TABLE 50

General Mobile Service Users

LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
Land	0.0% (0)	92.9% (26)	100.0% (3)	100.0% (11)	97.0% (32)	87.5% (14)
Water	0.0 (0)	3.6 (1)	0.0 (0)	9.1 (1)	6.1 (2)	18.8 (3)
Air	0.0 (0)	7.1 (2)	0.0 (0)	0.0 (0)	6.1 (2)	0.0 (0)
Total Users ¹	0.0 (0)	100.0 (28)	100.0 (3)	100.0 (11)	100.0 (33)	100.0 (16)
Percent of Businesses	0.0%	9.2%	2.8%	3.3%	7.1%	3.9%

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

¹ Note that the percentages may add to more than 100%, as some businesses use more than one application.

TABLE 51

Number of General Mobile Service Units Employed

SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
1	0.0% (0)	50.0% (6)	33.3% (1)	42.9% (3)	53.8% (7)	46.7% (7)
2-3	0.0 (0)	16.7 (2)	66.7 (2)	57.1 (4)	38.5 (5)	33.3 (5)
4 or more	0.0 (0)	33.3 (4)	0.0 (0)	0.0 (0)	7.7 (1)	20.0 (3)
Total	0.0 (0)	100.0 (12)	100.0 (3)	100.0 (7)	100.0 (13)	100.0 (15)
Average	0.0	8.6	1.7	1.7	4.0	4.0

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all small businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

TABLE 52

Number of General Mobile Service Units Employed

LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
1	0.0% (0)	41.7% (10)	33.3% (1)	25.0% (2)	33.3% (9)	46.7% (7)
2-3	0.0 (0)	33.3 (8)	33.3 (1)	37.5 (3)	33.3 (9)	33.3 (5)
4 or more	0.0 (0)	25.0 (6)	33.3 (1)	37.5 (3)	33.3 (9)	20.0 (3)
Total	0.0 (0)	100.0 (24)	100.0 (3)	100.0 (8)	100.0 (27)	100.0 (15)
Average	0.0	4.3	4.3	10.6	5.5	4.0

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

TABLE 53

Own vs Rent General Mobile Service

SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
Own	0.0% (0)	46.2% (13)	33.3% (3)	50.0% (4)	57.6% (14)	60.0% (9)
Rent	0.0 (0)	53.9 (7)	66.7 (2)	50.0 (4)	42.4 (6)	40.0 (6)
Total	0.0 (0)	100.0 (13)	100.0 (3)	100.0 (8)	100.0 (14)	100.0 (15)

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all small businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

TABLE 54

Own vs Rent General Mobile Service

LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
Own	0.0% (0)	40.7% (11)	33.3% (1)	55.6% (5)	44.1% (14)	60.0% (9)
Rent	0.0 (0)	55.6 (15)	66.7 (2)	44.4 (4)	50.2 (16)	40.0 (6)
Both	0.0 (0)	3.7 (1)	0.0 (0)	0.0 (0)	5.2 (2)	0.0 (0)
Total	0.0 (0)	100.0 (27)	100.0 (3)	100.0 (9)	100.0 (31)	100.0 (15)

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

reported these figures (i.e. the greatest number of responses in any one category is 14). However, the results obtained suggest that the total purchase cost is normally less than or equal to \$2,500, and monthly rental costs are generally no more than \$100.

Similarly, in view of the small number of businesses (i.e. 20 large businesses was the greatest number of responses) which indicated the length of time they have used general mobile service, this data is not presented. It may be noted, though, that the average number of years of usage is close to three years (3.4) for small businesses, and nearly six years (5.5) for large organizations.

As described in Section 2.2.1.1 GRS/CB, an analysis was undertaken in order to profile businesses which use general mobile service. Although few significant relationships were found between users of this service and certain business characteristics. The following observations may be noted:

- a) at the **national** level, and for **small businesses** in general, those organizations which use general mobile service were found to be **dissatisfied with their current overall telephone service.**
- b) **large businesses** in general, which reported using this mobile service tend to:

be in the **manufacturing or construction sectors.** Relatively more of the businesses which use this service, than

those which do not, are in manufacturing (32.2% vs 24.9%), or construction (16.5% vs 4.1%).

- not be in the service division. Less than half as many of these businesses are in the service sector (16.1% vs 38.9%).

- be located in western Canada. Comparatively more users, than non-users, are located in B.C. (37.9% vs 8.6%), or in the Prairie region (33.6% vs 24.7%).

c) the profiling exercise was not undertaken for **small businesses** in the various SIC divisions due to the small number of users (i.e. the greatest number in any SIC division is 13), or for large businesses in the agriculture, trade and service sectors.

d) large businesses in the **manufacturing sector** which use general mobile service, are more likely to:

- have more full-time employees at one location.
- have higher gross annual revenues.
- have more separate business locations.
- be located in the B.C. region. A larger proportion of users in this sector, than of non-users, are located in B.C. (46.4% vs 3.3%).

2.2.1.4 RCCMRS

Data of Restricted Common Carrier Mobile Radio Service (RCCMRS) users is not presented due to the too small user population. Indeed, the greatest number of users in any of the analysis categories is 15 (3.2%)



large businesses. In view of this fact, it would be very misleading to draw conclusions about the users of this service in rural Canada.

2.2.1.5 Paging

Paging (public and private commercial) users exist primarily in the service sector of businesses in rural Canada¹. In fact, while only 2.2% of all businesses in Canada reported using this service, almost one quarter (24.8%) of the large businesses in the service sector indicated that they utilize paging services, and almost all (98.8%) of these organizations reported employing this service on land (see Table 55).

Almost half (52.9%) of the large businesses in the service sector, as well as large businesses in general (46.3%) employ at least four paging units. More specifically, the average number of units used is just over five (5.1) for large service organizations (see Table 56). In most (68.0%) cases, these units are owned by the business, with a further 5.3% of these businesses both owning and renting units.

¹ In view of the small number of users in all other categories, only data pertaining to large businesses in general, and in the service sector will be discussed.

TABLE 55

Paging (Public and Private Commercial) Users

LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
Land	100.0% (2)	100.0% (19)	100.0% (2)	98.8% (81)	100.0% (49)	90.0% (9)
Air	0.0 (0)	0.0 (0)	0.0 (0)	2.5 (2)	2.0 (1)	10.0 (1)
Total Users ¹	100.0 (2)	100.0 (19)	100.0 (2)	100.0 (82)	100.0 (49)	100.0 (10)
Percent of Businesses	3.8%	6.2%	1.9%	24.8%	10.6%	2.2%

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

¹ Note that the percentages may add to more than 100%, as some businesses use more than one application.

TABLE 56

Number of Paging Units Employed

LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
1	50.0% (1)	31.3% (5)	0.0% (0)	20.6% (14)	26.8% (11)	50.0% (4)
2-3	0.0 (0)	37.5 (6)	0.0 (0)	26.5 (18)	26.8 (11)	25.0 (2)
4 or more	50.0 (1)	31.3 (5)	0.0 (0)	52.9 (36)	46.3 (19)	25.0 (2)
Total	100.0 (2)	100.0 (16)	0.0 (0)	100.0 (68)	100.0 (41)	100.0 (8)
Average	4.0	3.4	0.0	5.1	4.5	2.6

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

Of those large service organizations which own the paging units employed, over half (67.4%) spent over \$1,500 in total for the units and, in fact, the average total purchase cost is \$3,078 (see Table 57). On the other hand, large businesses which rent paging units generally spend over \$50 a month (54.2%), with an average rental fee of \$94.50 (see Table 58).

The majority (81.8% of all large businesses, and 84.6% of those in the service sector) of the businesses which reported using this service, have used it for at least two years (see Table 59). Indeed, average length of usage in the service sector is over three years (3.5), as it is for all large firms.

The results of the profiling exercise for businesses using paging services (previously explained in Section 2.2.1.1) was undertaken only for all large businesses and those in the service sector, and provides the following observations:

a) **large businesses** in general which utilize a paging service are more likely to:

- **be in the service sector.** Over twice as many users, as non-users, are in the service sector (74.3% vs 32.8%).
- **be located in the Prairie region.** While almost half (46.9%) of the businesses which use a paging service, are located in the Prairies, this is true for less than one quarter (22.7%) of those who do not use this service.



TABLE 57

Total Purchase Cost - Paging

LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
≤ \$1500	0.0% (0)	0.0% (0)	0.0% (0)	32.6% (15)	31.8% (7)	33.3% (1)
\$1501-\$4000	0.0 (0)	75.0 (3)	0.0 (0)	39.1 (18)	40.9 (9)	33.3 (1)
≥ \$4001	0.0 (0)	25.0 (1)	0.0 (0)	28.3 (13)	27.3 (6)	33.3 (1)
Total	0.0 (0)	100.0 (4)	0.0 (0)	100.0 (46)	100.0 (22)	100.0 (3)
Average	0	\$4499	0	\$3078	\$3108	\$3296

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parentheses) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

TABLE 58

Monthly Rental Cost - Paging

LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
≤ \$30	0.0% (0)	27.3% (3)	100.0% (1)	25.0% (6)	25.5% (5)	34.5% (2)
\$31-\$50	0.0 (0)	27.3 (3)	0.0 (0)	20.8 (5)	20.2 (4)	54.7 (3)
≥ \$51	100.0 (1)	45.5 (5)	0.0 (0)	54.2 (13)	54.3 (10)	10.8 (1)
Total	100.0 (1)	100.0 (11)	100.0 (1)	100.0 (24)	100.0 (19)	100.0 (6)
Average	\$200.00	\$93.18	\$30.00	\$94.50	\$93.80	\$42.12

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

TABLE 59

Length of Time Paging Services Employed

LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
1 year or less	0.0% (0)	20.0% (1)	0.0% (0)	15.4% (6)	18.2% (4)	50.0% (2)
2-3 years	0.0 (0)	40.0 (2)	0.0 (0)	41.0 (16)	40.9 (9)	50.0 (2)
4 or more years	100.0 (1)	40.0 (2)	0.0 (0)	43.6 (17)	40.9 (9)	0.0 (0)
Total	100.0 (1)	100.0 (5)	0.0 (0)	100.0 (39)	100.0 (22)	100.0 (4)
Average	5.0	3.1	0.0	3.5	3.4	2.0

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

b) in the service sector, large businesses which reported using this type of service were found to be more likely to:

- have more full-time employees at one location.
- be located in the Prairie region. While over half (54.9%) of the users in this sector are located in the Prairies, this is true of only 36.1% of the non-users.

2.2.1.6 Equipment Considered Most Important¹

Before examining which type of equipment is considered to be most important among businesses in rural Canada, it would be useful to better understand the total user population for all the different types of mobile radio systems. Summarizing the findings in the previous sections, we find that approximately one quarter (23.8%) of all businesses in rural Canada use at least one type of the various mobile radio systems.

Similarly, 20.7% of all small businesses use one system, and a further 2.8% use two or more systems, for a total user population of 23.5%. The number of systems used is significantly related to the industrial classification of small businesses. For instance, while only 13.9% of the small organizations in the

¹ Question 22.

service sector use at least one system, approximately twice as many small agricultural businesses utilize one or more types of equipment (see Table 60).

On the other hand, almost forty percent (37.7%) of the large businesses in Canada employ at least one type of mobile radio system. Indeed, 12.3% of these firms use more than one type of equipment. As was the case for small businesses, the industrial classification of businesses is significantly associated with the number of mobile radio systems employed. The total user population varies from 25.5% of businesses in the trade sector, to 42.0% of those in the service division (see Table 61). Additionally, while less than two percent (1.9%) of the large agricultural firms reported two or more systems, 17.5% of those in the service sector employ at least two different systems.

An analysis was undertaken to evaluate the differences in characteristics¹ between businesses which use one or more mobile radio systems, and those

1 These characteristics are:

- number of full-time employees at this location;
- total gross annual revenues for this location;
- number of separate business locations;
- physical isolation;
- satisfaction with telephone service in general;
- and,
- industrial classification.

TABLE 60

Mobile Radio Systems Users

SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
1 System	28.9% (59)	23.0% (40)	16.4% (44)	10.9% (41)	20.7% (94)	20.8% (97)
2 Systems	0.5 (1)	2.3 (4)	3.0 (8)	2.7 (10)	2.6 (12)	2.8 (13)
3 or more Systems	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (1)	0.2 (1)	0.2 (1)
Non-Users	70.6 (144)	74.7 (130)	80.6 (216)	86.2 (326)	76.4 (346)	76.1 (353)
Total	100.0 (204)	100.0 (174)	100.0 (268)	100.0 (378)	100.0 (453)	100.0 (465)

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all small businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

TABLE 61

Mobile Radio Systems Users

LARGE BUSINESSES

	SIC DIVISION					
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES	ALL LARGE BUSINESSES	NATIONA
1 System	36.5% (19)	19.7% (60)	21.7% (23)	24.5% (81)	25.4% (118)	20.8% (97)
2 Systems	1.9 (1)	8.9 (27)	3.8 (4)	15.4 (51)	10.1 (47)	2.8 (13)
3 or more Systems	0.0 (0)	3.0 (9)	0.0 (0)	2.1 (7)	2.2 (10)	0.2 (1)
Non-Users	61.5 (32)	68.5 (209)	74.5 (79)	58.0 (192)	62.3 (289)	76.1 (353)
Total	100.0 (52)	100.0 (305)	100.0 (106)	100.0 (331)	100.0 (463)	100.0 (465)

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

which are non-users. In addition, the hypothesis that non-users would be more satisfied with their telephone service, than would users of CB/mobile radio services was investigated.

The results of this analysis at the national level suggest that mobile radio system users tend to:

- be more physically isolated. A larger proportion of businesses which use any of these services, than of those who do not, are more isolated than the national average (49.8% vs 33.8%).
- be in the agriculture or transportation and communication sectors. Relatively more users are in agriculture (32.5% vs 24.0%), or transportation and communication (9.2% vs 3.7%).
- satisfaction with overall telephone service is not significantly related to ownership of CB/mobile radio services.

For small businesses in general, it was found that CB/mobile radio service users are more likely to:

- have more full-time employees.
- be more physically isolated. A larger proportion of users, than of non-users, are more isolated than the average for small businesses (49.5% vs 32.7%).
- be in the agriculture or transportation and communications sectors. Relatively more users are in these SIC divisions (33.5% vs 24.4%, and 9.3% vs 3.8% respectively).
- satisfaction with telephone service in general, is not significantly associated with whether or not businesses use CB/mobile radio services.

Small agricultural businesses which use at least one type of mobile radio system tend to:

- be more physically isolated. Almost twice as many users as non-users are more isolated than the average for this SIC division (60.0% vs 33.3%).
- users were not significantly different from non-users, in terms of satisfaction with telephone service in general.

In the construction sector, small businesses which use CB/mobile radio services were found to:

- have more full-time employees. Roughly five times as many users, as non-users, have between 11 and 19 full-time employees at one location (27.3% vs 5.4%).
- businesses which use any of these services were not significantly more or less satisfied with their overall phone service, than were non-users.

Small businesses in the trade sector which use any CB/mobile radio services, did not significantly differ from non-users on any characteristics, or satisfaction with the phone service.

The results of this analysis for small firms in the service division indicate that businesses which employ any mobile radio service tend to:

- have more full-time employees. Approximately twice as many of these businesses have between 11 and 19 full-time employees at one location (32.7% vs 16.3%).

• users and non-users did not differ significantly in terms of satisfaction with their overall telephone service.

Large businesses in general, which reported using CB/mobile radio services, were found to:

- have more full-time employees at one location.
- be in the construction sector. Relatively more users, than non-users, are in the construction sector (8.4% vs 3.0%).
- not be in the trade or manufacturing divisions. A smaller proportion of users are in manufacturing (21.1% vs 28.0%) and trade (7.5% vs 13.6%).
- satisfaction with telephone service in general was not significantly different between users and non-users.

In the agricultural sector, large businesses which use CB/mobile radio services are more likely to:

- have higher gross annual revenues at one location.
- users and non-users do not significantly differ in terms of satisfaction with telephone service in general.

Large businesses in the manufacturing sector which reported using any of the mobile radio systems tend to:

- have more full-time employees at one location. Relatively more users of these services, than non-users, have more than 60 full-time employees (61.5% vs 39.7%).

- have higher gross annual revenues at one location.
- have more separate business locations. A larger proportion of users, than non-users, have 4 or more separate business locations (14.7% vs 6.7%).
- be more physically isolated. Comparatively more of these businesses are more isolated than is the average for large manufacturing organizations (45.8% vs 32.1%).
- there is no significant difference in terms of satisfaction with overall telephone service, between users and non-users of CB/mobile radio services in this category.

Large businesses in both the trade sector and the service sector which use any mobile radio systems did not significantly differ from non-users on any characteristics, or satisfaction with their phone service in general.

In rural Canada, General Radio Service (GRS/CB) is considered to be the most important type of mobile radio service by almost half (44.6%) of the businesses¹. Private commercial service ranks second with over a third (34.7%) of the businesses considering it the most important service, and General Mobile

¹ It should be noted that all businesses which use any mobile radio equipment could answer this question. That is, responses to this question were not limited to only those firms which employ more than one type of mobile service.

Service is third with only 12.9% of the businesses placing a high importance on it. Similar results were found for small businesses in general, although there is a significant relationship between the equipment considered most important, and the industrial classification of small businesses. For instance, while less than a third (31.0%) of small construction employers consider GRS/CB services most important, over half of the businesses in the three remaining SIC divisions rated this service most important (see Table 62).

In contrast to the national results, and those for small businesses, less than twenty percent (17.8%) of all large businesses reported GRS/CB service to be the most important service. Almost half (48.5%) of these organizations consider private commercial service to be most important, with paging services second (19.6%), and GRS/CB in third place. However, as was the case for small businesses, the equipment considered most important is significantly related to the industrial classification. The majority (60.4%) of the businesses in the service sector consider paging to be the most important service, whereas none of the organizations in the trade sector mentioned this service (see Table 63). On the other hand, while over half (52.9%) of the large

TABLE 62

Equipment Considered Most Important

SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
GRS/CB	56.4% (31)	31.0% (13)	55.3% (26)	51.2% (22)	45.9% (45)	44.6% (45)
Private Commercial	41.8 (23)	28.6 (12)	29.8 (14)	27.9 (12)	34.7 (34)	34.7 (35)
General Mobile Service	0.0 (0)	26.2 (11)	12.8 (6)	9.3 (4)	12.2 (12)	12.9 (13)
Paging	3.6 (2)	11.9 (5)	8.5 (4)	11.6 (5)	6.1 (6)	6.9 (7)
RCCMRS	0.0 (0)	4.8 (2)	0.0 (0)	2.3 (1)	2.0 (2)	2.0 (2)
Other	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.0 (1)	1.0 (1)
Total	100.0 (55)	100.0 (42)	100.0 (47)	100.0 (43)	100.0 (98)	100.0 (101)

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

Numbers may not add to 100% as some businesses indicated two or more services to be equally important.

TABLE 63

Equipment Considered Most Important

LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
GRS/CB	52.9% (9)	16.5% (15)	34.6% (9)	12.9% (17)	17.8% (29)	44.6% (45)
Private Commercial	29.4 (5)	60.4 (55)	42.3 (11)	44.7 (59)	48.5 (79)	34.7 (35)
General Mobile Service	0.0 (0)	14.3 (13)	7.7 (2)	5.3 (7)	12.3 (20)	12.9 (13)
Paging	11.8 (2)	6.6 (6)	0.0 (0)	60.4 (55)	19.6 (32)	6.9 (7)
RCCMRS	5.9 (1)	3.3 (3)	11.5 (3)	3.8 (5)	5.5 (9)	2.0 (2)
Other	5.9 (1)	1.1 (1)	0.0 (0)	0.0 (0)	1.2 (2)	1.0 (1)
Total ¹	100.0 (17)	100.0 (91)	100.0 (26)	100.0 (132)	100.0 (163)	100.0 (101)

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

1. Numbers may not add to 100% as some businesses indicated two or more services to be equally important.

agricultural employers indicated GRS/CB was the most important equipment for their organization, this is true for only 16.5% of the manufacturing businesses, and 12.9% of the service organizations.

2.2.1.7 Usage Intensity Trend

Businesses in rural Canada which use any of the various mobile radio systems, were asked if the frequency of making calls on their most important equipment was increasing or decreasing. Over one third (38.0%) reported that the frequency of calls was increasing, while almost half (45.0%) indicated that the frequency was remaining "about the same". Similarly, only a small proportion (17.7%) of all small businesses reported a decrease in the frequency of making calls on their most important equipment. The results for small businesses in each main SIC division are comparable to those for all small businesses and, in fact, the relationship between the usage intensity trend and industrial classification is not significant (see Table 64).

Approximately half as many large businesses, as small ones, reported a decreasing trend in the frequency of making calls on their most important equipment (8.9% versus 17.7% respectively), while a

TABLE 64

Usage Intensity Trend

SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
Increasing	35.2% (19)	34.2% (14)	31.8% (14)	37.2% (16)	37.5% (36)	38.0% (38)
Decreasing	20.4 (11)	19.5 (8)	20.5 (9)	14.0 (6)	17.7 (17)	17.0 (17)
About the Same	44.4 (24)	46.3 (19)	47.7 (21)	48.8 (21)	44.8 (43)	45.0 (45)
Total	100.0 (54)	100.0 (41)	100.0 (44)	100.0 (43)	100.0 (96)	100.0 (100)

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all small businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

TABLE 65

Usage Intensity Trend

LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
Increasing	18.8% (3)	46.7% (42)	28.0% (7)	33.6% (42)	38.9% (61)	38.0% (38)
Decreasing	31.3 (5)	6.7 (6)	16.0 (4)	4.8 (6)	8.9 (14)	17.0 (17)
About The Same	50.0 (8)	46.7 (42)	56.0 (14)	61.6 (77)	52.2 (82)	45.0 (45)
TOTAL	100.0 (16)	100.0 (90)	100.0 (25)	100.0 (125)	100.0 (157)	100.0 (100)

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

similar proportion reported an increasing trend (38.9% versus 37.5%). However, in this case there is a significant association between the usage intensity trend and SIC division. For instance, while less than one in five (18.8%) large agricultural employers reported increasing usage, almost half (46.7%) of those in the manufacturing sector are making calls more frequently (see Table 65). Furthermore, although only 4.8% of the large businesses in the service division indicated a decreasing trend, this is true for almost one third (31.3%) of the large agricultural organizations.

2.2.2 Motivations

2.2.2.1 Main Usages of Equipment¹

For users of GRS/CB services in rural Canada, over half (55.0%) use this service mainly to communicate between vehicles. A further third (35.0%) use it for communication between a fixed base station(s) and vehicle(s). Similar results were found for all small businesses, and the relationship between main usage and industrial division is not significant (see Table 66).

Although communication between vehicles is considered to be the main usage of GRS/CB service by the largest proportion (47.8%) of large businesses, a relatively greater percentage of these organizations, than small businesses, use this service for communication between fixed base stations. Additionally, comparatively more large businesses which own or rent GRS/CB equipment are not currently using it (19.6% vs 6.9%). As was the case for small businesses, there is no significant association between the main usage of GRS/CB equipment and SIC division (see Table 67).

¹ Question 18.

TABLE 66

Maining Usage of GRS/CB

SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
Communication Between Fixed Base Stations	0.0% (0)	0.0% (0)	0.0% (0)	7.4% (2)	1.7% (1)	1.7% (1)
Communication Between a Fixed Base Station(s) & Vehicle(s)	40.0 (16)	31.3 (5)	20.0 (7)	37.0 (10)	36.2 (21)	35.0 (21)
Communication Between Vehicles	55.0 (22)	62.5 (10)	65.7 (23)	44.4 (12)	55.2 (32)	55.0 (33)
Not Currently Used	5.0 (2)	6.3 (1)	14.3 (5)	11.1 (3)	6.9 (4)	8.3 (5)
TOTAL	100.0 (40)	100.0 (16)	100.0 (35)	100.0 (27)	100.0 (58)	100.0 (60)

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all small businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

TABLE 67

Main Usage of GRS/CB

LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
Communication Between Fixed Base Stations	10.0% (1)	3.6% (1)	0.0% (0)	9.1% (2)	4.3% (2)	1.7% (1)
Communication Between a Fixed Base Station(s) & Vehicle(s)	10.0 (1)	10.7 (3)	63.6 (7)	36.4 (8)	28.3 (13)	35.0 (21)
Communication Between Vehicles	60.0 (6)	64.3 (18)	36.4 (4)	45.5 (10)	47.8 (22)	55.0 (33)
Not Currently Used	20.0 (2)	21.4 (6)	0.0 (0)	9.1 (2)	19.6 (9)	8.3 (5)
TOTAL	100.0 (10)	100.0 (28)	100.0 (11)	100.0 (22)	100.0 (46)	100.0 (60)

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

With regard to the main usage of **private commercial** services, at the national level, communication between vehicles is the most often mentioned use (51.5%), with communication between a fixed base station(s) and vehicle(s) a close second (45.5%).

Although the main usages of private commercial are similar for small businesses, large businesses reported somewhat different primary motivations. In this case, just over a third (38.6%) of the businesses mentioned communication between vehicles and a larger proportion (53.4%) mentioned communication between a fixed base station(s) and vehicle(s). For both small and large businesses, no significant relationship exists between the main usage of private commercial services and industrial classifications (see Tables 68 and 69).

Half (50.0%) of the businesses in rural Canada which use **general mobile service**, do so mainly for communication between vehicles. This is also the reason most often mentioned by small businesses in general (46.2%). However, a relatively larger proportion (55.2%) of large businesses utilize this service mainly to communicate between a fixed base station(s) and vehicle(s). As was the case for the two services previously discussed, the relationship between main usage of general mobile service and the SIC

TABLE 68

**Main Usage of Private Commercial
SMALL BUSINESSES**

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
Communication Between Fixed Base Stations	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	3.0% (1)
Communication Between a Fixed Base Station(s) & Vehicle(s)	31.6 (6)	66.7 (8)	63.6 (7)	60.0 (6)	46.7 (14)	45.5 (15)
Communication Between Vehicles	68.4 (13)	33.3 (4)	36.4 (4)	40.0 (4)	53.3 (16)	51.5 (17)
Not Currently Used	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
TOTAL	100.0 (19)	100.0 (12)	100.0 (11)	100.0 (10)	100.0 (30)	100.0 (33)

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all small businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

TABLE 69

Main Usage of Private Commercial

LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
Communication Between Fixed Base Stations	0.0% (0)	10.7% (6)	0.0% (0)	8.8% (6)	6.8% (6)	3.0% (1)
Communication Between A Fixed Base Station(s) & Vehicle(s)	33.3 (2)	44.6 (25)	63.6 (7)	69.1 (47)	53.4 (47)	45.5 (15)
Communication Between Vehicles	66.7 (4)	42.9 (24)	36.4 (4)	22.1 (15)	38.6 (34)	51.5 (17)
Not Currently Used	0.0 (0)	1.8 (1)	0.0 (0)	0.0 (0)	1.1 (1)	0.0 (0)
TOTAL	100.0 (6)	100.0 (56)	100.0 (11)	100.0 (68)	100.0 (88)	100.0 (33)

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

division is not significant for small or large businesses (see Table 70 and 71).

The main usages of RCCMRS and any other services which may be employed are not presented or discussed due to the small number of responses to these questions. It would be misleading to draw any conclusions regarding the main usages of these services because of the small number of cases.

2.2.2.2 Main Reasons for Not Using Any Equipment

The majority (73.4%) of organizations in rural Canada which do not use mobile radio equipment (i.e. 76.1% or 353 businesses are non-users), indicated that they have no need for these services. The other main reasons for not using any equipment were that it was too expensive, or that the business anticipated problems¹ with using these services. Similarly, almost three quarters (73.5%) of all small businesses reported

-
- ¹ Potential problems given were as follows:
- service is unavailable;
 - service is not dependable/break-downs;
 - poor reception;
 - unable to communicate over a large area;
 - no privacy/interference/too many people using it;
 - region is too hilly - mountainous;
 - service inadequate;
 - not feasible; and
 - no installation.

TABLE 70

Main Usage of General Mobile Service

SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
Communication Between Fixed Base Stations	0.0% (0)	0.0% (0)	0.0% (0)	28.6% (2)	15.4% (2)	14.3% (2)
Communication Between a Fixed Base Station(s) & Vehicle(s)	0.0 (0)	36.4 (4)	40.0 (2)	28.6 (2)	30.8 (4)	28.6 (4)
Communication Between Vehicles	0.0 (0)	54.6 (6)	40.0 (2)	28.6 (2)	46.2 (6)	50.0 (7)
Not Currently Used	0.0 (0)	9.1 (1)	20.0 (1)	14.3 (1)	7.7 (1)	7.1 (1)
TOTAL	0.0 (0)	100.0 (11)	100.0 (5)	100.0 (7)	100.0 (13)	100.0 (14)

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all small businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

TABLE 71

Main Usage of General Mobile Service

LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
Communication Between Fixed Base Stations	0.0% (0)	7.7% (2)	0.0% (0)	9.1% (1)	13.8% (4)	14.3% (2)
Communication Between a Fixed Base Station(s) & Vehicle(s)	0.0 (0)	50.0 (13)	33.3 (1)	81.8 (9)	55.2 (16)	28.6 (4)
Communication Between Vehicles	0.0 (0)	42.3 (11)	66.7 (2)	9.1 (1)	27.6 (8)	50.0 (7)
Not Currently Used	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	3.4 (1)	7.1 (1)
TOTAL	0.0 (0)	100.0 (26)	100.0 (3)	100.0 (11)	100.0 (29)	100.0 (14)

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

that the main reason for not using CB/mobile radio equipment was that it was unnecessary. Although the three main reasons for not using any of this equipment rank in the same order in each SIC division for small businesses, the proportion of mentions does vary (see Table 72). For instance, while close to two thirds (63.9%) of the small agricultural employers mentioned no need for this equipment, this proportion increases to 83.0% in the service sector.

The most often mentioned reason for not using mobile radio equipment, for large businesses, is also that there is no need for these services (70.1%). However, there are variations among the SIC divisions (see Table 73). While less than half (42.4%) of the large agricultural businesses mentioned that they do not need mobile radio services, over three quarters (76.9%) of the large manufacturing organizations mentioned this reason. Additionally, whereas almost one quarter (24.2%) of the agricultural employers anticipated problems with this type of equipment, only 5.9% of the businesses in the service sector mentioned this as a reason for not using this type of equipment.

TABLE 72

Reasons for Not Using Mobile Radio Equipment

SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
No Need	63.9% (92)	64.2% (77)	77.8% (147)	83.0% (239)	73.5% (233)	73.4% (237)
Too Expensive	22.2 (32)	22.5 (27)	12.2 (23)	10.4 (30)	14.8 (47)	14.9 (48)
Problems Foreseen	13.2 (19)	10.0 (12)	8.5 (16)	5.2 (15)	9.8 (31)	9.6 (31)
Other	0.7 (1)	3.3 (4)	1.6 (3)	1.4 (4)	1.9 (6)	2.2 (7)
TOTAL	100.0 (144)	100.0 (120)	100.0 (189)	100.0 (288)	100.0 (317)	100.0 (323)

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all small businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

TABLE 73

Reasons for Not Using Mobile Radio Equipment

LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
No Need	42.4% (14)	76.9% (130)	72.2% (52)	74.5% (114)	70.1% (176)	73.4% (237)
Too Expensive	21.2 (7)	10.1 (17)	12.5 (9)	13.1 (20)	14.7 (37)	14.9 (48)
Problems Foreseen	24.2 (8)	11.2 (19)	12.5 (9)	5.9 (9)	10.8 (27)	9.6 (31)
Other	12.1 (4)	1.8 (3)	2.8 (2)	6.5 (10)	4.4 (11)	2.2 (7)
Total	100.0 (33)	100.0 (169)	100.0 (72)	100.0 (153)	100.0 (251)	100.0 (323)

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

2.2.3 Importance of CB/Mobile Radio Service Attributes¹

The majority of businesses in rural Canada consider every characteristic of CB/mobile radio equipment to be important (i.e., either "extremely important" or "important"), with the exception of connection to the telephone network. Thus, it appears that quality of reception (when there is no skip) is relatively more important than any other attribute, with range (maximum distance with satisfactory communication), a close second. These results are also evident for small businesses in general, and in each SIC division. Indeed, the only difference worth noting among the industrial classifications, concerns connection to the telephone network. While just over one third (36.6%) of the small firms in the service sector consider this characteristic important, over half (56.4%) of the trade organizations indicated that connection to the phone network was important (see Table 74).

Large businesses in general rated the various characteristics in essentially the same manner as was the case at the national level. The only minor exception is that the cost of buying equipment was considered important by a slightly higher proportion of

¹ Question 24.

TABLE 74
Importance of Attributes¹
SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
Quality of Reception	100.0%	97.4%	97.6%	95.2%	98.4%	98.4%
Range	100.0	89.7	97.6	97.6	97.8	97.7
Ease of Getting a Channel	91.7	89.5	89.7	85.4	90.6	90.4
Purchase Cost	86.3	76.9	86.8	87.2	84.7	84.8
Privacy of Communication	64.7	66.7	69.1	58.5	65.3	65.9
Connection to Phone Network	44.0	54.1	56.4	36.6	48.8	48.8

¹ Numbers presented indicate the percent of business which use one or more of these services and consider each "extremely important" or "important".

TABLE 75

Importance of Attributes¹

LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONA
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
Quality of Reception	93.8%	96.6%	100.0%	98.4%	97.9%	98.4%
Range	94.1	89.8	100.0	96.8	95.7	97.7
Ease of Getting a Channel	60.0	81.0	96.2	82.4	84.7	90.4
Purchase Cost	81.3	86.2	92.3	85.1	86.7	84.8
Privacy of Communication	75.0	74.2	88.0	80.5	78.3	65.9
Connection to Phone Network	50.0	42.5	64.0	39.3	48.0	48.8

¹ Numbers presented indicate the percent of businesses which use one or more of these services and consider each attribute "extremely important" or "important".

businesses, than was the ease of getting a channel when needed, contrary to the national results. Large businesses in each SIC division also followed similar trends, with some minor differences. For instance, a relatively lower proportion of large agricultural employers, than of businesses in the other sectors, consider the ease of getting a channel when needed important (see Table 75). Additionally, while only just over a third (39.3%) of the large businesses in the service sector consider connection to the phone network important, this proportion nearly doubles (64.0%) in the trade sector.

In order to characterize each mobile radio service by the important attributes for that service, an importance score was constructed. However, this analysis could only be undertaken for GRS/CB and private commercial services in view of the small number of users of the other services. The results of this analysis (presented in Table 76) indicate that for both GRS/CB and private commercial services, range and quality of reception are the most important service attributes. In fact, all the attributes rank in the same order for both services. This is true at the national level and for both small and large businesses in general. However, it is interesting to note that,

TABLE 76

Importance of Attributes for Mobile Radio Services

	NATIONAL		SMALL BUSINESSES		LARGE BUSINESSES	
	<u>GRS/CB</u>	<u>Private Commercial</u>	<u>GRS/CB</u>	<u>Private Commercial</u>	<u>GRS/CB</u>	<u>Private Commercial</u>
Range	3.6	3.7	3.6	3.7	3.5	3.6
Quality of Reception	3.5	3.7	3.5	3.7	3.5	3.6
Ease of Getting A Channel	3.3	3.3	3.3	3.3	3.3	3.3
Purchase Cost	3.1	3.1	3.1	3.1	3.0	3.2
Privacy of Communication	2.8	3.1	2.8	3.1	2.8	3.3
Connection to Phone Network	2.4	2.4	2.4	2.4	2.6	2.3

Note 1: The numbers presented are the average importance rating for each attribute. The higher the score the greater the importance of that attribute.

Note 2: Only data for GRS/CB and Private Commercial is presented at the national level, and for all small and large businesses, due to the small number of responses for other services.

in relative terms, privacy of communication is more important to users of private commercial services, than it is to GRS/CB users. Given the different characteristics of these two services, this finding is not surprising (i.e. private commercial is just that, a system licensed to carry private communications, whereas GRS/CB is a shared service).

2.2.4 Satisfaction

2.2.4.1 Satisfaction with Mobile Radio Services¹

In rural Canada, almost three quarters (72.6%) of all businesses are satisfied (i.e. either "very satisfied" or "satisfied") with the overall service of the CB/mobile radio equipment they consider most important to their organization. More specifically, most businesses are satisfied with each service attribute of their equipment. However, in relative terms, fewer businesses (55.5%) are satisfied with the range (maximum distance with satisfactory communication) of their equipment, than with any other attribute, particularly the ease of getting a channel when needed (80.3% satisfied). These findings are also evident for small businesses in general, although some deviations may be noted among the SIC divisions as, for example, small agricultural businesses tend to be less satisfied with most service attributes (see Table 77). As well, less than half (44.2%) of these firms are satisfied with the range of their equipment, which may be compared to over two thirds (67.4%) of the small businesses in the service sector. Other differences may be seen in satisfaction with the cost of buying

¹ Question 27.

TABLE 77

Satisfaction with Service Attributes¹

SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
Ease of Getting a Channel	78.0%	86.8%	82.1%	88.4%	80.1%	80.3%
Purchase Cost	66.0	86.5	89.7	78.6	74.0	74.2
Quality of Reception	72.6	76.9	79.0	78.6	73.6	73.8
Privacy of Communication	74.5	81.6	70.0	78.6	72.9	73.2
Cost Relative to Benefits	74.0	76.3	76.9	83.3	72.1	72.6
Range	44.2	59.0	55.0	67.4	54.9	55.5
Overall Service	66.0	76.9	79.5	86.1	72.3	72.6

¹ Numbers presented indicate the percent of businesses which use one of these services and are satisfied with each attribute (i.e., either "very satisfied", or "satisfied").

TABLE 78

Satisfaction with Service Attributes¹

LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONA
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
Ease of Getting a Channel	85.7%	82.8%	80.8%	94.9%	85.3%	80.3%
Purchase Cost	53.9	82.0	80.8	82.1	80.1	74.2
Quality of Reception	64.3	77.0	88.5	81.8	78.6	73.8
Privacy of Communication	61.5	77.5	72.0	90.8	80.3	73.2
Cost Relative to Benefits	84.6	85.2	96.0	85.6	83.7	72.6
Range	21.4	75.6	73.1	70.2	68.2	55.5
Overall Service	50.0	85.2	84.0	88.4	83.6	72.6

¹ Numbers presented indicate the percent of businesses which use one of these services and are satisfied with each attribute (i.e. either "very satisfied", or "satisfied").

equipment (66.0% of agricultural organizations are satisfied, versus 89.7% of those in the trade sector), and in terms of overall service (66.0% vs 86.1% satisfied in the service sector).

Generally, relatively more large businesses are satisfied with their overall service (83.6%), and with each attribute than was the case at the national level. Of particular interest is the fact that the cost of service relative to the benefits derived is considered satisfactory by the second largest proportion of large businesses, whereas at the national level, this attribute rates second last. This is true regardless of the SIC division of large businesses (see Table 78). While the results in general for each industrial classification are, in fact, quite similar to all large businesses, some differences should be noted in the agricultural sector. In this SIC division, fewer large businesses are satisfied with most service attributes, with the exceptions of the cost relative to the benefits of the service, and the ease of getting a channel when needed. Thus, while businesses are generally satisfied with overall service, only half (50.0%) of the large agricultural organizations expressed satisfaction. The most evident difference concerns the range of the equipment, where roughly

three quarters of the businesses in three sectors are satisfied with this attribute, but less than one quarter (21.4%) of the large agricultural organizations are satisfied.

It would appear from these findings, that while businesses in rural Canada are generally satisfied with CB/mobile radio services, a larger proportion of large and small agricultural organizations are relatively less satisfied.

In order to determine whether or not there is a relationship between satisfaction with service attributes, and the length of time a service has been used, the association between these variables was measured. In view of the small number of businesses which use most services, this analysis was only undertaken for GRS/CB and private commercial service users at the national level and for all small and large businesses. The results of this analysis indicated that the relationship between these variables is not significant for either service. However, the national data is presented in tabular form for the reader's interest (see Tables 79 and 80).

TABLE 79

Satisfaction with Service Attributes
versus
Length of Time GRS/CB Service Employed
(National)

	Ease of Getting a Channel	Purchase Cost	Quality of Reception	Privacy of Communi- cation	Cost Relative to Benefits	Range	Overall Service
1 year or less	8.1% (2)	3.6% (1)	6.4% (2)	8.2% (2)	6.2% (2)	14.3% (2)	11.6% (3)
2-3 years	45.5 (13)	46.4 (15)	48.5 (12)	45.6 (11)	44.3 (11)	42.0 (6)	46.6 (11)
4-5 years	39.0 (11)	36.3 (12)	34.7 (8)	36.2 (9)	37.3 (9)	32.5 (5)	32.1 (8)
6 years or more	7.3 (2)	13.7 (4)	10.4 (2)	10.0 (2)	12.2 (3)	11.2 (2)	9.8 (2)
TOTAL	100.0 (29)	100.0 (32)	100.0 (24)	100.0 (25)	100.0 (25)	100.0 (15)	100.0 (23)

Note: The upper figure refers to the percent of businesses which are satisfied (ie., "very satisfied" or "satisfied") with the attribute and have used this service for the specified length of time. The lower figure (in parenthesis) is the actual number of businesses.

TABLE 80

Satisfaction with Service Attributes
versus
Length of Time Private Commercial Service Employed
(National)

	Ease of Getting a Channel	Purchase Cost	Quality of Reception	Privacy of Commun- ication	Cost Relative to Benefits	Range	Overall Service
1 year or less	14.0% (4)	9.2% (2)	16.0% (4)	12.2% (3)	15.1% (4)	16.9% (4)	18.4% (5)
2-3 years	34.3 (10)	36.7 (7)	33.6 (9)	33.2 (9)	34.7 (7)	28.6 (7)	31.7 (9)
4-5 years	23.3 (7)	19.4 (4)	21.0 (6)	23.0 (6)	19.3 (5)	23.7 (6)	19.5 (5)
6 years or more	28.5 (8)	34.7 (7)	29.4 (8)	31.6 (8)	31.0 (8)	30.9 (8)	30.4 (8)
TOTAL	100.0 (29)	100.0 (20)	100.0 (27)	100.0 (27)	100.0 (25)	100.0 (25)	100.0 (27)

Note: The upper figure refers to the percent of businesses which are satisfied (ie., "very satisfied", or "satisfied") with the attribute and have used this service for the specified length of time. The lower figure (in parenthesis) is the actual number of businesses.

2.2.4.2 Correlates of Overall Satisfaction

The degree of association between satisfaction with the overall service provided by CB/mobile radio systems, and various potential descriptor variables¹ was undertaken in an effort to profile businesses which tend to be more satisfied with the service they use. However, the only significant relationship found was that between the usage frequency trend and satisfaction. These findings indicate that businesses which are satisfied with their present service are more likely to have reported an increasing frequency of calls on their equipment. This was the case at the national level as almost three times as many businesses which are satisfied, as opposed to those which are not, reported an increasing trend (46.2% vs 16.2% respectively). Similar results were found for all small businesses (46.6% vs 15.6%); small agricultural organizations (51.5% vs 0.0%); and small businesses in the trade sector (38.7% vs 12.5%). Additionally, relatively more large agricultural employers, which

¹ These variables are:

- number of full-time employees at this location;
- gross annual revenues at this location;
- number of separate business locations;
- frequency of making calls on CB/mobile radio equipment;
- regional location.

expressed satisfaction with their overall service, than those which did not, are using their equipment more frequently (28.6% vs 14.3%).

2.2.5 Perceived Need for Improvement

2.2.5.1 Priority of Need Relative to Other Telecommunication Services¹

In an earlier section (2.1.5.1) the priority of need for improvement in telecommunication services was presented for businesses in general. In this section the perceived need for improvement is discussed in terms of those businesses which utilize CB/mobile radio services, and those which do not. Thus, we may determine if these two groups of businesses have different priorities with regard to telecommunication services.

From an examination of the data, it is evident that both users and non-users of CB/mobile radio services rated the need for improvement in all services in the same overall pattern. That is, the postal service is ranked as the top priority, with telephone service second, and CB/mobile radio services fourth (see Tables 81 and 82). However, despite this similarity, there are differences in the intensity of need for improvement. As would be expected, CB/mobile radio service users rated the need for improvement in these services significantly higher than did non-users (i.e. 15.7 versus 4.1). On the other hand, these same

¹ Question 1.

TABLE 81

Index¹ of Perceived Need for Improvement in Each
Service for CB/Mobile Radio Users

SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
Postal Service	41.3	44.2	52.0	21.9	40.0	39.7
Telephone Service	16.4	34.2	15.5	28.8	19.5	19.6
Express Delivery Services	20.3	10.0	18.0	42.5	19.1	19.0
CB or Mobile Radio Services	17.5	10.0	10.0	0.0	15.8	15.7
Telegraph or Telex/ TWX Services	2.1	0.0	3.0	2.5	3.1	3.2
Data Transmission Services	1.3	0.0	1.5	1.3	1.6	1.8

¹ Mean score for each service. The higher the score, the more necessary improvements are, relative to the other services. These scores were derived from a 100 point allocation task.

TABLE 82

Index¹ of Perceived Need for Improvement in Each
Service for Non-Users

SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
Postal Service	45.0	40.4	37.1	40.6	41.6	41.6
Telephone Service	23.5	31.2	34.5	33.9	32.8	32.8
Express Delivery Services	18.5	22.4	20.9	18.6	17.8	17.7
CB or Mobile Radio Services	6.6	1.3	3.7	4.1	4.0	4.1
Telegraph or Telex/ TWX Services	2.5	3.3	2.2	3.4	2.2	2.3
Data Transmission Services	3.9	1.5	2.3	2.4	1.8	1.8

¹ Mean score for each service. The higher the score, the more necessary improvements are, relative to the other services. These scores were derived from a 100 point allocation task.

"users" indicated a significantly lower need for improvement in telephone service than that reported by non-users (19.6 versus 32.8). These were, however, the only significant differences between the two groups.

Essentially the same results were found for small businesses in general, with users being significantly more concerned about improvements to CB/mobile radio services, and less concerned about the telephone service than were non-users. The data generated for small businesses in each SIC division is not discussed due to the small number of users in each category which indicated the priority of need for improvement in each service (i.e. the greatest number of respondents in any SIC division was 19). The data is, however, presented for the reader's interest.

Large businesses in general, whether or not they are CB/mobile radio service users, also ranked the six telecommunication services in the same order with respect to need for improvement. Thus, the postal service is rated as top priority, with telephone service, and express delivery services in second and third place respectively. Indeed, the only significant difference between users and non-users is in the rating of CB/mobile radio services (see Tables 83 and 84). Large businesses which currently use this service rated

TABLE 83

Index¹ of Perceived Need for Improvement in Each
Service for CB/Mobile Radio Users

LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
Postal Service	26.7	39.3	36.3	34.9	33.2	39.7
Telephone Service	9.2	19.5	16.9	18.8	21.7	19.6
Express Delivery Services	15.0	12.3	10.6	21.8	16.0	19.0
CB or Mobile Radio Services	45.8	16.9	10.0	10.9	15.5	15.7
Telegraph or Telex/TWX Services	2.5	8.2	0.0	5.8	4.8	3.2
Data Transmission Services	1.7	3.8	20.0	8.0	6.8	1.8

¹ Mean score for each service. The higher the score, the more necessary improvements are, relative to the other services. These scores were derived from a 100 point allocation task.

TABLE 84

Index¹ of Perceived Need for Improvement in Each
Service for Non-Users

LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
Postal Service	29.1	41.0	50.2	43.0	37.1	41.6
Telephone Service	32.9	30.5	27.7	33.4	32.8	32.8
Express Delivery Services	16.6	22.4	12.7	11.1	15.9	17.7
CB or Mobile Radio Services	10.0	5.6	2.0	5.7	5.5	4.1
Telegraph or Telex/ TWX Services	2.9	5.5	5.4	2.4	4.4	2.3
Data Transmission Services	7.1	1.5	2.0	6.5	5.0	1.8

¹ Mean score for each service. The higher the score, the more necessary improvements are, relative to the other services. These scores were derived from a 100 point allocation task.

its need for improvement three times as important as that indicated by non-users (15.5 versus 5.5). As was the case for small businesses, the results for large businesses in the agriculture, manufacturing and trade sectors will not be discussed due to the small number of cases (i.e. the greatest number of respondents in these SIC divisions is 22). However, with respect to large organizations in the service sector, it is interesting to note that the only significant difference between CB/mobile radio users and non-users is in the respective ratings of the need for improvement in telephone service. Although there is no significant difference between the ratings for CB/mobile radio services, users rated the need for improvement in the phone service significantly lower than did non-users. In fact, "users" were more concerned with express delivery services than with the phone service.

2.2.5.2 Correlates of Intensity of Need for Improvement in CB/Mobile Radio Services

The association between the intensity of need for improvement in CB/mobile radio services and various

business characteristics¹ was investigated for present users of these services. The analysis was undertaken in order to profile those users who most strongly felt improvements were necessary. However, in almost all cases, no significant relationships were found. In fact, only two observations may be noted:

- a) **small businesses** which place more emphasis on the need for improvement in CB/mobile radio services tend to have more full-time employees at one location.
- b) **large businesses** which reported a stronger need for improvement in these services are more likely to be dissatisfied with their current overall service. In fact, while two thirds (66.8%) of the businesses which indicated that CB/mobile radio services require the most improvement² are dissatisfied with present service, this is true of only 8.6% of those who feel no improvements are necessary.

1 These characteristics are:

- number of full-time employees at one location;
- gross annual revenues at one location;
- number of separate business locations;
- physical isolation;
- number of CB/mobile radio units employed;
- purchase cost of equipment;
- length of time service used;
- satisfaction with overall service and with phone service;
- main usages of equipment;
- main activity of the organization; and,
- regional location.

2 Those businesses which indicated that CB/mobile radio services require the most improvement are defined to be those which allocated 71 to 100 points (from a maximum of 100) to this service.

2.2.6 Short Term Demand

2.2.6.1 Forecasts for Combined Telephone and Mobile Radio Service¹

Businesses in rural Canada were offered a new combined mobile radio - mobile telephone service which would provide the following features:

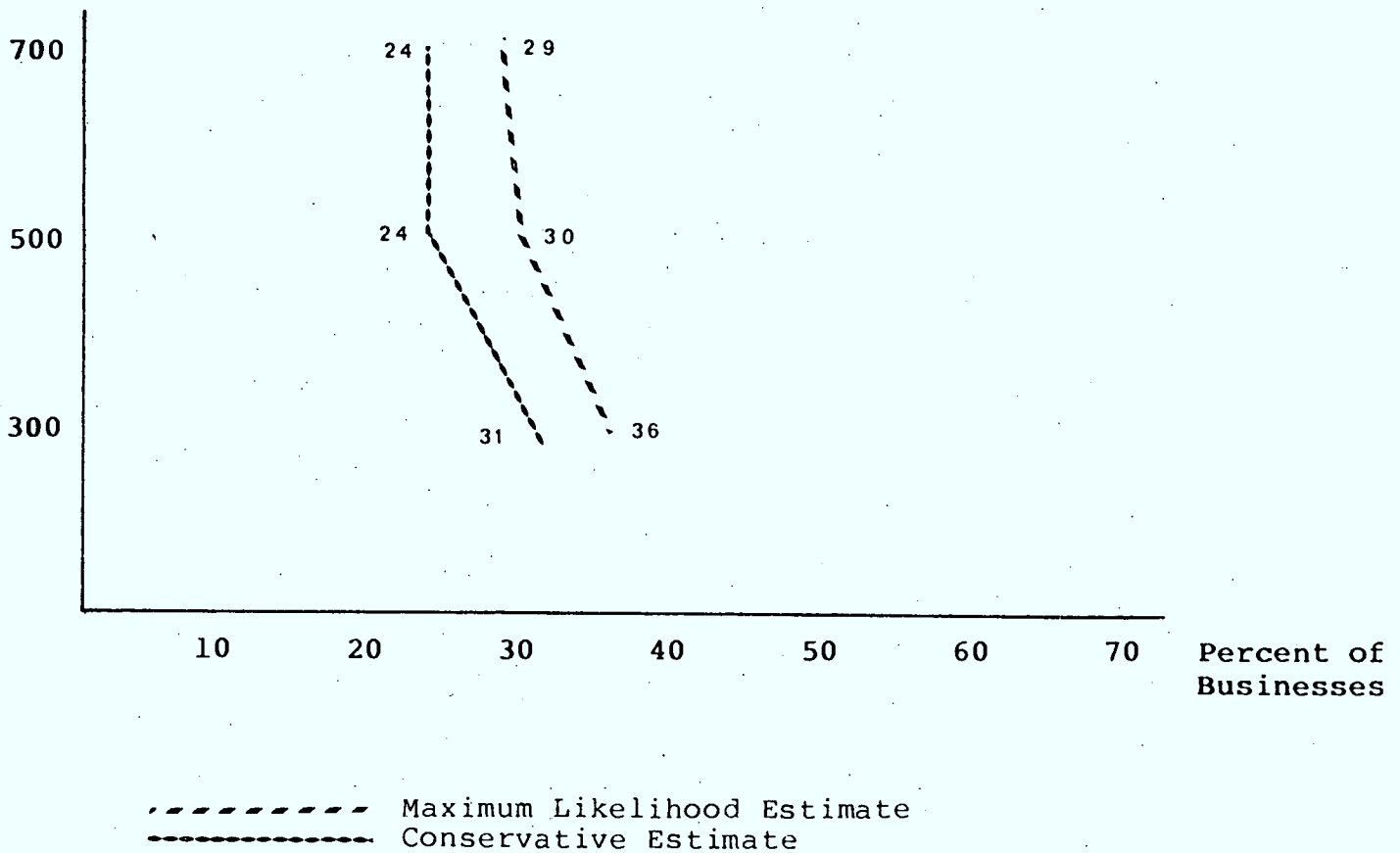
- a service equivalent to a private line telephone service;
- a telephone which could be used in a number of places, such as at their place of business or in a car;
- a basic monthly rate of \$10 per month; and,
- the same long distance rates.

In order to use this service, businesses would have to purchase one set of new equipment for each mobile telephone required. Respondents were offered this equipment at one of three different prices (i.e. \$300, \$500, or \$700) and were asked if they would purchase the equipment within the next twelve months. Slightly more than one third (36%) of the businesses in rural Canada indicated that they would purchase the equipment for \$300, and the proportion drops to only 29% at the \$700 price level. These results are illustrated by the maximum likelihood estimate of demand in Graph 11. A conservative estimate of the demand curve is also

¹ Question 21.

GRAPH 11
PRICE-DEMAND RELATIONSHIP
FOR
COMBINED TELEPHONE AND MOBILE RADIO SERVICE
(National)

Purchase Cost of
 Combined
 Equipment
 \$



The estimated level of demand (i.e. the maximum likelihood estimate) is not expected to vary, in 68% of the cases, by more than $\pm 4.1\%$ from the indicated levels.

presented in Graph 11 and, although this estimate is somewhat lower, the general level of demand is similar.

The demand curve estimates for small businesses in general are the same as the national estimates (see Graph 12). However, the maximum likelihood demand estimates for small businesses in each SIC division do differ significantly¹ (see Graphs 13 to 16). Thus, while just one fifth (20%) of the small businesses in the service division would purchase the necessary equipment for \$300, the proportion more than doubles in the agricultural sector (48%).

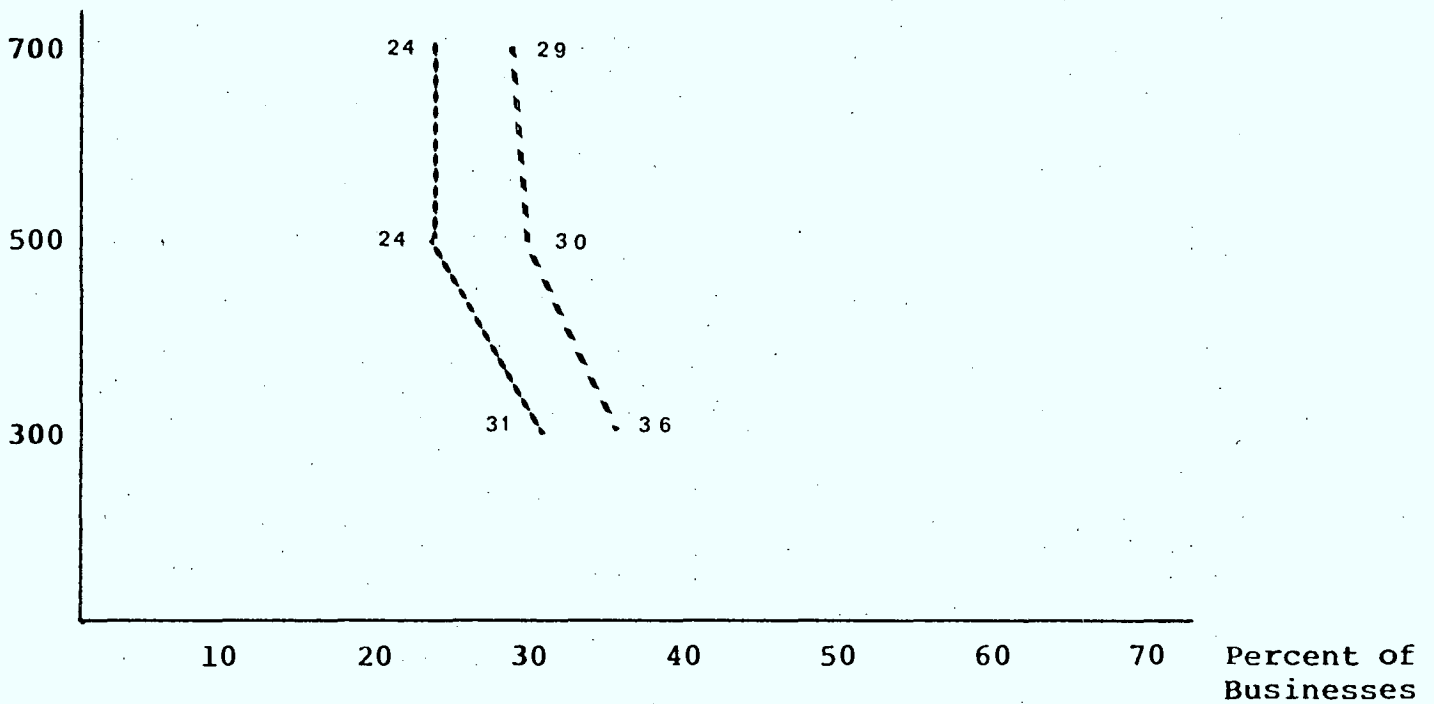
These results are not surprising in view of the fact that less than half (40.6%) of the small agricultural organizations presently have private line service, whereas 87.6% of the small businesses in the service sector currently have a private line (refer to Table 7). Furthermore, while 85.6% of the small businesses in agriculture consider the type of service they receive (i.e. private or party-line) to be important, only 62.9% are satisfied with this aspect of their service (compared to 92.3% which are satisfied in the service sector - refer to Tables 23 and 25).

¹ There is one exception. Demand in the agricultural sector is not significantly different from that in the construction sector when the price is \$500 or \$700.

GRAPH 12

PRICE-DEMAND RELATIONSHIP
FOR
COMBINED TELEPHONE AND MOBILE RADIO SERVICE
(All Small Businesses)

Purchase Cost of
Combined
Equipment
\$



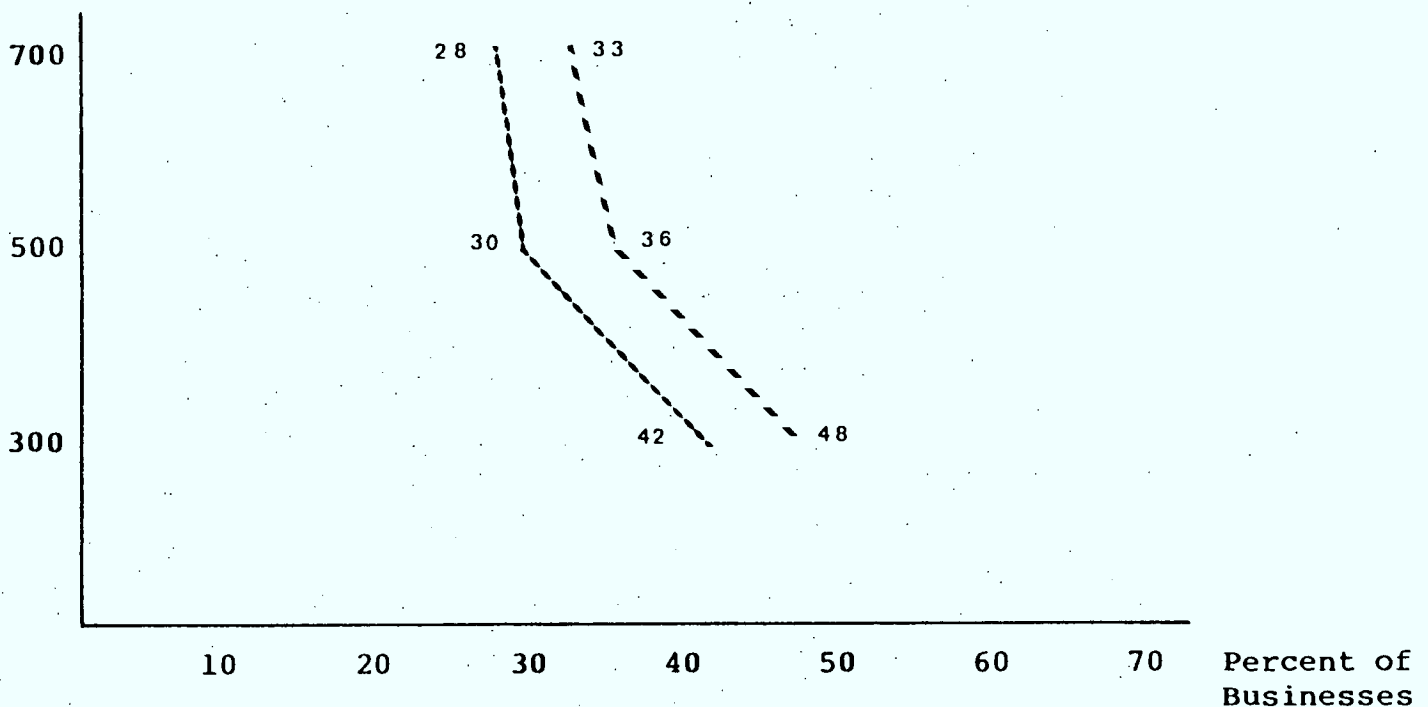
Maximum Likelihood Estimate
Conservative Estimate

The estimated level of demand (i.e. the maximum likelihood estimate) is not expected to vary, in 68% of the cases, by more than $\pm 4.1\%$ from the indicated levels.

GRAPH 13

PRICE-DEMAND RELATIONSHIP
FOR
COMBINED TELEPHONE AND MOBILE RADIO SERVICE
(Small Businesses - Agriculture Sector)

Purchase Cost of
 Combined
 Equipment
 \$



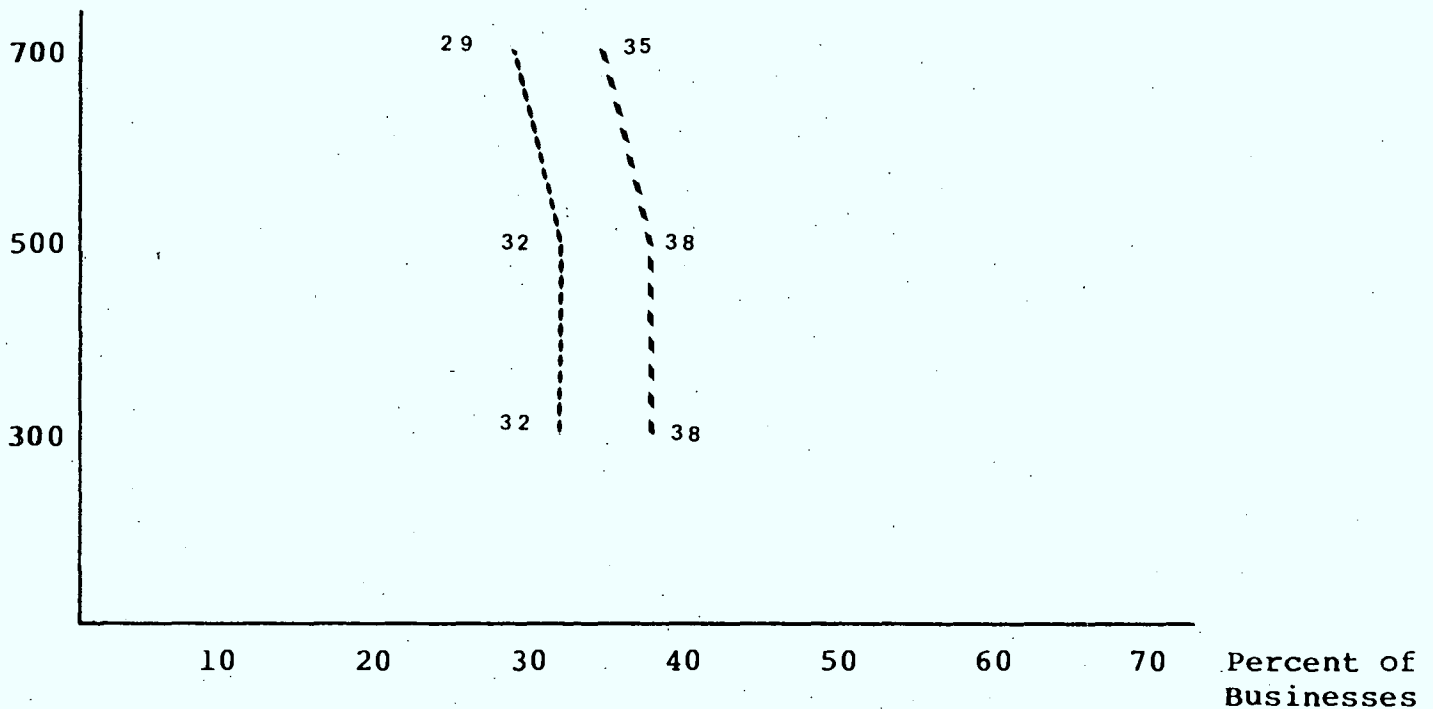
----- Maximum Likelihood Estimate
 ----- Conservative Estimate

The estimated level of demand (i.e. the maximum likelihood estimate) is not expected to vary, in 68% of the cases, by more than $\pm 6.3\%$ from the indicated levels.

GRAPH 14

PRICE-DEMAND RELATIONSHIP
FOR
COMBINED TELEPHONE AND MOBILE RADIO SERVICE
(Small Businesses - Construction Sector)

Purchase Cost of
Combined
Equipment
\$



----- Maximum Likelihood Estimate
----- Conservative Estimate

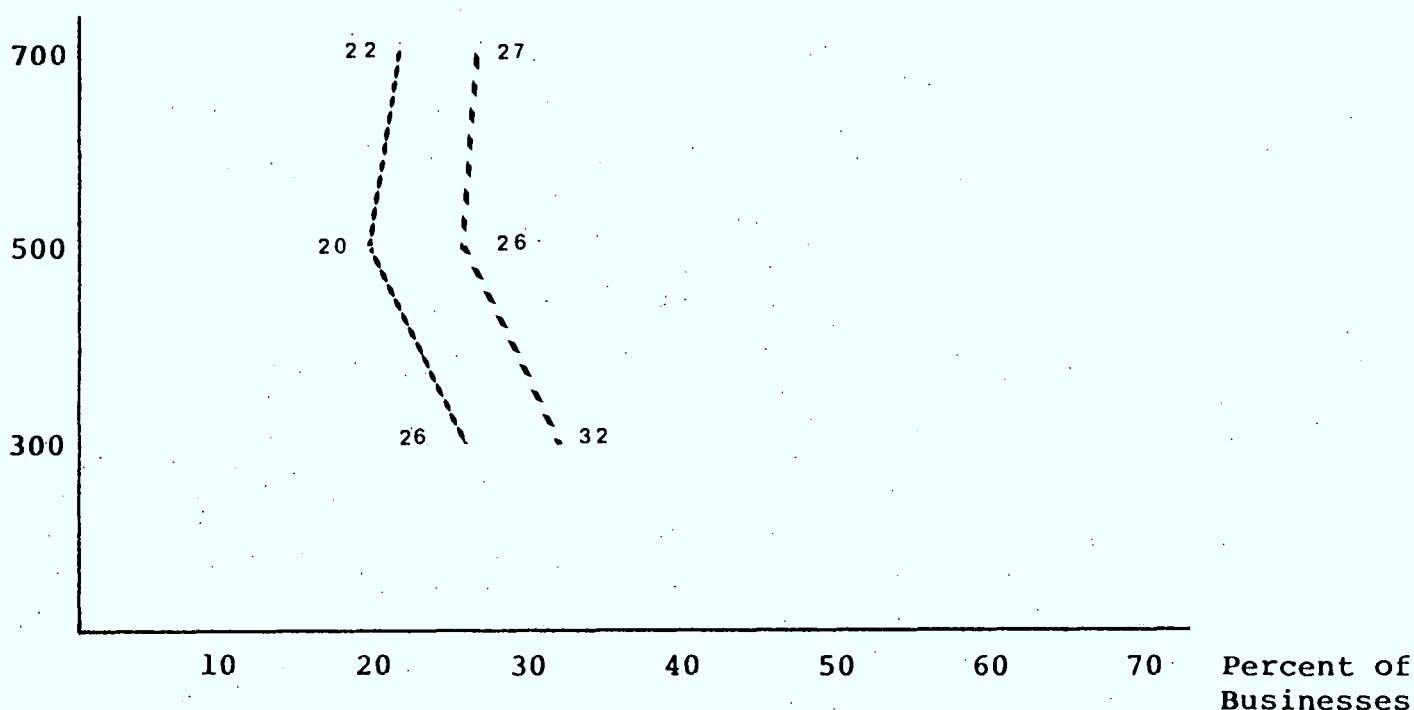
The estimated level of demand (i.e. the maximum likelihood estimate) is not expected to vary, in 68% of the cases, by more than $\pm 6.9\%$ from the indicated levels.

GRAPH 15

**PRICE-DEMAND RELATIONSHIP
FOR
COMBINED TELEPHONE AND MOBILE RADIO SERVICE**

(Small Businesses - Trade Sector)

Purchase Cost of
Combined
Equipment
\$



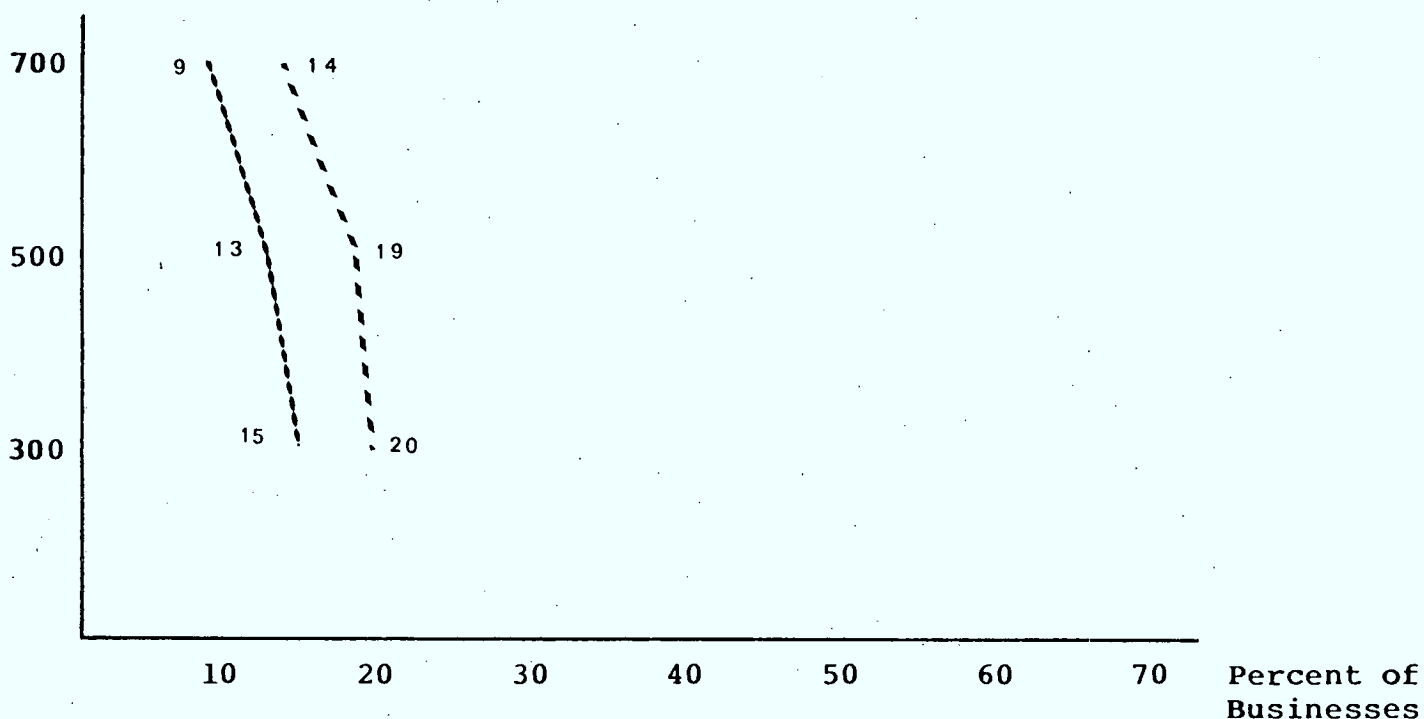
----- Maximum Likelihood Estimate
 ----- Conservative Estimate

The estimated level of demand (i.e. the maximum likelihood estimate) is not expected to vary, in 68% of the cases, by more than $\pm 5.3\%$ from the indicated levels.

GRAPH 16

PRICE-DEMAND RELATIONSHIP
FOR
COMBINED TELEPHONE AND MOBILE RADIO SERVICE
(Small Businesses - Service Sector)

Purchase Cost of
Combined
Equipment
\$



----- Maximum Likelihood Estimate
----- Conservative Estimate

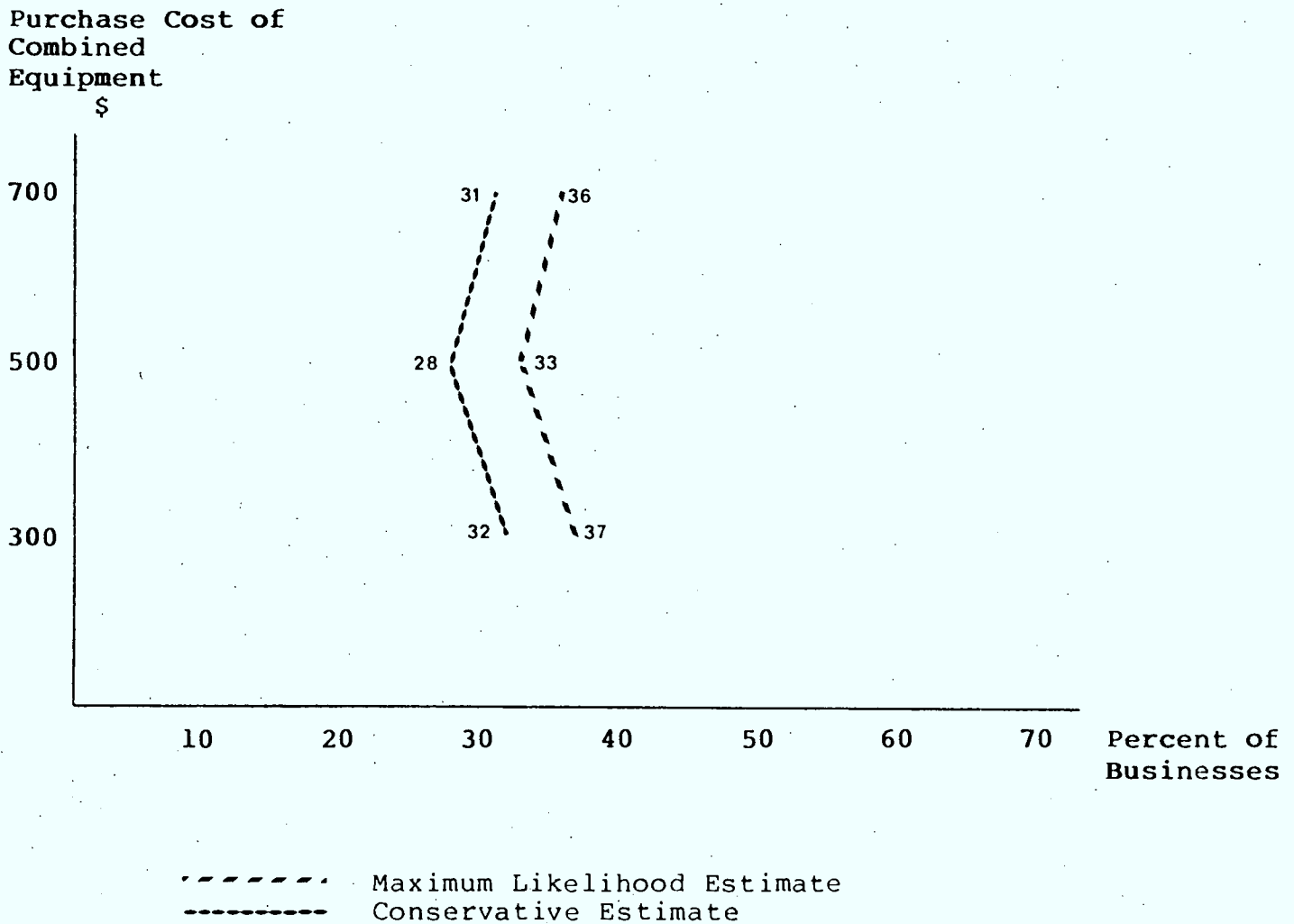
The estimated level of demand (i.e. the maximum likelihood estimate) is not expected to vary, in 68% of the cases, by more than $\pm 3.8\%$ from the indicated levels.

Therefore, from the above, one would expect organizations in the agriculture sector to be interested in a new service which, among other things, offers private line service. Additionally, while almost one third (29.4%) of the small agricultural organizations presently use CB/mobile radio services, less than half as many (13.8%) of the businesses in the service sector employ any of these services (see Table 60). In view of these findings, it is not surprising that there is a higher level of demand for a combined telephone and mobile radio service in the agricultural sector.

Examining the demand curve estimates for all large businesses, it is evident that although the level of demand is similar to that reported at the national level and for all small businesses, the curves are significantly different (see Graph 17). Comparing large businesses in each SIC division, the maximum likelihood estimate of the demand curve in each sector almost always differs significantly from each of the

GRAPH 17

PRICE-DEMAND RELATIONSHIP
FOR
COMBINED TELEPHONE AND MOBILE RADIO SERVICE
(All Large Businesses)



The estimated level of demand (i.e. the maximum likelihood estimate) is not expected to vary, in 68% of the cases, by more than $\pm 4.1\%$ from the indicated levels.

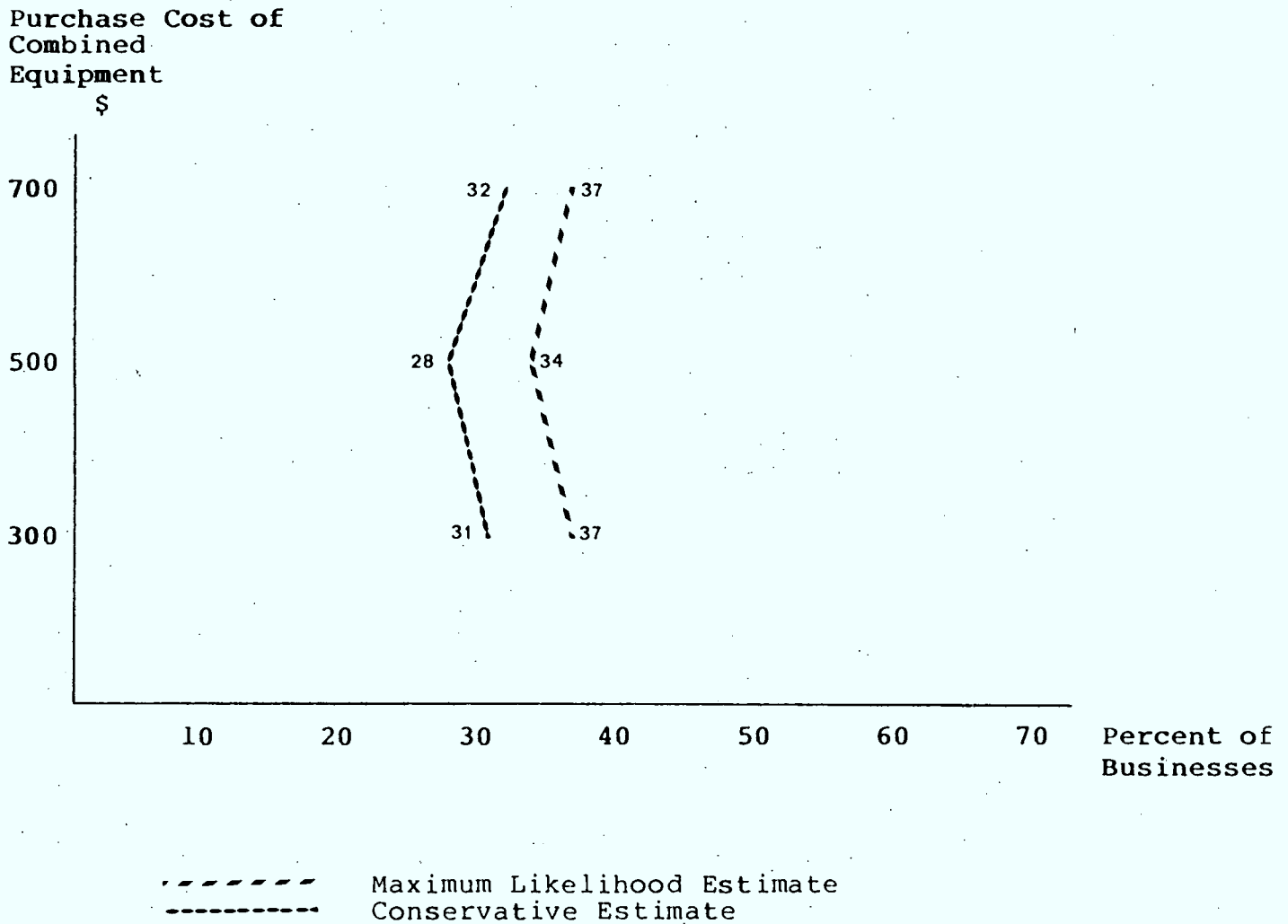
other sectors (see Graphs 18 to 20)^{1,2}.

The level of demand in the manufacturing sector is generally higher than that in the trade and service sectors (with the exception of the trade sector at the \$300 price level). However, the reasons for this higher level of demand are not apparent. For instance, a relatively higher proportion of businesses in the manufacturing sector already receive private line service (95.1% versus 86.5% and 84.6% in the trade and service sectors respectively as seen in Table 8). Additionally, a smaller percentage of the large manufacturing organizations consider the type of service they receive (i.e. private or party line) to be important (77.8% versus 84.0% in the trade sector and 83.1% in the service sector - refer to Table 24), and a comparable proportion are satisfied with this aspect of their service (95.1% versus 98.9% and 94.8% respectively - refer to Table 26). From these

-
- 1 There are two exceptions. Demand estimates for large businesses in the trade sector do not differ significantly from those for the manufacturing sector when the price is \$300, or from those in the service sector when the price is \$500.
 - 2 Demand estimates are not presented for large businesses in the agriculture division, as there were insufficient cases (i.e. less than 30 businesses were offered the new service at each price level).

GRAPH 18

PRICE-DEMAND RELATIONSHIP
FOR
COMBINED TELEPHONE AND MOBILE RADIO SERVICE
(Large Businesses - Manufacturing Sector)

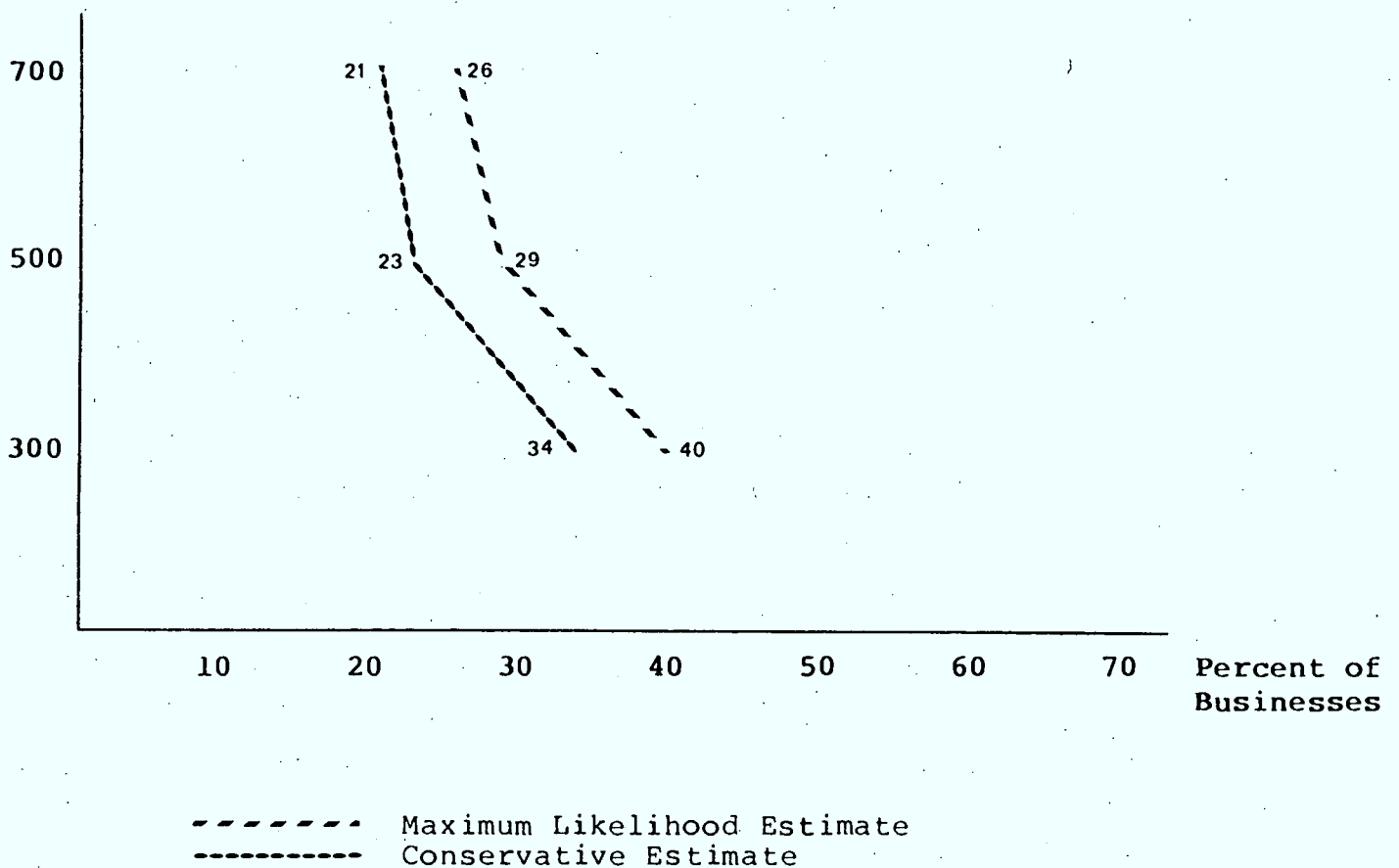


The estimated level of demand (i.e. the maximum likelihood estimate) is not expected to vary, in 68% of the cases, by more than $\pm 5.4\%$ from the indicated levels.

GRAPH 19

PRICE-DEMAND RELATIONSHIP
FOR
COMBINED TELEPHONE AND MOBILE RADIO SERVICE
(Large Businesses - Trade Sector)

Purchase Cost of
Combined
Equipment
\$



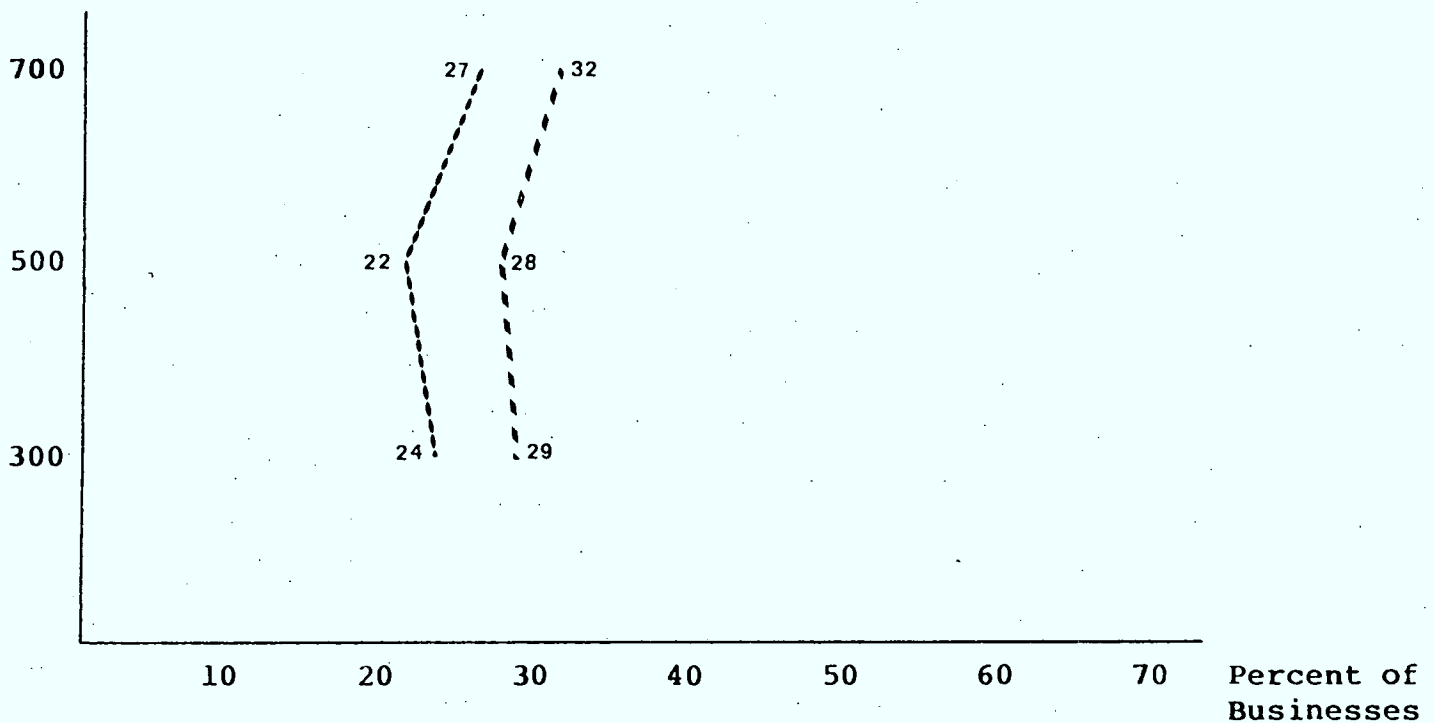
The estimated level of demand (i.e. the maximum likelihood estimate) is not expected to vary, in 68% of the cases, by more than $\pm 8.7\%$ from the indicated levels.

GRAPH 20

PRICE-DEMAND RELATIONSHIP
FOR
COMBINED TELEPHONE AND MOBILE RADIO SERVICE

(Large Businesses - Service Sector)

Purchase Cost of
Combined
Equipment
\$



----- Maximum Likelihood Estimate
----- Conservative Estimate

The estimated level of demand (i.e. the maximum likelihood estimate) is not expected to vary, in 68% of the cases, by more than $\pm 4.8\%$ from the indicated levels.

findings, it appears that the offer of private line service does not contribute significantly to the level of demand generated in the manufacturing sector.

Examining the proportion of businesses in each of these sectors which currently use one or more types of mobile radio equipment (as seen in Table 61), we find that while the proportion of users in the manufacturing sector (31.5%) is greater than that found in the trade sector (25.5%), and it is lower than in the service sector (42.0%). This would tend to indicate that the demand, in the manufacturing sector, for the new service is not caused by a predisposition towards using services of this nature. However, recalling that most (60.4%) of the businesses in the service sector consider paging to be the most important service (see Table 63), this may explain why the level of demand for a combined telephone and mobile radio service is relatively lower in the service sector. Hence, the level of demand found in the manufacturing sector may be due mainly to the present tendency towards employing mobile radio services.

The demand curve estimates presented in Graphs 11 to 20 indicate that there is a demand for a combined telephone and mobile radio service among businesses in rural Canada, and that generally the level of demand is

approximately 30% of the businesses. The extreme inelasticity¹ of the demand curves suggests two possible explanations. First, the results may indicate that businesses which currently use these services are interested in a combined and improved service regardless of the cost (within the presented range). On the other hand, while it is evident that there is a demand for this service, respondents may not really know what such a system is worth to them.

A comparison was made between current users of CB/mobile radio services and non-users, to determine if these two groups reported different intentions with respect to this new service offering. As hypothesized, "users" are significantly more likely to purchase the equipment necessary for this service, than were "non-users". This is true for businesses at the national level, for all small and large businesses in general, and for both large manufacturing and large service organizations². This analysis could not be

-
- 1 A given percentage change in price results in a smaller percentage change in demand, suggesting a relatively lower sensitivity to price.
 - 2 There are two exceptions as users and non-users did not indicate significantly different intentions at the \$700 price level in the service sector for large businesses, and for large businesses in general.

carried out for small and large businesses in the remaining SIC divisions, as the number of users which responded to this question was insufficient (i.e. less than 30).

Thus, the data indicate that a larger proportion of businesses which currently use CB/mobile radio services, than of those which do not, would definitely¹ purchase the equipment necessary for this service at the \$300 price level (25.4% of "users" vs 10.4% of "non-users" at the national level; 25.7% vs 10.5% for small businesses; and 18.5% vs 7.5% for large businesses).

Similarly, at the \$500 purchase cost, relatively more users, than non-users would definitely purchase the equipment for this service within one year (24.7% vs 7.1% at the national level; 25.0% vs 7.2% of small businesses; 17.9% vs 1.7% of large businesses; 18.5% vs 2.0% for large manufacturing firms; and 8.0% vs 0.0% for large trade organizations).

¹ Businesses which would definitely purchase the necessary equipment, are defined to be those who indicated that they were certain or almost certain (9 or 10 chances in 10) to make this purchase.

Finally, when the purchase cost of this equipment is \$700, a larger proportion of CB/mobile radio service users, than of non-users, would still definitely make this purchase within twelve months (17.8% vs 6.7% respectively at the national level; and 17.9% vs 6.7% for all small businesses).

One further hypothesis which was investigated was that users of CB/mobile radio services who are dissatisfied with their present service would be more likely to respond favourably to the new service offering, than would satisfied users. However, there is no significant relationship between satisfaction with present service and the likelihood of purchasing the equipment for the new service, regardless of size and industrial classification of businesses. Thus, it would appear that satisfaction with current service does not contribute significantly to the demand for the new service offering.

2.2.6.2 Correlates of Demand for Combined Telephone-Mobile Radio Service

A profile of those businesses which would have a greater tendency to purchase the equipment needed for this new service at each of the three different price levels was developed. This was accomplished by relating the level of demand for the new service to a



set of potential descriptor variables.¹ The objective of this profiling exercise is to provide a better understanding of the "different" customers which may exist at each of the three price levels. The analysis was undertaken at the national level only.

As the likelihood that respondents will purchase the equipment necessary for this service at the \$300 price level increases, so does the likelihood that businesses will:

- be more physically isolated.
- be dissatisfied with their overall telephone service.
- place a higher priority on the need for improvement in CB/mobile radio services.
- be planning to change their present CB/mobile radio system within the next three years.

¹ These variables are:

- number of full-time employees at one location;
- gross annual revenues at one location;
- number of separate business locations;
- physical isolation;
- type of service on main business phone line;
- number of different phone lines;
- telephone expenses;
- CB/mobile radio units employed;
- length of time CB/mobile radio services used;
- plans to change CB/mobile radio systems;
- satisfaction with telephone and CB/mobile radio services;
- perceived need for improvement in telephone and CB/mobile radio services;
- main activity of organization; and,
- regional location.

The more likely businesses are to purchase the new equipment when the price is \$500, the more these businesses tend to:

- be dissatisfied with their present telephone service in general.
- be planning to change the CB/mobile radio system currently employed.

When the proposed purchase cost of the equipment required for this new service is \$700, businesses which are more likely to make this purchase tend to:

- have more GRS/CB units.

2.2.6.3 Intentions to Change System

Businesses in rural Canada which presently use CB/mobile radio services were asked if they were planning to change their system within the next three years. Approximately one quarter (26.5%) of these businesses do plan to change systems and, of these, over half (64.0%) plan to switch to a different system rather than adding more units/sets. It is interesting to note that the proportion of businesses which indicated plans to change their present CB/mobile radio system, is similar to the estimated demand for a new, combined telephone and mobile radio service, that is, approximately 30% of businesses (presented in Section

2.2.6.1). This finding supports the earlier indication that businesses which were more likely to purchase the equipment necessary for the new service, were also more likely to have plans to change their present system (see Section 2.2.6.2).

Similar results were found for small businesses in general and, in fact, for small businesses in each SIC division. Indeed, the relationship between plans to change the system and the industrial classification was not significant (see Table 85).

A relatively lower proportion (19.2%) of all large businesses, than of small businesses, indicated plans to change their CB/mobile radio system. However, as was the case for all small businesses, the majority (61.5%) of the large organizations which are considering changing, plan to switch to a different system. There is no significant association between plans to change present CB/mobile radio systems and the industrial classification of large organizations (see Table 86).

In view of the small number of businesses (in any category) which plan to change CB/mobile radio systems, the proposed number of additional units/sets, and/or the new systems being considered are not discussed as any conclusions which might be drawn could be

TABLE 85

Plans to Change CB/Mobile Radio System

SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
More Units/ Sets	42.1% (8)	33.3% (3)	15.4% (2)	42.9% (3)	36.0% (9)	36.0% (9)
Different System	57.9 (11)	66.7 (6)	84.6 (11)	57.1 (4)	64.0 (16)	64.0 (16)
Total With Plans	35.9% (19)	24.4% (10)	31.8% (14)	16.7% (7)	26.6% (25)	26.5% (26)

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all small businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

TABLE 86

Plans to Change CB/Mobile Radio System

LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONA
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
More Units/ Sets	25.0% (1)	61.5% (8)	75.0% (3)	26.7% (4)	38.5% (10)	36.0% (9)
Different System	75.0 (3)	38.5 (5)	25.0 (1)	73.3 (11)	61.5 (16)	64.0 (16)
Total With Plans	33.3% (5)	17.2% (15)	17.4% (4)	14.6% (18)	19.2% (29)	26.5% (26)

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

misleading.

The hypothesis that plans to change present systems is related to the length of time the present system has been employed was investigated. This analysis was undertaken for GRS/CB service users, and private commercial service users only, due to the small number of users of other services who answered these questions. However, in all cases, the relationship between these variables is not significant. Thus, it would appear that plans to alter present systems is not related to the length of usage.

2.2.6.4 Non-Users Intentions

In rural Canada, approximately one tenth (10.9%) of those businesses which do not currently use CB/mobile radio services (i.e. 76.1% or 353 businesses are non-users), are planning to make regular use of some sort of mobile radio equipment (at their present location), within the next three years. However, a further 24.9% of these organizations do not know whether or not they will make use of such a service. Thus, a portion of this group may also be future users of these services. The results for small businesses in general are essentially the same as the national data. On the other hand, interest in these services is

significantly related to the SIC division (see Table 87). For instance, while less than five percent (3.8%) of the small organizations in the service sector reported plans to employ CB/mobile radio services within three years, almost five times as many small agricultural businesses indicated similar plans.

Although one might expect a larger proportion of large businesses to be considering these services, this is not the case. However, while a slightly smaller proportion (9.8%) of these organizations indicated such plans, a relatively higher proportion (27.6%) were unsure of their plans. Thus, the potential market among large businesses may, in fact, be no different from that among small organizations. As was the case for small businesses, plans to utilize CB/mobile radio services among large organizations are significantly associated with the SIC division (see Table 88). For large businesses, the proportion of organizations which do plan to employ these services, varies from roughly five percent (5.3%) in the trade sector, to almost one quarter (24.1%) of large agricultural businesses.

It is interesting to note that for both small and large businesses, agricultural organizations are the most interested in utilizing CB/mobile radio services.

TABLE 87

Plans to Employ CB/Mobile Radio Service

SMALL BUSINESSES

	SIC DIVISION				ALL SMALL BUSINESSES	NATIONAL
	AGRICULTURE	CONSTRUCTION	TRADE	SERVICES		
Yes	18.0% (23)	13.5% (16)	6.4% (12)	3.8% (11)	11.0% (34)	10.9% (34)
No	56.3 (72)	53.8 (64)	65.4 (123)	81.9 (239)	64.0 (197)	64.2 (201)
Don't Know	25.8 (33)	32.8 (39)	28.2 (53)	14.4 (42)	25.0 (77)	24.9 (78)
TOTAL	100.0 (128)	100.0 (119)	100.0 (188)	100.0 (292)	100.0 (308)	100.0 (313)

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all small businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

TABLE 88

Plans to Employ CB/Mobile Radio Service

LARGE BUSINESSES

	SIC DIVISION				ALL LARGE BUSINESSES	NATIONAL
	AGRICULTURE	MANUFACTURING	TRADE	SERVICES		
Yes	24.1% (7)	6.7% (12)	5.3% (4)	11.5% (19)	9.8% (25)	10.9% (34)
No	34.5 (10)	59.8 (107)	73.3 (55)	67.9 (112)	62.6 (159)	64.2 (201)
Don't Know	41.4 (12)	33.5 (60)	21.3 (16)	20.6 (34)	27.6 (70)	24.9 (78)
TOTAL	100.0 (29)	100.0 (179)	100.0 (75)	100.0 (165)	100.0 (254)	100.0 (313)

NOTE: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of businesses. As the sample was weighted in order to correct for disproportionate sampling, the "SIC divisions", "all large businesses", and national analyses are based on different sample sizes (see Section A.5.2 for more details).

The relationship between plans to employ CB/mobile radio services, and the likelihood of purchasing the equipment necessary for the new combined telephone and mobile radio service was investigated (at the national level only). This relationship proved to be significant and indicates that businesses with such plans are more likely to be certain or almost certain to purchase the equipment for this new service. Thus, the following observations may be made:

- a) a larger proportion of businesses which plan to use such a service would definitely purchase the equipment for this new service if the price was \$300 (46.8% versus 3.2% of those with no such plans).
- b) similarly, if the price of the new equipment is \$500, relatively more businesses which already plan to use CB/mobile radio services, than those which do not, would definitely buy the equipment (36.1% vs 3.2%).
- c) even at a purchase cost of \$700, comparatively more businesses with plans, than those without, would definitely purchase the necessary equipment (29.9% vs 1.7%).

III. CONCLUSIONS

While examining the results of this study, it is important to bear in mind that there have been no previous studies of this nature to which these results may be compared. In view of this fact, it is generally difficult to qualify the findings. Yet, a number of interesting conclusions may be derived and are as follows:

1. Although most businesses in rural Canada receive private line service, almost one-fifth still have four-party or multi-party service on their main business line. Small agricultural businesses are the most "under-served" organizations as less than half of these firms have private line service.
2. Businesses with party-line service tend to be more physically isolated. Ironically, these are the organizations most in need of good telephone service.

3. The results of this survey provided data from which one can estimate¹ the value of the current rural business telephone market. In 1980, or the last fiscal year, rural businesses² in Canada spent at least \$211 million, in total, on telephony.
4. The presence of distinct groups of business telephone users was found. This is evidenced by the differences which exist between businesses holding differing motives for using the business telephone.
5. While, in general, most businesses are satisfied with their current telephone service, with the exception of the size of free calling area, more party-line subscribers are dissatisfied with their overall service. Indeed, at the national level, roughly one third of the multi-party subscribers are dissatisfied.

1 These estimates are based on national average business expenditures for telephone service, in total, as provided by the survey. In addition, aggregate rural business data was obtained from the sampling frame (see Table A-1).

2 The survey was restricted to businesses employing less than 500 people. Larger businesses, of course, are also located in rural areas.

6. As was the case with telephone service, most businesses are generally satisfied with the CB/mobile radio services they currently use. However, a large proportion of agricultural organizations (both small and large), are relatively less satisfied.
7. Despite the apparent satisfaction with overall telephone and CB/mobile radio services, there is a perceived need for improvement in these services. In fact, telephone was ranked second in priority, when compared to five other services and CB/mobile radio services fourth. This is also true for current CB/mobile radio service users, although they placed relatively more emphasis on CB/mobile radio services, and less on telephone services.
8. In rural Canada, there is a demand for an improved telephone service. In fact, the basic monthly telephone charges could be increased by 25% or 50%, and over half of the rural businesses would subscribe to this new improved service. The demand for an improved service apparently stems more from the offer of a large free calling area, than from the idea of a private line.

9. Similarly, a combined telephone and mobile radio service would generate demand among approximately 30% of the businesses in rural Canada, even at a purchase cost of \$700.

10. There is a significant user population, among businesses in rural Canada, of CB/mobile radio services as almost one quarter of all businesses use one or more of these services. The type of service used varies among the industrial sectors.

APPENDIX A
METHODOLOGY

APPENDIX A - METHODOLOGY

A.1 Genesis

Within the context of Phase II of the Rural Demand Study, the overall objective of the demand project is "to survey the needs of business subscribers for existing and proposed communication services and to forecast short term demand for these services". To this end, this project was staged in three steps.

- **Selection of a measurement strategy.** The present authors, under the auspices of the University of Ottawa, were commissioned to develop a strategy for the measurement of needs and demand of rural businesses with respect to telecommunication services. A review of the literature was done¹ and, subsequently, focus group interviews were conducted across Canada in order to provide the basic information required for the design of the survey questionnaire.²
- **Development and test of the survey design.** DEMAND Research Consultants was commissioned to design the final questionnaire; Canadian Facts was commissioned to format the questionnaire and administer the pre-test.
- **Full scale survey and analysis.** The sample size was determined by Canadian Facts; Steve Brown and Keith Richardson of DOC developed the sampling frame, drew the sample and handled the logistics of the mail survey³. The questionnaire was compiled by Canadian Facts. DEMAND Research Consultants was commissioned to perform the need and demand analysis.

¹ Camprieu, R. (de) and Bourgeois, J.C., "Demand for Rural Communication Services in Canada: Literature Review", University of Ottawa, Ottawa, (January 1979).

² Camprieu, R. (de) and Bourgeois, J.C., "Demand for Rural Communication Services in Canada: Focus Groups and Research Instruments", University of Ottawa, Ottawa, (December 1979).

³ Brown, S., "Planning and Operational Aspects of a Mail Survey of Employers in Rural Canada", Department of Communications, Ottawa, (May 1981).

This part of the report deals with the methodological aspects relevant to the full scale business survey only. The purpose is to give the reader the information necessary to assess the validity and the reliability of the need analysis and demand forecasts which have been presented.

Section A-2 discusses the model used to forecast demand. Section A-3 outlines the survey method used to actually make the measurements. Section A-4 provides an operational definition of "rural" and of "business", and summarizes the procedure implemented to draw a representative sample of that population. Finally, Section A-5 assesses the representativeness of the sample and justifies the weighting schemes that were used for various aggregate analyses.

A.2 Forecasting Model

The rationale for selecting the techniques, models and theories involved in the demand project have been discussed in a previous report¹; only the model used to generate short term demand forecasts need be briefly described here.

Following a review of the available sources of secondary information², and after consultation with authorities from the Department of Communications, a survey of buying intentions emerged as the best approach to forecast demand in the specific context of the study³. Buying intentions provide reliable

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- 1 "Demand for Rural Communication Services in Rural Canada: Focus Groups and Research Instruments", op. cit. pp. 48-74.
 - 2 "Demand for Rural Communication Services: Literature Review", op. cit.
 - 3 "Demand for Rural Communication Services in Rural Canada: Focus Groups and Research Instruments", op. cit. pp. 50-54, 69-71

estimates of demand if properly measured. A "simulated choice scenario" approach was used to that effect. It consists in having respondents make a choice decision in the context of a simulated, but realistic, purchase situation; one of three scenarios (high price, medium price, low price) was administered to each respondent for each new service investigated. The information obtained with the technique can be used to infer short term (one year time horizon) demand curves. Demand curves derived from the scenarios administered in the course of pilot survey of the residential project were found internally and externally consistent.¹

A.3 Survey Method and Instrument

The questionnaire appearing in Appendix B has been designed to be self administered by the respondent (the individual, in each selected rural business, who is most knowledgeable regarding the telephone and other communications services used by the organization). Its content is briefly presented below:

Section A is designed to position telephone service and mobile radio service, relatively to other communication services, in terms of perceived need for improvement. The scaling involves a "constant sum scale" that will provide a measure of the need for improvement for each service. Section B groups all questions relating to telephone and data/message services. Section C groups all questions relating to mobile radio services. Section D provides general data on the responding business; it can be used to classify respondents into categories that are meaningful to the Department of Communications.

The simulated choice scenarios designed to infer "short term" demand curves appear as questions 15 and 21. The other questions in Section B and C deal either with the type of equipment currently used, motivations, satisfaction and importance attached to the various

¹ Bourgeois, J.C. and Camprieu, R. (de), "Study of the Demand for Communication Services in Rural Canada: Analysis of Pilot Survey Results", DEMAND Research Consultants Inc., Ottawa, (May 1981), pp. 32-40, 55-74.

attributes of a given service. The questionnaire is commented upon in more detail in the planning report.¹

The questionnaire was sent by mail to a sample of rural business organizations. Sampling issues will be discussed in the next section. For the mechanics of the mail survey itself, the reader is referred to Brown's technical report.²

A.4 Sampling

Three steps are involved in probability sampling:

- 1) define the population and set up a list of population units (sampling frame);
- 2) determine the number of units to be selected (sample size) so that accuracy and reliability requirements are satisfied;
- 3) establish a procedure for actually drawing sample units from the sampling frame.

The sampling procedure was planned and implemented by Keith Richardson and Steve Brown of DOC. The following is a brief summary from their two reports.^{3,4}

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- 1 Richardson, Keith, "Study of the Demand for Communications Services in Rural Canada - Field Survey - Business Segment", Planning Report, Department of Communications, Ottawa, (December 1980), pp. 5 - 6.
 - 2 Brown, Steve, "Planning and Operational Aspects of a Mail Survey of Employers in Rural Canada", op. cit.
 - 3 Brown, Steve and Richardson, Keith, "Sampling Frames for the Rural Residential and Business Demand Surveys", Department of Communications, May 1981.
 - 4 Brown, Steve, "Planning and Operational Aspects of a Mail Survey of Employers in Rural Canada", op. cit..

A.4.1 Sampling Frame

Before developing a sampling frame it is necessary to precisely define the population to be surveyed. To be retained in the sampling frame a "rural employer" had to satisfy the following conditions:

- be located in a land area where the overall population density is between 0.8 and 999 persons/sq. mile (1976 Census) and lay outside the boundaries of communities of 2500 or more people. Labrador and the northern parts of all provinces west of New Brunswick were also excluded.
- have less than 500 employees.
- not including businesses with a SIC code for private households (code 873), public administration, defense, undefined businesses (SIC code divisions 11 and 12), defunct businesses (SIC code 900).

Using postal code information and information recorded in Statistic Canada's Business Register Master File (BRMF), Brown found that 128,731 of the 753,563 employers listed in the BRMF satisfied the above conditions and were therefore retained in the sampling frame. The composition of the sampling frame, in terms of three characteristics (SIC division, region, size) relevant to the Department of Communications, is described in Table A-1.

A.4.2 Sample Size

Originally the Department of Communications was interested in statistical inferences at the regional level (five Canadian regions) for both large size (20 or more full time employees) and small size (less than 20 full time employees) business establishments within each of 10 SIC divisions (1 to 10). Furthermore, a general accuracy of +10% at 95% level of confidence was required. This implies a sample size of 100 units¹ for each of 5 regions, 10 SIC divisions, and 2 size categories.

¹ This figure applies to samples drawn from large populations; the sample size can be lowered in the case of small populations.

TABLE A-1

DEPARTMENT OF COMMUNICATIONS
RURAL BUSINESS SAMPLE FRAME
DISTRIBUTION OF EMPLOYERS BY S.I.C. DIVISION, REGION AND SIZE GROUP

DATE: NOV 26, '80

S.I.C.	ATLANTIC REGION			QUEBEC REGION			ONTARIO REGION			PRAIRIE REGION			B.C. REGION			TOTAL
DIVISION	LARGE	SMALL	UNKNOWN	LARGE	SMALL	UNKNOWN	LARGE	SMALL	UNKNOWN	LARGE	SMALL	UNKNOWN	LARGE	SMALL	UNKNOWN	
1	30	1,881	176	73	7,003	257	79	7,477	562	19	11,155	1,299	24	1,436	173	31,644
2	21	752	133	28	616	68	8	336	73	2	283	36	44	1,095	192	3,687
3	13	2,095	194	1	83	3	0	106	6	3	67	13	2	60	4	2,650
4	13	36	4	14	69	9	12	104	6	27	337	24	5	56	10	726
5	118	666	85	353	1,513	220	138	1,001	202	50	665	109	47	484	99	5,750
6	45	2,449	285	26	2,767	485	30	4,281	919	33	3,813	631	5	1,666	274	17,709
7	18	863	139	51	1,555	272	28	1,135	258	13	1,380	229	9	587	82	6,619
8	77	4,199	744	65	6,176	1,139	74	5,200	1,275	73	5,691	1,351	25	2,017	350	28,456
9	3	298	63	29	846	255	9	648	133	4	866	218	3	431	98	3,904
10	147	3,773	587	225	5,533	738	171	5,569	981	396	5,787	882	98	2,320	379	27,586
TOTAL	485	17,012	2,410	865	26,161	3,446	549	25,857	4,415	620	30,044	4,792	262	10,152	1,661	128,731

SIC DIVISION

1. Agriculture
2. Forestry
3. Fishing & Trapping
4. Mines, Minerals & Oils
5. Manufacturing

6. Construction
7. Transportation & Communications
8. Trade
9. Finance & Real Estate
10. Service

SIZE GROUP

1. Large (20 + Employees) 2781
2. Small (< 20 Employees) 109226
3. Unknown 16724



Due to budget constraints the sample size was subsequently reduced by requiring national estimates (instead of regional) for selected SIC divisions only in each size group (SIC divisions 1,5,8,10 and all others pooled in a total "large size" group; SIC divisions 1,6,8,10 and all others pooled in a total "small size" group). With this change in specifications, the sample size could be reduced to 1,200 units and, assuming a 20% response rate, the total mailing to 6,000.

A.4.3 Sample Selection

Sample selection was complicated by the fact that several businesses were of an "unknown" size. The final procedure¹ called for the inclusion in the mail sample of:

- 1) all large size establishments (2,781),
- 2) 500 units in each of the SIC divisions 1,6,8,10, and 2,3,4,5,7,9 (pooled together),
- 3) a disproportionately large sample of 700 allocated to the SIC divisions in the "unknown" size.

The composition of the mail sample is described in more details in Brown's report. This mail sample was expected to yield at least 1,200 total returns with at least 100 returns in each of the subgroups for which estimates were required.

A.5 Sample Characteristics

A.5.1 Sample Characteristics

Throughout this report, businesses in rural Canada have been profiled according to a number of characteristics. These characteristics were generally as follows:

¹ Richardson, Keith, Planning Report, op. cit..

- i) industrial classification (SIC)
- ii) location
- iii) number of full-time employees at one location (during full operation)
- iv) gross annual revenues at one location
- v) number of separate business locations.

Tables A-2 to A-6 present the sample distribution for all businesses in rural Canada, according to the characteristics mentioned above (for both the weighted and unweighted samples). This will provide a more complete picture of the sample of rural businesses collected for the analysis contained herein.

A.5.2 Weighting Scheme

As previously discussed in section A.4.3 (Sample Selection), the mail-out included all large size establishments, equal numbers of units in certain SIC divisions, and a disproportionately large sample of "unknown" size establishments. As a result, the returns were not distributed according to the actual proportion (i.e. according to sampling frame) of small and large establishments and/or of the proportion of establishments in each SIC division. To correct for these discrepancies, the national projections relied on a weighted down sample (i.e. from 2244 establishments to 465) in order to make them representative of both size of establishment and SIC division. In addition, the data presented for small and large establishments were also weighted down such that it would be representative of each SIC division. The data presented for each of the five major SIC divisions (i.e. 1, 5, 6, 8 and 10) did not require any weighting.

As a result there are, in effect, four different relevant data bases:

- a) the national data base (465 respondents) which is representative of both size of establishment and SIC division.
- b) the small establishment data base (453 establishments) which is representative of the 10 SIC divisions.
- c) the large establishment data base (463 establishments) which is representative of the 10 SIC divisions.

TABLE A-2

**SAMPLE PROFILE OF "INDUSTRIAL CLASSIFICATION"
FOR
BUSINESSES IN RURAL CANADA**

	<u>Weighted Sample Reported</u>	<u>Business Register</u>	<u>Unweighted Sample Reported</u>	<u>Business Register</u>
Agriculture	24.9% (114)	26.0% (121)	11.9% (261)	11.7% (262)
Forestry	2.0 (9)	2.8 (13)	2.7 (60)	3.0 (68)
Fishing & Trapping	1.3 (6)	2.2 (10)	0.5 (11)	0.7 (16)
Mines, Minerals & Oils	0.7 (3)	0.6 (3)	1.6 (35)	1.9 (42)
Manufacturing	7.9 (36)	4.5 (21)	18.3 (402)	16.7 (375)
Construction	10.7 (49)	13.5 (63)	7.9 (174)	9.6 (216)
Transportation & Communications	6.1 (28)	5.0 (23)	5.6 (122)	4.7 (105)
Trade	19.7 (90)	21.1 (98)	16.0 (351)	16.8 (377)
Finance & Real Estate	3.3 (15)	2.8 (13)	3.0 (66)	3.1 (70)
Service	23.4 (107)	21.4 (100)	32.5 (712)	31.8 (713)
Total	100.0 (457)	100.0 (465)	100.0 (2194)	100.0 (2244)

TABLE A-3

**SAMPLE PROFILE OF "PROVINCIAL LOCATION"
FOR
BUSINESSES IN RURAL CANADA**

	<u>Weighted Sample</u>	<u>Unweighted Sample</u>
Newfoundland	2.0% (10)	2.2% (49)
Prince Edward Island	2.0 (9)	1.9 (42)
Nova Scotia	5.3 (25)	7.0 (156)
New Brunswick	4.9 (23)	4.9 (109)
Quebec	19.9 (92)	24.6 (551)
Ontario	21.7 (101)	20.0 (449)
Manitoba	8.3 (39)	7.3 (164)
Saskatchewan	15.2 (70)	12.3 (275)
Alberta	10.7 (50)	10.0 (225)
British Columbia	10.0 (46)	10.0 (224)
Total	<hr/> 100.0 (465)	<hr/> 100.0 (2244)



TABLE A-4

SAMPLE PROFILE OF "NUMBER OF FULL-TIME EMPLOYEES
DURING FULL OPERATION" (At One Location)
FOR
BUSINESSES IN RURAL CANADA

	<u>Weighted Sample</u>	<u>Unweighted Sample</u>
0 - 3	56.1% (260)	30.6% (679)
4 - 10	26.8 (124)	17.5 (390)
11 - 19	14.0 (65)	9.5 (210)
20 - 35	1.3 (6)	17.1 (380)
36 - 60	1.2 (6)	12.7 (282)
60 or more	0.6 (3)	12.6 (280)
Total	<hr/> 100.0 (464)	<hr/> 100.0 (2221)

TABLE A-5

SAMPLE PROFILE OF "GROSS ANNUAL REVENUE"
(One Location)
FOR
BUSINESSES IN RURAL CANADA

	<u>Weighted Sample</u>	<u>Unweighted Sample</u>
\$50,000	26.4% (76)	16.1% (210)
\$50,001-\$100,000	20.5 (59)	11.7 (152)
\$100,001-\$300,000	28.1 (81)	20.1 (262)
\$300,001-\$500,000	9.6 (28)	9.6 (125)
\$500,001-\$1,000,000	8.8 (25)	14.2 (185)
\$1,000,001-\$4,000,000	5.6 (16)	18.4 (240)
\$4,000,000	1.0 (3)	9.9 (129)
Total	100.0 (287)	100.0 (1302)

TABLE A-6

SAMPLE PROFILE OF "NUMBER OF SEPARATE BUSINESS LOCATIONS"
FOR
BUSINESSES IN RURAL CANADA

	<u>Weighted Sample</u>	<u>Unweighted Sample</u>
0 - 1	87.9% (404)	79.5% (1756)
2 - 3	8.6 (39)	11.2 (249)
4 or more	3.5 (16)	9.2 (203)
Total	100.0 (460)	100.0 (2208)

d) the SIC divisions data base (1818 respondents distributed as follows: agriculture, 204 small and 52 large establishments; manufacturing, 305 large establishments; construction, 174 small establishments; trade, 268 small and 106 large establishments; services, 378 small and 331 large establishments).

It is important to remember that no one type of establishment has been weighted up, that is, inflated or given more weight. Where the sample was weighted, it was always weighted down (i.e. the actual number of establishments sampled was 2,244).

APPENDIX B
QUESTIONNAIRE



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8-1

9-2

SECTION A

1. Here is a list of six services which you may or may not use. Suppose that you had 100 points to allocate for improvement of those services you use in your area. The more points you give to a service the more you feel it must be improved, the fewer points you give the less you feel it must be improved. You can allocate the 100 points to one or all of the services you use, but remember that the total must add up to 100.

	<u>NO. OF POINTS</u>	<u>SERVICE NOT USED</u>	
C.B. or Mobile Radio Services.....	_____	<input type="checkbox"/>	10/12
Data Transmission Services	_____	<input type="checkbox"/>	13/15
Telephone Service.....	_____	<input type="checkbox"/>	16/18
Express Delivery Services (Bus, Courier, Rail)	_____	<input type="checkbox"/>	19/21
Telegraph or Telex/TWX Services.....	_____	<input type="checkbox"/>	22/24
Postal Service	_____	<input type="checkbox"/>	25/27

TOTAL = 100

NO IMPROVEMENTS NEEDED IN ANY OF
THESE SERVICES..... ☐ 28-1

TB/CT-REG. NO. B2038

2. How many telephone sets do you use at this location?

NO. OF SETS: _____
(PLEASE SPECIFY)

29/31

3. How many lines (i.e: different telephone numbers) do you have at this location?

NO. OF DIFFERENT LINES: _____
(PLEASE SPECIFY)

32/34

4. How many of these lines are:

PRIVATE LINES: _____
(PLEASE SPECIFY)

35/37

TWO PARTY LINES: _____
(PLEASE SPECIFY)

38/40

FOUR PARTY LINES: _____
(PLEASE SPECIFY)

41/43

MULTIPARTY LINES: _____
(PLEASE SPECIFY)

44/46

5. What type of line is the line or number you consider to be your main business line. Is it a..... (CHECK ONE BOX BELOW)

PRIVATE LINE ☐

47-

TWO PARTY LINE ☐

FOUR PARTY LINE ☐

MULTIPARTY LINE ☐

6. What is the telephone mainly used for in your business? (PLEASE BE AS SPECIFIC AS POSSIBLE)

1. _____ 48-

_____ 49-

2. _____ 50-

_____ 51-

3. _____ 52-

_____ 53-

4. _____ 54-

_____ 55-

5. _____ 56-

_____ 57-

SECTION B (continued)

7-a) Do you make use of a computerized service or data bank that is remote from this location?

YES ☐

58-

NO ☐ GO TO Q.8

7-b) Is this service accessed by a data terminal at this location?

YES ☐

59-

NO ☐

8. Is your organization planning to make regular use of a computerized service or data bank at this location within the next three years?

YES ☐

60-

NO ☐

DON'T KNOW . ☐

9. Do you subscribe to any teletype equipment such as Telex or TWX?

YES ☐ GO TO Q.11

61-

NO ☐

10. Is your organization planning to make regular use of teletype equipment at this location within the next three years?

YES ☐

62-

NO ☐

DON'T KNOW . ☐



11. How important to your organization at this location are the following characteristics of the telephone service?

(READ AND ANSWER FOR EACH STATEMENT -a) THROUGH -m) BELOW)

	<u>EXTREMELY</u> <u>IMPORTANT</u>	<u>IMPORTANT</u>	<u>NOT VERY</u> <u>IMPORTANT</u>	<u>NOT</u> <u>IMPORTANT</u> <u>AT ALL</u>	
a) Speed of repair service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	63-
b) Reliability of service, i.e. few breakdowns?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	64-
c) Speed of installation service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	65-
d) Operator service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	66-
e) Number of parties on your line?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	67-
f) Size of area within which you can call free, i.e. without long distance charges?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	68-
g) Ability to call free of charge, essential services such as police, hospital etc...?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	69-
h) Overall clarity of communication? ...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	70-
i) Billing service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	71-
j) Basic monthly charge (not including long distance calls)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	72-
k) Cost of long distance calls?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	73-
l) Cost of installation service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	74-
m) Availability of line when you want it?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	75-

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SECTION B (continued)

12. How satisfied is your organization at this location with each of the following aspects of the telephone service?

(READ AND ANSWER FOR EACH STATEMENT -a) THROUGH -n) BELOW)

	VERY SATISFIED	SATISFIED	DISSATISFIED	VERY DISSATISFIED	
a) Speed of repair service? .. <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10-
b) Reliability of service, i.e. few breakdowns? <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11-
c) Speed of installation service? <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12-
d) Operator service? <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	13-
e) Number of parties on your line? <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	14-
f) Size of area within which you can call free, i.e. without long distance charges? <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15-
g) Ability to call, free of charge, essential services such as police, hospital, etc...? <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16-
h) Overall clarity of communication <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17-
i) Billing service? <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	18-
j) Basic monthly charge (not including long distance calls)? <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	19-
k) Cost of long distance calls? <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	20-
l) Cost of installation service? <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	21-
m) Availability of line when you want it? <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	22-
n) Your telephone service in general? <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	23-



13 What is the name of the telephone company serving you at this location?

NAME OF TELEPHONE CO.: _____
(PLEASE SPECIFY)

24
25-

14-a) Could you please check your last telephone bill and enter the appropriate amounts below. Use the box (i.e. "including tax" or "excluding tax").

26/28
29/31
32/34

	including tax	OR	excluding tax
Basic monthly charge	\$ _____		\$ _____
Long distance charges	\$ _____		\$ _____
Other charges	\$ _____		\$ _____
TOTAL AMOUNT	\$ _____		\$ _____

35/38
39/42
43/46

-b) Could you please check your records and write in the total amount paid for your telephone service in 1980 or your last fiscal year?

Total telephone charge for 1980 or last fiscal year \$ _____

47/51

15. Recent breakthroughs in telephone technology make it possible to offer you a telephone service comparable to that available in large cities; that is, anyone could get a private line and enjoy a large free calling area (that is, people in surrounding communities and essential services could be called without long distance charges).

Subscribing to this new telephone service would give you:

- 1) A PRIVATE LINE
- 2) A LARGER FREE CALLING AREA (So that people in surrounding communities and essential services could be called without long distance charges.)

YOUR CHOICE: Suppose that this new improved telephone service is available to you as early as next month and that the basic monthly charge (that is not including long distance) is 100% higher than the one your organization pays now. How likely is your organization at this location to subscribe to this new service within the next twelve months?

(PLEASE INDICATE YOUR ANSWER BY CHECKING THE APPROPRIATE BOX ON THE SCALE BELOW. YOU CAN CHOOSE ANY BOX ON THE SCALE DEPENDING ON WHAT YOU THINK YOUR ORGANIZATION WOULD DO.)

Certain or almost certain (9 or 10 chances in 10) .. ☐

52-

Good possibility (7 or 8 chances in 10) ☐

Fairly good possibility (4, 5 or 6 chances in 10) .. ☐

Fair possibility (2 or 3 chances in 10) ☐

No chance or almost no chance

(0 or 1 chance in 10) ☐

BIN B2038

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SECTION C

THE FOLLOWING SECTION DEALS WITH MOBILE RADIO.

Mobile Radio Systems consist of portable radios, either hand held or mounted in a vehicle such as a truck, boat, or aircraft, which are capable of communicating with each other or with a fixed base station over a distance of a few miles or more.

The following is a list of ways mobile radio service is commonly provided. Please read the list and indicate at the bottom of the page which type of services (if any) you use, and whether your application is on land, water, or in the air.

GENERAL RADIO SERVICE (GRS): GRS is commonly known as CB (Citizen's Band). In Canada 40 channels are available to be shared by all users for personal or private business purposes. Normally the users buy their own mobile and base station equipment.

PRIVATE COMMERCIAL SERVICE: A system licensed to carry the private communications of an individual or company. It usually consists of one or more mobile units and radio base stations owned by the user, which operate on a specific channel or channels in the mobile radio band.

GENERAL MOBILE SERVICE: Also known as: Mobile Telephone Service, Public Mobile Service, General Land Mobile Radio Service. A commercial service provided by telephone companies as an extension of their normal service. It consists of a radio telephone installed in a vehicle which can operate on one or more channels in a specific area. Calls to normal telephone subscribers or to other mobiles are usually placed with the assistance of the mobile operator, although in some areas calls can be placed and received automatically.

RESTRICTED COMMON CARRIER MOBILE RADIO SERVICE (RCCMRS): Also known as: Direct Dispatch Service, Community Repeater Service or Shared Frequency Service. In this service a repeater is used to provide coverage over a wide area for low power mobile units. Users pay a monthly fee for the use of the repeater to the company providing the service. They may either own or lease the mobile and fixed station equipment they use.

PAGING: Public Commercial Paging Service, or Private Commercial Paging Service. Radio Paging is a service which provides one-way transmission of an alerting signal to a portable pocket receiver. There are two basic types of pocket receivers available: tone only which alerts users with a beep, or tone plus voice message which alerts users with a beep and sends a short message which has been recorded into the system by the caller.

16. WHICH OF THE ABOVE SERVICES DOES YOUR ORGANIZATION USE AT THIS LOCATION?(CHECK ANSWERS BELOW).

	APPLICATION			
	Land	Water	Air	
GRS (CB)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	53-
PRIVATE COMMERCIAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	54-
GENERAL MOBILE SERVICE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	55-
RCCMRS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	56-
PAGING (PUBLIC AND PRIVATE COMMERC.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	57-
OTHER (SPECIFY)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	58-
DO NOT USE ANY OF THESE SERVICES	<input type="checkbox"/> GO TO Q.19			59-1

60/75

BIN B2038

SECTION C (Continued)

- 17-a) In each of the categories below please specify the number of mobile units your organization employs (WRITE IN BELOW UNDER COLUMN HEADED -a))
- b) Do you own or rent this equipment? (SPECIFY BELOW FOR EACH CATEGORY UNDER COLUMN HEADED -b))
- c) If the equipment is owned, what was the total purchase cost? (SPECIFY BELOW FOR EACH CATEGORY UNDER COLUMN HEADED -c))
- d) If the equipment is rented, what is the monthly rental cost? (SPECIFY BELOW FOR EACH CATEGORY UNDER COLUMN HEADED -d))

	-a) TOTAL NO.	-b) OWN RENT	-c) TOTAL PURCHASE COST	-d) MONTHLY RENTAL COST
GRS (CB)	_____	<input type="checkbox"/> ... <input type="checkbox"/>	\$ _____	\$ _____
Private Commercial	_____	<input type="checkbox"/> ... <input type="checkbox"/>	\$ _____	\$ _____
General Mobile Service ..	_____	<input type="checkbox"/> ... <input type="checkbox"/>	\$ _____	\$ _____
RCCMRS	_____	<input type="checkbox"/> ... <input type="checkbox"/>	\$ _____	\$ _____
Paging (Public and Private Commercial)	_____	<input type="checkbox"/> ... <input type="checkbox"/>	\$ _____	\$ _____
Other (Please specify): _____ ..	_____	<input type="checkbox"/> ... <input type="checkbox"/>	\$ _____	\$ _____

10/11	24	31/34	55/58
12/13	25	35/38	59/62
14/15	26	39/42	63/66
16/17	27	43/46	67/70
18/19	28	47/50	71/74
20/21	29	51/54	75/78
22/23	30		

18. What is the main usage of each of the categories of mobile radio service your organization employs? (READ USAGES BELOW AND CHECK ONLY ONE BOX FOR EACH CATEGORY TO WHICH IT APPLIES)

	GRS (CB)	Private Com- mercial	General Mobile Service	RCCMRS	Other	
Communication between fixed base stations	<input type="checkbox"/>	... <input type="checkbox"/>	... <input type="checkbox"/>	... <input type="checkbox"/>	... <input type="checkbox"/>	10-
Communication between a fixed base station(s) and vehicle(s)	<input type="checkbox"/>	... <input type="checkbox"/>	... <input type="checkbox"/>	... <input type="checkbox"/>	... <input type="checkbox"/>	11-
Communication between vehicles	<input type="checkbox"/>	... <input type="checkbox"/>	... <input type="checkbox"/>	... <input type="checkbox"/>	... <input type="checkbox"/>	12-
EQUIPMENT OWNED OR RENTED BUT NOT CURRENTLY USED	<input type="checkbox"/>	... <input type="checkbox"/>	... <input type="checkbox"/>	... <input type="checkbox"/>	... <input type="checkbox"/>	13-

GO TO QUESTION 21

19. (FOR THOSE WHO DO NOT HAVE ANY MOBILE RADIO EQUIPMENT)

Is your organization planning to make regular use of some sort of mobile radio equipment at this location within the next three years?

YES ☐

14-

NO ☐

DON'T KNOW ... ☐

20. Why do you not use mobile radio equipment in your organization at this location? (PLEASE BE AS SPECIFIC AS POSSIBLE)

_____	15-
_____	16-
_____	17-
_____	18-
_____	19-
_____	20-

21. A recent technology makes it possible to replace your present telephone service with a service which combines telephone and mobile radio benefits. In other words, the new service can be used either as a mobile 2-way radio or as a portable telephone. To get this new service, one set of new equipment would be needed for each mobile telephone you require.

Buying the special equipment to replace your present telephone set would give you:

- 1) A SERVICE EQUIVALENT TO A PRIVATE LINE TELEPHONE SERVICE
- 2) A TELEPHONE WHICH CAN BE USED IN A NUMBER OF PLACES, FOR INSTANCE AT YOUR PLACE OF BUSINESS OR YOUR CAR
- 3) BASIC MONTHLY RATE OF \$10 PER MONTH
- 4) THE SAME LONG DISTANCE RATES

YOUR CHOICE: Suppose that this new combined radio/mobile telephone equipment is available to you as early as next month and costs \$500. How likely is your organization at this location to buy this new equipment within the next twelve months?

(PLEASE INDICATE YOUR ANSWER BY CHECKING THE APPROPRIATE BOX ON THE SCALE BELOW. YOU CAN CHOOSE ANY BOX ON THE SCALE DEPENDING ON WHAT YOU THINK YOUR ORGANIZATION WOULD DO)

- Certain or almost certain (9 or 10 chances in 10) .. ☐
- Good possibility (7 or 8 chances in 10) ☐
- Fairly good possibility (4, 5 or 6 chances in 10) .. ☐
- Fair possibility (2 or 3 chances in 10) ☐
- No chance or almost no chance (0 or 1 chance in 10) ☐

21-

BIN B2038

SECTION C (Continued)

IF YOU DO NOT USE ANY MOBILE RADIO EQUIPMENT GO TO Q.28

22. Overall, which type of mobile radio service is most important to your organization at this location? (SEE DEFINITIONS PROVIDED EARLIER ON PAGE 7 IF NECESSARY, CHECK ONLY ONE PLEASE.)

GRS (CB) ☐ 22-
Private Commercial ☐
General Mobile Service ☐
RCCMRS ☐
Paging ☐
Other (please specify): _____

23. How long have you had the mobile radio service mentioned above (i.e. in Q. 22) as being most important? 23-
24-
25-

NO. OF MONTHS: _____
(SPECIFY)

NO. OF YEARS: _____
(SPECIFY)

23-
24-
25-
26-
27-

24. How important to you are the following characteristics of the equipment you specified as most important to your organization in Q.22? (CHECK ONE BOX FOR EACH STATEMENT BELOW)

	EXTREMELY IMPORTANT	IMPOR- TANT	NOT VERY IMP.	NOT IMPORTANT AT ALL	
a) Range (maximum distance with satisfactory communication)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	28-
b) Quality of reception when there is no "skip" ..	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	29-
c) Ease of getting a channel when needed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	30-
d) Cost of buying equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	31-
e) Privacy of communication/conversation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	32-
f) Connection to the telephone network	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	33-

BIN B2038

SECTION C (Continued)

25. Is your frequency of making calls on the equipment you specified at Q.22 increasing or decreasing?

Increasing ☐

34-

Decreasing ☐

About the same .. ☐

26 -a) Do you plan to change your system within the next three years?

YES..... ☐

35-

NO..... ☐ GO TO Q.27

-b) How do you plan to change your system? (CHECK ONE BELOW)

36-

MORE UNITS/SETS ... ☐

How many?
_____ units

DIFFERENT SYSTEM ... ☐

Could you specify the type?

37/38-

39-

40-

27. How satisfied are you with the equipment you specified as most important to your organization at Q.22? (CHECK ONE BOX FOR EACH STATEMENT BELOW)

VERY
SATISFIED

SATISFIED

DIS-
SATISFIED

VERY DIS-
SATISFIED

- a) Range (maximum distance with satisfactory communication) ☐ ☐ ☐ ☐ 41-
- b) Cost of service relative to benefits derived ☐ ☐ ☐ ☐ 42-
- c) Quality of reception when there is no "skip" ☐ ☐ ☐ ☐ 43-
- d) Ease of getting a channel when needed ☐ ☐ ☐ ☐ 44-
- e) Cost of buying equipment ☐ ☐ ☐ ☐ 45-
- f) Privacy of communication/conversation ☐ ☐ ☐ ☐ 46-
- g) This unit's overall service ☐ ☐ ☐ ☐ 47-

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SECTION D

28. How far from this location is ... (READ BELOW)

The nearest bank: _____ Miles 48/50
(SPECIFY)

The nearest city: _____ Miles 51/53
(SPECIFY)

29. What is the main activity of this organization at this location? (PLEASE BE AS SPECIFIC AS POSSIBLE)

_____ 54-
_____ 55-

30-a) What is the estimated number of full-time (i.e. 30 or more hours per week) employees at this location when the organization is in "full" operation? _____ employees 56-
57-
58-
59-

-b) What is the estimated number of full-time (i.e. 30 or more hours per week) employees at this location when the organization is in a period of low activity? _____ employees 60-
61-

-c) On average, how many full-time employees are employed in your organization, including all locations in Canada? 62-
63-

No. of full-time employees in Canada: _____ (SPECIFY) 64-
65-
66-
67-
68-

-d) What was last year's total gross revenue at this location? 69-
70-
Total gross revenue at this location: \$ _____ (SPECIFY) 71-
72-
73-

NOT APPLICABLE ☐ GO TO Q.31

-e) What was last year's total gross revenue for your organization including all locations in Canada? ☐ 8-5

Total gross revenue: \$ _____ (SPECIFY) ☐ 9-
10-
11-

NOT APPLICABLE, ONE LOCATION ONLY ☐

12-
13-
14-
15-
16-
17-

BIN B2038

SECTION D (Continued)

31. How many separate (that is, at least $\frac{1}{4}$ mile from any other location or office) locations or offices does this organization operate?

No. of separate locations or offices: _____

(SPECIFY)

18-

19-

32. What is your present position within this organization?

20-

21-

Thank you very much for your cooperation.

OFFICE USE ONLY	
ENG.	22-1
FR	2

BIN B2038





BOURGEOIS, JACQUES C.
-- An analysis of the
business demand for
improved telecommuni-
cation...

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DATE DUE
DATE DE RETOUR

NOV 8 1983

DEC 28 1983

MAR 13 1984

9 AUG
AOUT 1984

FEB 21 1989

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