ANALYSIS OF THE RESIDENTIAL DEMAND FOR
IMPROVED $\frac{C B / M O B I L E ~ R A D I O ~ S E R V I C E S ~}{\text { IN }}$ RURAL CANADA

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(March, 1982)

TITLE: AN ANALYSIS OF THE DEMAND FOR IMPROVED CB/MOBILE RADIO SERVICES IN RURAL CANADA
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ISSUED BY CONTRACTOR AS REPORT NO: 8101002
CONTRACTOR: DEMAND Research Consultants Inc.


DEPARTMENT OF SUPPLY AND SERVICES CONTRACT NO: 06ST.36001-0-3271

DOC SCIENTIFIC AUTHORITY: Keith Richardson

CLASSIFICATION; Unclassified

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DATE:March, 1982


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## EXECUTIVE SUMMARY OF FINDINGS

This report is one of three which analyse the results of a survey of 2,667 rural households. These households were selected to represent a statistically valid sample of the more than l.4 million rural households in Canada. In this volumel we analyse a number of aspects of residential CB/GRS ${ }^{2}$ and mobile radio ${ }^{3}$ services to determine the underlying concerns of rural households and forecast what services they require in the short and long term.

Results are presented for the five regions of Canada (Atlantic, Quebec, Ontario, Prairie, British Columbia). National results are also shown for households in "small" communities (less than 1000 residents) and "large" communities (1000 - 2499 residents). Some key findings are:

1 Companion reports are concerned with rural residential demand for telephone and television services.

2 The survey questionnaire was couched in terms of "CB" most easily recognizable by respondents.

3 "Mobile radio" is a blanket category which covers many different kinds of service (e.g. mobile telephone); the survey sample was too small to differentiate this category.

- approximately five percent (5.1\%) of the rural households in Canada own mobile radio equipment and roughly three times as many (14.7\%) own CB/GRS equipment (noting that $3.9 \%$ own both).
- of those respondents who own both $C B / G R S$ and mobile radio equipment, over half (51.2\%) consider $C B$ to be the most important.
- Canadian rural households which own CB/GRS equipment tend to:
- be more physically isolated
- be more educated
- have more household nembers
- be younger
- have a higher household income
- Consider their way of life to be rural
- have lived in their present home for a shorter period of time
- be less satisfied with their overall telephone service
- not be retired
- be labourers or farmers
- be married
- speak English most often at home
- similarly, respondents in rural Canada who own mobile radio equipment were found to:
- have more people in their home
- be younger
- have a higher household income
- consider their way of life rural
- have lived in their present home for a shorter period of time not be retired
- be skilled labourers or executives - speak English most often at home
- mobile radio owners differed from CB/GRS owners on only two characteristics - language and occupation:
- mobile radio owners are relatively more likely to speak English most often at home
- a smaller proportion of mobile radio owners are farmers, while relatively more are homemakers and executives.
- in Canada, "business" received the highest average score as the basic motivation for using both CB/GRS and mobile radios. "Emergencies" and "fun/hobby" were the second and third most important underlying motives.
- the motivational patterns of both $C B / G R S$ and mobile radio owners were found to be similar.
- in rural Canada, "roads and public transportation" was the service which was most strongly thought to require improvement.
- according to the average national rating for each of twelve public services, television ranked second, telephone fourth, and radio broadcasting and $C B / m o b i l e$ radio eleventh and twelfth respectively.
- with regard to the relative intensity of need for improvement to telecommunication services in Canada, the four services rank in the same order as when compared to the other services (i.e. television first, telephone second, radio third, and $C B / m o b i l e ~ r a d i o$ fourth).
at the national level, as the intensity of need for improvement in $C B / G R S$ and mobile radio services increase, so does the likelihood that respondents:
- will own CB/GRS and/or mobile radio equipment
- use their equipment for convenience
- have a higher household income
- be farmers or executives
- speak French most often at home (although the majority speak English)
- with regard to a new combined telephone and mobile radio service, it was found that approximately $15 \%$ to $20 \%$ of the respondents in rural Canada would be interested in this service within the first year of the service being offered. Although the proportion of households remains fairly consistent across regions and community sizes, the sensitivity of demand to price varies between regions.
- those respondents who are more likely to buy, within a year, the new equipment necessary for the combined


#### Abstract

telephone - mobile radio service at each of three different prices $(\$ 300, \$ 500, \$ 700)$, are profiled in terms of various household characteristics (at the national level only).


long term demand was also forecasted for the combined telephone - mobile radio service. The forecast indicated that approximately half (or 222,900 households if the price is $\$ 300$ ), of the "potential market" would purchase the necessary equipment within three years. For this service, market saturation would occur after approximately nine years.

### 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 residential 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 Programl; its raison d'etre 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).

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## - 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 $\quad$..i 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."l

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 residential mobile radio services. Results dealing with residential television service, residential telephone service and business telephone and mobile radio services can be found in companion reports. $2,3,4$

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

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 Telephone Services in Rural Canada", DEMAND Research Consultants Inc., Ottawa, (March, l982).

Bourgeois, J.C., and Camprieu, R. (de), "An Analysis of the Business Demand for Improved Telecommunication 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,
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 analyse the needs of rural households for mobile radio service and to forecast their demand for a mobile telephone service. Specific, actionable objectives have been defined as follows:

### 1.2.1 Objectives of Need Analysis

Within the context of the present research, the concept of need can be approached from several perspectives.l Five specific objectives, each focussing on one aspect of need, have been retained:

- Survey the current usage pattern and cost of mobile radio service. The information will indicate how rural people currently attempt to satisfy their need for communication with respect to that medium.
- Identify the motivations underlying the current usage (or non-usage) of mobile radio service. This will suggest why rural people use (or do not use) this service.
- Estimate the degree of satisfaction with the various aspects of their current mobile radio service. This will indicate how rural people perceive the adequacy of their current service.

1 Camprieu, R. (de), and Bourgeois, J.C., "Demand for Rural Communication Services in Canada: Focus Groups and Research Instruments", University of Ottawa, Ot tawa, (December 1979), pp. 48-50.

- Estimate the strength of the need for improvement in mobile rađio service relative to:
a) other public services
b) other telecommunication services

This will reveal the relative priority given by rural people to programs aiming at improving mobile radio service.

### 1.2.2 Objectives of Demand Forecasting

- Estimate "short-term" (one year time horizon) demand for a mobile telephone (a service combining telephone and mobile radio benefits)
- Estimate "long-term" demand for this mobile telephone service.


### 1.2.3 Extent of Analysis

Need analyses and demand forecasts will be conducted at both the national and regional levels (Atlantic, Quebec, Ontario, Prairies, British Columbia) and will be stratified in terms of community size (less than 1,000 population versus 1,000 to 2,499 population).

The survey also covers demographic and socio-economic information; it can be used to identify "who needs and demands what". However, this aspect of the 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 more detail in Appendix A.

The data required to answer the research questions underlying the objectives was collected through 2,667 personal interviews conducted among a sample of rural households representative of the five Canadian regions: Atlantic, Quebec, Ontario, Prairies and British Columbia.

Richardson and Brown's definition of "rural" was used in this researchl; it is based on census Enumeration Areas (EA). An EA was classified as rural if it had an overall population density between 0.8 and 999 persons/sq. mile (1976 Census) and lay outside the boundary of communities of 2,500 or more people. EA's located on Indian reservations and EA's with no private households were excluded2.

The questionnaire reproduced in Appendix $B$ was administered to either (random selection) the male or female head of the household. Only households which could be identified as primary residences were considered. The sampling plan was expected to give estimates at the regional level with an accuracy of $+5 \%$ at the $95 \%$ level of confidence. When national estimates are involved, the five Canadian regions were weighted by their respective rural population base according to the 1976 Census figures.

The need and forecasting models underlying the development of the questionnaire are discussed in Appendix A.

1 Richardson, Keith and Steve Brown: "Regional Demographic Studies for the Rural Communications Program - Summary Report and Analysis", Department of Communications, Ottawa, (November 1978).

2 Brown, Steve and Keith Richardson: "Sampling Frame for the Rural Residential and Business Demand Surveys", Department of Communications, Ottawa, (May 1981).

## II．ANALYSIS OF RESULTS

## 2．1 Services Currently Used

## 2．1．1 Proportion of Households Owning CB／GRS and／or Mobile Radio Equipmentl

In rural Canada，less than twenty percent（15．8\％） of the households own CB／General Radio Service（GRS） and／or mobile radio equipment．In fact，just under fifteen percent（14．7\％）of the respondents own CB／GRS equipment，and roughly one third as many（5．1\％）own modile radio equipment．There is a significant2 relationship between ownership of this type of equipment and regional location．For example，while less than ten percent（8．7\％）of the rural households in the Quebec region own CB／GRS and／or mobile radio equipment，this percentage almost triples（22．2\％）in the Prairie region（see Table l）．More specifically， in terms of just $C B / G R S$ equipment owners，over three times as many households in the Prairies as in Quebec own only this type of equipment（17．9\％versus 5．5\％）． With regard to owners of only mobile radio equipment，

1 Based upon responses to questions 24,25 and 26.
2 All measures of association are deemed statistically significant if they reach the $5.0 \%$ level of significance or less．

TABLE 1

OWNERSHIP OF CB/GRS AND MOBILE RADIO EQUIPMENT

Region

|  | Atlantic | Quebec | Ontario | Prairies | B.C. | National |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| CB/GRS Equipment | $\begin{aligned} & 10.2 \% \\ & (56) \end{aligned}$ | $\begin{aligned} & 5.5 \% \\ & (32) \end{aligned}$ | $\begin{aligned} & 10.38 \\ & (52) \end{aligned}$ | $\begin{aligned} & 17.98 \\ & (98) \end{aligned}$ | $\begin{aligned} & 11.2 \% \\ & (53) \end{aligned}$ | ${ }_{(20.8 \%}^{(221)}$ |


| Mobile Radio Equipment | $\begin{aligned} & 0.9 \\ & (5) \end{aligned}$ | $\begin{aligned} & 0.3 \\ & (2) \end{aligned}$ | $\begin{aligned} & 1.0 \\ & (5) \end{aligned}$ | $\begin{aligned} & 1.1 \\ & (6) \end{aligned}$ | $\begin{array}{r} 4.8 \\ (23) \end{array}$ | $\begin{gathered} 1.2 \\ (24) \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Both | $\begin{array}{r} 3.6 \\ (20) \end{array}$ | $\begin{array}{r} 2.9 \\ (17) \end{array}$ | $\begin{aligned} & 5.3 \\ & (27) \end{aligned}$ | $\begin{array}{r} 3.3 \\ (18 .) \end{array}$ | $\begin{gathered} 4.4 \\ (21) \end{gathered}$ | $\begin{array}{r} 3.9 \\ (79) \end{array}$ |
| Neither | $\begin{array}{r} 85.3 \\ (470) \end{array}$ | $\begin{array}{r} 91.3 \\ (534) \end{array}$ | $\begin{gathered} 83.4 \\ (423) \end{gathered}$ | $\begin{array}{r} 77.8 \\ (427) \end{array}$ | $\begin{array}{r} 79.6 \\ (378) \end{array}$ | $\begin{array}{r} 84.2 \\ (1722) \end{array}$ |
| Total | $\begin{aligned} & 100.0 \\ & (551) \end{aligned}$ | $\begin{aligned} & 100.0 \\ & (585) \end{aligned}$ | $\begin{aligned} & 100.0 \\ & (507) \end{aligned}$ | $\begin{aligned} & 100.0 \\ & (549) \end{aligned}$ | $\begin{aligned} & 100.0 \\ & (475) \end{aligned}$ | $\begin{aligned} & 100.0 \\ & (2047) \end{aligned}$ |

Note: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of households. As the sample was weighted for the national analysis, in order to correct for disproportionate regional sampling, the national and regional analyses are based on different sample sizes (see Section A.5.3 for more details).
in most regions at most one percent of the respondents have just mobile equipment while in British Columbia almost five percent (4.8\%) have this type of equipment.

There is no significant relationship between ownership of $C B / G R S$ and/or mobile radio equipment, and community size (see Table 2).

Examining respondents' perceptions of whether CB/GRS or mobile radio equipment is more important to their household, it is apparent that just over half (51.2\%) of Canadian rural households who own both types of equipment, consider CB/GRS equipment to be the most important. Although there is a significant relationship between regional location and the relative importance of each type of equipment,l the relationship between community size and the relative importance was not significant (see Tables 3 and 4).

### 2.1.2 Profiling CB and Mobile Radio Owners Against Non-Owners

In order to profile owners of $C B / G R S$ equipment and owners of mobile radio equipment against non-owners,

1 It would be misleading to draw conclusions from the regional data because of the small number of respondents in each region who have both types of equipment.

TABLE 2

OWNERSHIP OF CB/GRS AND MOBILE RADIO EQUIPMENT

Size of Community
less than 1,000
1,000 to 2,499
National

| CB/GRS Equipment | $\begin{aligned} & 11.0 \% \\ & (197) \end{aligned}$ | $\begin{gathered} 9.68 \\ (26) \end{gathered}$ | $\begin{gathered} 10.8 \% \\ (221) \end{gathered}$ |
| :---: | :---: | :---: | :---: |
| Mobile Radio Equipment | $\left(\begin{array}{l} 1.2 \\ (22) \end{array}\right.$ | $\begin{aligned} & 0.9 \\ & (2) \end{aligned}$ | $\begin{aligned} & 1.2 \\ & (24) \end{aligned}$ |
| Both | $\begin{array}{r} 4.1 \\ (73) \end{array}$ | $\begin{aligned} & 2.2 \\ & (6) \end{aligned}$ | $\begin{array}{r} 3.9 \\ (79) \end{array}$ |
| Neither | $\begin{array}{r} 83.7 \\ (1495) \end{array}$ | $\begin{array}{r} 87.3 \\ (236) \end{array}$ | $\begin{array}{r} 84.2 \\ (1722) \end{array}$ |
| TOTAL | $\begin{aligned} & 100.0 \\ & (1787) \end{aligned}$ | $\begin{aligned} & 100.0 \\ & (270) \end{aligned}$ | $\begin{array}{r} 100.0 \\ (2047) \end{array}$ |

Note: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of households. As the sample was weighted for the national analysis, in order to correct for disproportionate regional sampling, the national and community size analyses are based on different sample sizes (see Section A.5.3 for more details).

MOST IMPORTANT EQUIPMENT FOR HOUSEHOLDS WITH BOTH CB/GRS AND MOBILE RADIO

Region
Atlantic Quebec Ontario Prairies B.C. National

| CB/GRS | $55.0 \%$ $57.1 \%$ <br> $(11)$ $(8)$ | 65.48 | $17.7 \%$ | 47.18 | $51.2 \%$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $(17)$ | $(3)$ | $(8)$ | $(37)$ |  |


| Mobile Radio | $\begin{array}{r} 45.0 \\ (9) \end{array}$ | $\begin{array}{r} 42.9 \\ (6) \end{array}$ | $\begin{gathered} 19.2 \\ (5) \end{gathered}$ | $\begin{gathered} 41.2 \\ (7) \end{gathered}$ | $\begin{array}{r} 52.9 \\ (9) \end{array}$ | $\begin{aligned} & 35.3 \\ & (26) \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Both Equally | $\begin{aligned} & 0.0 \\ & (0) \end{aligned}$ | $\begin{aligned} & 0.0 \\ & (0) \end{aligned}$ | $\begin{gathered} 15.4 \\ (4) \end{gathered}$ | $\frac{41.2}{(7)}$ | $\begin{aligned} & 0.0 \\ & (0) \end{aligned}$ | $\begin{aligned} & 13.5 \\ & (10) \end{aligned}$ |
| TOTAL | $\begin{array}{r} 100.0 \\ (20) \end{array}$ | $\begin{array}{r} 100.0 \\ (14) \end{array}$ | $\begin{array}{r} 100.0 \\ (26) \end{array}$ | $\begin{array}{r} 100.0 \\ (17) \end{array}$ | $\begin{array}{r} 100.0 \\ (17) \end{array}$ | $\begin{array}{r} 100.0 \\ (73) \end{array}$ |

Note: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of households. As the sample was weighted for the national analysis, in order to correct for disproportionate regional sampling, the national and regional analyses are based on different sample sizes (see Section A.5.3 for more details).

TABLE 4

## MOST IMPORTANT EQOIPMENT FOR HOUSEHOLDS WITH BOTH CB/GRS AND MOBILE RADIO

## Size of Community

less than 1,000
1,000 to 2,499
National

CB/GRS
53.2\%
26.5\%
$51.2 \%$
(36)
(2)
(37)

| Mobile Radio | $\begin{aligned} & 34.8 \\ & (23) \end{aligned}$ | $\begin{gathered} 42.9 \\ (3) \end{gathered}$ | $\begin{aligned} & 35.3 \\ & (26) \end{aligned}$ |
| :---: | :---: | :---: | :---: |
| Both Equally | $\begin{array}{r} 12.0 \\ (8) \end{array}$ | $\begin{gathered} 30.6 \\ (2) \end{gathered}$ | $\begin{aligned} & 13.5 \\ & (10) \end{aligned}$ |
| TOTAL | $\begin{array}{r} 100.0 \\ (67) \end{array}$ | $\begin{array}{r} 100.0 \\ (6) \end{array}$ | $\begin{array}{r} 100.0 \\ (73) \end{array}$ |

Note: The upper figure refers to the percentage of the column total and the lower figure (in parenthesis) to the actual number of households. As the sample was weighted for the national analysis, in order to correct for disproportionate regional sampling, the national and community size analyses are based on different sample sizes (see Section A.5.3 for more details).
the groups were compared across a series of household characteristics. In this manner, any significant differences between owners and non-owners could be identified.l

The results of this analysis at the national level indicate that respondents who own CB/GRS equipment tend to:

- be more physically isolated. For example, while over half (53.5\%) of those who own CB equipment are more isolated than the national average, this is true for only $38.0 \%$ of the "non-owners".
- be more educated.
- have more household members. Relatively more of these respondents have at least five people in their home (31.5\% vs 21.7\%).
be younger. A larger proportion of these respondents are under 35 years of age (38.5\% vs $28.9 \%$ ).
- have a higher household income. Comparatively more of the respondents who own CB's, than those who don't, earn at least $\$ 25,000$ a year (36.4\% vs 19.6\%).
consider their way of life to be rural.
have lived in their present home for a shorter period of time. A larger proportion of CB/GRS owners, than non-owners, have lived in their home less than six years (40.4\% vs $36.8 \%$ ).

1 In view of the small number of households, at the regional and large community level, which own mobile equipment, the analysis comparing mobile radio owners and non-owners will only be discussed at the national level.

- be less satisfied with their overall telephone service. Relatively more of these respondents are dissatisfied with the telephone service in general (19.3\% vs 13.4\%).
not be retired. A smaller percentage of CB/GRS owners, than of non-owners, are retired (2.4\% vs 13.9\%).
be labourers or farmers. Relatively more of these respondents are skilled labourers (20.1\% vs 14.7\%), unskilled labourers (10.7\% vs 6.8\%), or farmers (13.08 vs 10.08 ).
- be married. In relative terms, more of the CB/GRS owners are married (91.2\% vs 84.6\%).
speak English most often at home. Comparatively more of those who own CB/GRS equipment, than those who do not, speak English most often (82.6\% vs 67.2\%) .

Similarly, in rural Canada respondents who own mobile radio equipment were found to:

- have more people in their home. A smaller proportion of these respondents have only one or two household members (20.1\% vs $36.0 \%$ ).
- be younger. Relatively more of the respondents who own mobile radio equipment, than those who do not, are under 35 years of age (39.3\% vs 29.9\%).
have a higher household income. proportionately more of these respondents earn $\$ 25,000$ a year or more (30.7\% vs 21.7\%).
- consider their way of life rural.
- have lived in their present home for a shorter period of time.
- not be retired. A smaller proportion of mobile radio owners, than non-owners, are retired (4.2\% vs 12.6\%).
- be skilled labourers or executives. In relative terms, more of these respondents are skilled labourers ( $20.4 \%$ vs $15.2 \%$ ), or executives ( $9.1 \%$ vs 3.9\%) .
speak English most often at home. Comparatively more of those who own mobile equipment, than those who do not, speak English most often (81.8\% vs 68.8\%) .

In the Atlantic Region it was found that those respondents who presently own CB/GRS equipment are more likely to:

- be younger. While over half (56.6\%) of those who do not own CB/GRS equipment are over 44 years of age, this is true of only $37.3 \%$ of those who do own this equipment.
- have a higher household income. A larger proportion of "owners", than "non-owners", earn at least $\$ 25,000$ a year ( $23.5 \%$ vs $8.4 \%$ ).

Consider their way of life to be rural. Relatively more of these respondents consider their way of life "rural" (89.5\% vs 82.5\%).

- have lived in their present home for a shorter period of time.
- be married. Proportionately more of these respondents are married (90.8\% vs 83.2\%).

This analysis illustrates that in the Quebec Region respondents who are CB/GRS equipment owners are more likely to:

- have more household members. Less than half as many "owners" as "non-owners" have only one or two people in their home (14.3\% vs 31.7\%).
－be younger．Relatively more of the respondents who own $C B$ equipment，than those who do not，are under 35 years of age（ $44.9 \%$ vs $32.6 \%$ ）．
－have a higher household income．
－have lived in their present home for a shorter period of time．

Respondents in the Ontario Region who own CB／GRS equipment were found to：
－be more physically isolated．
consider their way of life＂rural＂．A larger proportion of the respndents who own $C B$ equipment， than those who do not，consider their way of life to be rural（ $88.6 \%$ vs $75.8 \%$ ）．
have fewer parties on their telephone line．In fact，the majority（68．9\％）of these respondents have a private line（compared to $49.1 \%$ of ＂non－owners＂）．
have lived in their home for a shorter period of time．Relatively more of the CB／GRS＂owners＂，than ＂non－owners＂，have lived in their present home less than 11 years（ $67.1 \%$ vs $56.9 \%$ ）．
－have more people in their home．A smaller proportion of the respondents who own CB equipment， than those who don＇t，have only one or two people in their home（12．7\％vs 40．4\％）．
be younger．Comparatively more of these respndents are under 35 years of age（40．5\％vs 31．6\％）．
have a higher household income．In relative terms， more＂owners＂than＂non－owners＂earn $\$ 25,000$ a year or more（39．1\％vs 20．9\％）．
be labourers or in sales．A larger proportion of these respondents are labourers（skilled： $27.9 \%$ vs 18．3\％，and unskilled： $11.4 \%$ vs $7.5 \%$ ），or are in sales（7．6\％vs l．6\％）．
speak English most often at home. In fact, all of these respondents speak English at home (compared to $90.9 \%$ for the "non-owners").

In the Prairie Region it was found that those respondents who presently own CB/GRS equipment are more likely to:
have more household members. A relatively larger percentage of respondents who own CB's, than those who don't, have five of more people in their home (29.3\% vs $18.5 \%$ ).
be more educated.

- be younger. Proportionately more of these respondents are under 35 years of age (37.9\% vs 24.8\%) .
have a higher household income. In relative terms, more of these respondents earn $\$ 25,000$ a year or more (44.4\% vs 29.0\%).
have lived in their present home for a shorter period of time.
be less satisfied with the telephone service in general. Relatively more "owners" than "non-owners" are dissatisfied with their current service (12.3\% vs 5.0\%).
have more parties on their telephone line. A larger proportion of these respondents have multi-party service ( $38.6 \%$ vs $32.3 \%$ ).
- be a farmer or labourer. Comparatively more of the respondents who own $C B$ equipment, than those who don't, are farmers (31.0\% vs 26.6\%), skilled labourers (ll.2\% vs 8.6\%) or unskilled labourers ( $6.0 \%$ vs $3.2 \%$ ).

This analysis illustrates that in the British Columbia Region respondents who are CB/GRS owners tend to:

- be more "tele-isolated". For example, a larger proportion of those who own CB's, than of those who don't, have to make long distance calls to reach at least three "essential services" (23.0\% vs 9.8\%).
- have more people in their home. Relatively more of these respondents have five or more people in their home (27.0\% vs 16.2\%).
- be younger.
- have a higher household income.
- have fewer parties on their telephone line.

The results of this analysis for small communities indicate that respondents who own CB/GRS equipment are more likely to:

- be more physically isolated. While over half (53.7\%) of the respondents who own CB equipment are more isolated than is the average for small communities, this is true for only $39.5 \%$ of those who do not own this equipment.
- have more household members. A smaller proportion of these respondents have only one or two people in their home (18.8\% vs $37.4 \%$ ).
- have more education.
be younger. Relatively more "owners" than "non-owners" are under 35 years of age (37.7\% vs 28.4\%) .
have a higher household income. Almost twice as many of these respondents have a household income of at least $\$ 25,000$ a year ( 36.98 vs 20.08 ).
- consider their way of life to be rural.
- have lived in their present home for a shorter period of time. Relatively fewer "owners" than "non-owners" have lived in their home more than ten years (38.9\% vs 47.6\%).
less satisfied with their overall telephone service.
- be labourers or farmers. A larger proportion of the respondents who own $C B$ equipment, than those who don't, are skilled labourers (18.6\% vs l4.1\%), unskilled labourers (10.6\% vs 6.3\%), or farmers (14.4\% vs $11.1 \%$ ).
not be retired. Relatively fewer of these respondents are farmers (2.7\% vs l3.3\%).
speak English most often at home. Proportionately more "owners" than "non-owners" speak English most often (82.9\% vs 68.5\%).

In large communities it was found that those respondents who presently own CB/GRS equipment are more likely to:
be more physically isolated. While the majority (71.38) of CB/GRS owners are more isolated than the average for large communities, this is the case for less than half (45.0\%) of "non-owners".
have more education.
be younger. A larger proportion of these respondents are under 35 years of age (46.1\% vs $32.6 \%$ ).
have a higher household income. Almost twice as many "owners" as "non-owners" earn at least $\$ 25,000$ a year (34.1\% vs 17.7\%).

- have lived in their present home for a shorter period of time.
- be less satisfied with their telephone service in general.


## 2.l.3 Profiling Mobile Radio Owners Against CB/GRS Owners

 An analysis was undertaken, at the national level onlyl, to evaluate the differences in household charactertistics between owners of $C B$ equipment, and owners of mobile radio equipment. The results indicated that $C B / G R S$ owners differed from mobile radio owners on only two characteristics: language and occupation. Mobile radio owners were found to be relatively more likely to speak English most often at home than were $C B / G R S$ owners ( $88.0 \%$ versus $83.6 \%$ ). In addition, a smaller proportion of mobile radio owners are farmers (9.8\% versus $14.4 \%$ ), while relatively more are homemakers2 (42.7\% versus $33.5 \%$ ) and executives (12.7\% versus 4.7\%).1 As only 1.28 ( 24 households) of the rural households in Canada own only mobile radio equipment, it would be misleading to evaluate any apparent differences between CB/GRS owners and mobile radio owners at the regional and community size levels.

2 While it may be surprising that "homemakers" own CB or mobile radio equipment, these findings are supported by the results of the focus groups. 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), pp. 45-47 and p. 80.

### 2.2 Motivations

### 2.2.1 Motivations for Using CB/GRS

In Canada, business received the highest average score as the basic motivation for using CB/GRS equipmentl. Emergencies were the second most important underlying motive, followed by "fun/hobby". Although business remains the primary motivation in each region, the rankings of the other five motives vary across Canada (see Table 5)2.

With regard to community size, while it may be noted that motivational patterns in small communities are essentially the same as the national, no conclusions may be made for large communities due to the small number of responses (see Table 6).

### 2.2.2 Motivations for Using Mobile Radio

Rural households in Canada who own mobile radio equipment indicated that their primary motivation for using the equipment was business. "Emergencies"

1 The question (i.e. question 27) used to gather this data was open-ended, that is, respondents were providing "top-of-mind" awareness.

2 It would be unwise to draw any conclusions regarding regional differences in view of the small number of mentions for each motivation across the regions.

TABLE 5

INDEXI FOR EACH MOTIVATION FOR USING CB/GRS EQUIPMENT

|  | Atlantic | Quebec | Region <br> Ontario | Prairies | B.C. | National |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Business | $\left(\begin{array}{l} 2.5 \\ (13) \end{array}\right.$ | $\begin{aligned} & 3.0 \\ & (7) \end{aligned}$ | $\begin{aligned} & 2.5 \\ & (13) \end{aligned}$ | $\begin{array}{r} 2.9 \\ (48) \end{array}$ | $\begin{array}{r} 2.9 \\ (10) \end{array}$ | $\left(\begin{array}{l} 2.77 \\ (72) \end{array}\right.$ |
| Emergencies | $\begin{array}{r} 2.4 \\ (23) \end{array}$ | $\begin{array}{r} 2.0 \\ (13) \end{array}$ | $\begin{array}{r} 2.5 \\ (41) \end{array}$ | $\begin{array}{r} 2.1 \\ (37) \end{array}$ | $\begin{array}{r} 2.5 \\ (24) \end{array}$ | $\begin{gathered} 2.32 \\ (109) \end{gathered}$ |
| Fun/Hobby | $\begin{array}{r} 2.4 \\ (22) \end{array}$ | $\begin{array}{r} 2.3 \\ (12) \end{array}$ | $\begin{array}{r} 2.3 \\ (24) \end{array}$ | $\begin{array}{r} 2.2 \\ (25) \end{array}$ | $\begin{array}{r} 1.9 \\ (15) \end{array}$ | $\begin{aligned} & 2.28 \\ & (76) \end{aligned}$ |
| Outdoor Sports | $\begin{aligned} & 2.5 \\ & (2) \end{aligned}$ | $\begin{aligned} & 2.3 \\ & (3) \end{aligned}$ | $\begin{aligned} & 2.0 \\ & (4) \end{aligned}$ | $\begin{aligned} & 1.0 \\ & (2) \end{aligned}$ | $\begin{aligned} & 2.4 \\ & (9) \end{aligned}$ | ${ }_{(13)}^{2.11}$ |
| Convenience | $\begin{array}{r} 2.1 \\ (19) \end{array}$ | $\begin{array}{r} 1.9 \\ (11) \end{array}$ | $\begin{aligned} & 2.1 \\ & (16) \end{aligned}$ | $\begin{array}{r} 2.0 \\ (37) \end{array}$ | $\begin{array}{r} 2.1 \\ (14) \end{array}$ | $\begin{aligned} & 2.02 \\ & (76) \end{aligned}$ |
| Security | $\begin{aligned} & 1.3 \\ & (7) \end{aligned}$ | $\begin{array}{r} 1.9 \\ (10) \end{array}$ | $\begin{aligned} & 1.3 \\ & (4) \end{aligned}$ | $\begin{aligned} & 1.8 \\ & (5) \end{aligned}$ | $\begin{aligned} & 2.0 \\ & (3) \end{aligned}$ | $\begin{aligned} & 1.65 \\ & (23) \end{aligned}$ |

1 The upper figure represents the mean score for each motivation. The higher the score, the more important the reason. This score was constructed by giving a score of 3 for first mention, 2 for second mention, and $l$ for third mention. The lower figure (in parenthesis) is the actual number of mentions for each motivation.

TABLE 6

INDEXI FOR EACH MOTIVATION FOR USING CB/GRS EQUIPMENT

Size of Community
less than 1,000
1,000 to 2,499
National

Business

Energencies
2.3
(99)
2.5
(10)
2.77
(72)
2.32 (109)

Fun/Hobby
2.3
(70)
2.4
(7)
2.28
(76)

| Outdoor Sports | $\begin{aligned} & 2.2 \\ & (11) \end{aligned}$ | $\begin{aligned} & 1.9 \\ & (2) \end{aligned}$ | $\begin{gathered} 2.11 \\ (13) \end{gathered}$ |
| :---: | :---: | :---: | :---: |
| Convenience | 2.0 | 2.1 | 2.02 |
|  | (69) | (6) | (76) |
| Security | $(22)^{1}$ | (1) ${ }^{3}$ | $\left(\frac{1.3}{23}\right)^{65}$ |

1 The upper figure represents the mean score for each motivation. The higher the score, the more important the reason. This score was constructed by giving a score of 3 for first mention, 2 for second mention, and 1 for third mention. The lower figure (in parenthesis) is the actual number of mentions for each motivation.
ranked second, and were followed by "fun/hobby". The national results are, in fact, very similar to the motivations of $C B / G R S$ owners. The only exception is that "convenience" received the lowest average score, whereas this was not the case with $C B$ owners (see Tables 7 and 8)l.

### 2.2.3 Differences in Motivational Patterns Between CB and Mobile Radio Users.

An investigation of differences in motivational patterns between $C B$ and mobile radio owners was carried out at the national level only (due to the small number of mentions for each motive at the regional and community size levels).

The results of this analysis indicated that ownership of either $C B$ or mobile radio equipment are significantly related to only two motivations: business and security. In both cases, a relatively larger proportion of the respondents who own mobile radio equipment and consider this equipment to be the most important, mentioned business and/or security as

1 As was the case with the motivations for $C B$ owners, the number of mentions for each motive for mobile radio owners is too small to allow conclusions to be drawn with respect to regional or community size differences in motivational patterns.

INDEXI FOR EACH MOTIVATION FOR USING MOBILE RADIO

|  | Atlantic | Quebec | Region <br> Ontario | Prairies | B.C. | National |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Business | $\begin{aligned} & 2.4 \\ & \text { (8) } \end{aligned}$ | $\begin{aligned} & 2.9 \\ & (7) \end{aligned}$ | $\begin{aligned} & 2.5 \\ & (2) \end{aligned}$ | $\begin{aligned} & 2.7 \\ & (14) \end{aligned}$ | $\begin{aligned} & 3.0 \\ & (19) \end{aligned}$ | ${ }_{(32)}^{2.72}$ |
| Emergencies | $\begin{aligned} & 2.6 \\ & \text { (11) } \end{aligned}$ | $\begin{aligned} & 2.0 \\ & (8) \end{aligned}$ | $\begin{aligned} & 2.3 \\ & (6) \end{aligned}$ | $\begin{aligned} & 1.9 \\ & (11) \end{aligned}$ | $\begin{gathered} 2.2 \\ (21) \end{gathered}$ | $\begin{aligned} & 2.19 \\ & (38) \end{aligned}$ |
| Fun/Hobby | $\begin{aligned} & 2.2 \\ & (6) \end{aligned}$ | $\begin{aligned} & 2.0 \\ & (7) \end{aligned}$ | $\begin{aligned} & 2.0 \\ & (4) \end{aligned}$ | $\begin{aligned} & 2.0 \\ & (2) \end{aligned}$ | $\begin{aligned} & 2.0 \\ & (6) \end{aligned}$ | $\begin{aligned} & 2.04 \\ & (18) \end{aligned}$ |
| Outdoor Sports | $\begin{aligned} & 2.0 \\ & \text { (1) } \end{aligned}$ | $\begin{aligned} & 1.0 \\ & \text { (i) } \end{aligned}$ | $\begin{aligned} & 0.0 \\ & (0) \end{aligned}$ | $\begin{aligned} & 3.0 \\ & \text { (1) } \end{aligned}$ | $\begin{aligned} & 1.8 \\ & (4) \end{aligned}$ | $\begin{aligned} & 1.89 \\ & (4) \end{aligned}$ |
| Security | $\begin{aligned} & 1.9 \\ & (9) \end{aligned}$ | $\begin{aligned} & 1.8 \\ & (6) \end{aligned}$ | $\begin{aligned} & 2.0 \\ & \text { (I) } \end{aligned}$ | $\begin{aligned} & 1.5 \\ & (2) \end{aligned}$ | $\begin{aligned} & 1.8 \\ & (6) \end{aligned}$ | $\begin{aligned} & 1.83 \\ & (17) \end{aligned}$ |
| Convenience | $\begin{aligned} & 2.0 \\ & (6) \end{aligned}$ | $\begin{aligned} & 1.7 \\ & (7) \end{aligned}$ | $\begin{aligned} & 2.0 \\ & \text { (4) } \end{aligned}$ | $\begin{aligned} & 1.5 \\ & (8) \end{aligned}$ | $\left(\begin{array}{l} 1.9 \\ (1 i) \end{array}\right.$ | $\left(\frac{1}{2} \cdot\right)^{79}$ |

1 The upper figure represents the mean score for each motivation. The higher the score, the more important the reason. This score was constructed by giving a score of 3 for first mention, 2 for second mention, and $l$ for third mention. The lower figure (in parenthesis) is the actual number of mentions for each motivation.

# INDEXI FOR EACH MOTIVATION FOR DSING MOBILE RADIO 

| Size of Community |  |  |  |
| :---: | :---: | :---: | :---: |
|  | less than 1,000 | 1,000 to 2,499 | National |
| Business | $\begin{array}{r} 2.8 \\ (30) \end{array}$ | $\begin{aligned} & 2.5 \\ & (3) \end{aligned}$ | $\begin{aligned} & 2.72 \\ & (32) \end{aligned}$ |
| Emergencies | $\begin{gathered} 2.2 \\ (35) \end{gathered}$ | $\begin{aligned} & 2.6 \\ & (3) \end{aligned}$ | $\begin{aligned} & 2.19 \\ & (38) \end{aligned}$ |
| Fun/Hobby | $\begin{gathered} 2.1 \\ (16) \end{gathered}$ | $\begin{aligned} & 2.0 \\ & (3) \end{aligned}$ | $\begin{aligned} & 2.04 \\ & (18) \end{aligned}$ |
| Outdoor Sports | $\begin{aligned} & 1.9 \\ & (4) \end{aligned}$ | $\begin{aligned} & 0.0 \\ & (0) \end{aligned}$ | $\begin{aligned} & 1.89 \\ & (4) \end{aligned}$ |
| Security | $\begin{aligned} & 1.8 \\ & (17) \end{aligned}$ | $\begin{aligned} & 0.0 \\ & (0) \end{aligned}$ | $(1.83$ |
| Convenience | $\begin{array}{r} 1.8 \\ (23) \end{array}$ | $\begin{aligned} & 1.4 \\ & (3) \end{aligned}$ | $\begin{aligned} & 1.79 \\ & (25) \end{aligned}$ |

1 The upper figure represents the mean score for each motivation. The higher the score, the more important the reason. This score was constructed by giving a score of 3 for first mention, 2 for second mention, and $l$ for third mention. The lower figure (in parenthesis) is the actual number of mentions for each motivation.

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라픔
reasons for using their equipment (62.2\% vs $40.3 \%$ of $C B$ owners, and $30.8 \%$ vs $13.0 \%$ of $C B$ owners respectively).

It is also interesting to note that relatively more CB/GRS owners, than mobile radio owners, mentioned "fun/hobby" as a motivation for using their equipment (42.3\% vs 26.9\%) However, this relationship is only significant at the $10 \%$ level rather than our usual 5\%.

### 2.3 Perceived Need for Improvement in Service

2.3.1 Priority Against Other Servicesl

In rural Canada, "roads and public transportation" was the service which was most strongly felt to require improvement (i.e. with the highest average score among 12 services). According to the average rating for each service, television services rank second, telephone fourth and radio broadcasting and $C B / m o b i l e ~ r a d i o$ eleventh and twelfth respectively (see Table 9).

Although the rankings are generally similar across the regions, some differences are apparent. In Quebec health/medical services ranked first, followed by roads and public transportation, and telephone service, while in the Prairies television service was first, roads second and mail service third. Finally, in British Columbia, mail service ranked the highest, with telephone service second.

Households in "small" rural communities follow the national pattern with one exception; telephone service ranked third rather than fourth relative to all other services (see Table lo). In "large" communities,

[^0]TABLE 9

## INDEX OF PERCEIVED NEED FOR IMPROVEMENT FOR EACH SERVICEI

REGION

|  | Atlantic | Quebec | Ontario | Prairies | B.C. | NATIONAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Roads and Public Transportation | 1.62 | 1.51 | 1.25 | 1.37 | 1.25 | 1.42 |
| Television | 1.43 | 0.94 | 0.98 | 1.41 | 1.25 | 1.17 |
| Health/Medical | 1.27 | 1.83 | 0.98 | 0.69 | 0.56 | 1.16 |
| Telephone | 0.87 | 1.33 | 1.00 | 0.93 | 1.36 | 1.09 |
| Mail | 0.65 | 0.62 | 0.99 | 1.29 | 1.50 | 0.94 |
| Recreation and Sports Facilities | 1.01 | 0.65 | 0.90 | 0.63 | 0.81 | 0.78 |
| Security | 0.63 | 0.88 | 0.69 | 0.69 | 0.64 | 0.72 |
| Education | 0.54 | 0.72 | 0.62 | 0.51 | 0.49 | 0.59 |
| Electricity, Hydro | 0.79 | 0.54 | 0.48 | 0.29 | 0.42 | 0.51 |
| Newspaper | 0.31 | 0.21 | 0.30 | 0.18 | 0.31 | 0.25 |
| Radio Broadcasting | 0.17 | 0.20 | 0.34 | 0.15 | 0.43 | 0.24 |
| CB, Mobile Radio | 0.12 | 0.11 | 0.15 | 0.29 | 0.06 | 0.16 |

1 Mean score for each service. The higher the score, the more necessary improvements are. The score' was constructed by giving a score of 4 for the first mention, 3 for second, etc, and 0 for no mention.

INDEX OF PERCEIVED NEED FOR IHPROVEMENT FOR EACH SERVICEI

|  | SIZE OF COMMUNITY |  |  |
| :---: | :---: | :---: | :---: |
|  | Less than 1000 | 1000-2499. | National |
| Roads and Public Transportation | 1.41 | 1.48 | 1.42 |
| Television | 1.15 | 1.30 | 1.17 |
| Health/Medical | 1.11 | 1.49 | 1.16 |
| Telephone | 1.15 | 0.65 | . 1.09 |
| Mail | 0.96 | 0.85 | 0.94 |
| Recreation and Sports Facilities | 0.76 | 0.92 | 0.78 |
| Security | 0.74 | 0.62 | 0.72 |
| Education | 0.59 | 0.61 | 0.59 |
| Electricity, Hydro | 0.51 | 0.48 | 0.51 |
| Newspaper | 0.24 | 0.34 | 0.25 |
| Radio Broadcasting | 0.23 | 0.28 | 0.24 |
| CB, Mobile Radio | 0.16 | 0.10 | 0.16 |

1 Mean score for each service. The higher the score, the more necessary improvements are. The score was constructed by giving a score of 4 for the first mention, 3 for second, etc., and 0 for no mention.
health/medical services, and recreation and sports facilities, received relatively higher average scores than was the case in the results for small communities. Evidently the need to improve television and telephone services rates a high priority with the rural population. The relatively low ranking of $C B /$ mobile radio services is due, in part, to the small user population for this service. However, one might hypothesize that it is likely that owners of CB/GRS or mobile radio equipment would place a higher priority on the need for imporvement in these services. This hypothesis was investigated at the national level only (due to the small user-population), and proved to be correct.
$C B /$ mobile radio owners rated the need for improvement in these services higher than electricity/hydro services, newspaper services, and radio broadcasting (see Table li). Thus, while CB/mobile radio services are the lowest priority for the rural population as a whole, improvements in these services are considered more important by present owners of this equipment.

It is also interesting to note that $C B /$ mobile radio owners, placed a relatively higher priority on the need for improvement in telephone services, than did the

# INDEXI OF PERCEIVED NEED FOR IMPROVEMENT <br> FOR EACH SERVICE FOR CB/MOBILE RADIO OWNERS 

## National

| Road and Public Transportation | 1.37 |
| :--- | :--- |
| Television | 1.18 |
| Health/Medical | 0.99 |
| Telephone | 1.14 |
| Mail | 0.91 |
| Recreation and Sports Facilities | 0.86 |
| Security | 0.75 |
| Education | 0.61 |
| Electricity/Hydro | 0.48 |
| Newspaper | 0.22 |
| Radio Broadcasting | 0.31 |
| CB/Mobile Radio | 0.50 |

1 Mean score for each service. The higher the score, the more necessary improvements are. The score was constructed by giving a score of 4 for the first mention, 3 for second, etc., and 0 for no mention.
general population. In fact, among this group, telephone is just slightly behind television services in terms of relative importance.

### 2.3.2 Intensity of Need Relative to Telecommunication

Examining the relative intensity of need for improvement to telecommunication services in Canada, it is apparent that the services rank in the same order as when compared to the other services (as discussed in the previous section), that is, television ranks first, telephone second, radio third and $C B /$ mobile radio fourth (see Table 12). Across the regions, each service maintains the same rank with one exception; in the Prairies, $C B / m o b i l e ~ r a d i o ~ w a s ~ r a n k e d ~ s l i g h t l y ~$ higher than radio broadcasting. Although television services rank first in each region, in the Atlantic region this service rated relatively higher than in the other regions while in British Columbia the reverse is true. In addition, in Quebec, television was rated at essentially the same level as telephone in terms of need for improvement.

[^1]
## RELATIVE NEED FOR IMPROVEMENT IN <br> TELECOHMUNICATION' SERVICES1

## REGION

Atlantic Quebec Ontario Prairies B.C. NATIONAL

| Television | 5.74 | 4.23 | 4.14 | 5.19 | 4.10 | 4.71 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Telephone | 2.66 | 4.21 | 3.61 | 3.04 | 3.99 | 3.50 |
| Radio Broadcasting | 1.16 | 1.48 | 1.66 | 0.87 | 1.65 | 1.34 |
| CB, Mobile Radio | 0.43 | 0.50 | 0.59 | 0.91 | 0.25 | 0.57 |

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 10 point allocation task dealing with only these four services.

In both small and large communities, the telecommunications services each ranked in the same order as was the case at the national level (see Table 13). However, in small communities, $C B / M o b i l e ~ r a d i o ~$ services were rated slightly higher than in large communities with respect to the need for improvement in this service. This is not surprising if one recalls that relatively more households in small communities own this type of equipment.

As was done in the previous section, the hypothesis that $C B / m o b i l e$ radio owners (at the national level) would be relatively more concerned with the need for improvement in these services, than would be population as a whole, was investigated. The results of this analysis indicate that this is the case. That is, $C B / m o b i l e ~ r a d i o ~ o w n e r s ~ d i d ~ i n d i c a t e ~ a ~ r e l a t i v e l y ~ h i g h e r ~$ priority for these services (see Table 14), than did all respondents. Indeed, this group of households ranked $C B / m o b i l e$ radio services third, and radio broadcasting services fourth, contrary to the ratings provided by all rural households. Thus, while television and telephone services still remain the services requiring the most improvement, $C B / m o b i l e$ radio service improvements are given a relatively higher priority by present users.

# RELATIVE NEED FOR IMPROVEMENT IN 

 TELECOMMUNICATION SERVICESI|  | SIZE OF COMMUNITY |  |  |
| :---: | :---: | :---: | :---: |
|  | Less than 1000 | 1000-2499 | National |
| Television | 4.59 | 5.52 | 4.71 |
| Telephone | 3.61 | 2.68 | 3.50 |
| Radio Broadcasting | 1.33 | 1.39 | 1.34 |
| CB, Mobile Radio | 0.60 | 0.41 | 0.57 |

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 10 point allocation task dealing with only these four services.

## RELATIVE NEED FOR IMPROVEMENT IN <br> TELECOMMUNICATION SERVICESI <br> FOR CB/MOBILE RADIO OWNERS

## National

Television ..... 4.25
Telephone ..... 3.16
Radio Broadcasting ..... 1.16
CB/Mobile Radio ..... 1.43

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 10 point allocation task dealing with only these four services.

### 2.3.3 Correlates of Intensity of Need for Improvement in CB or Mobile Radio Services

The association between the intensity of need for improvement in $C B$ or mobile radio services and various household characteristics was investigated. This was carried out in order to profile those respondents who felt these services required improvement.

The national results indicate that as the intensity of need for improvement in these services increases, so does the likelihood that respondents will:
own CB/GRS equipment. In relative terms, more of the respondents who indicated that $C B$ or mobile radio services required improvement, than those who felt these services need no improvement, own $C B$ equipment ( $35.5 \%$ vs 11.5\%).

- own mobile radio equipment. Similarly, a larger proportion of those who feel improvements are necessary, than those who do not, own mobile equipment. (14.9\% vs 3.5\%).
- own both CB and mobile radio equipment. Relatively more of those who felt these services needed improvement, than those who did not, have both types of equipment (12.7\% vs 2.5\%).
use their equipment for convenience. A larger proportion of these respondents, are motivated to use their equipment for convenience (47.1\% vs 32.0\%) 。
- have a higher household income. Comparing the same two groups of respondents, we find that more of those who feel improvements are necessary earn $\$ 25,000$ a year or more (30.8\% vs 20.7\%).
be farmers or executives. In relative terms, more of the respondents who feel these services need improvement are farmers (15.9\% vs 9.5\%), or executives (5.8\% vs 3.9\%).
speak French most often at home. A relatively larger proportion of the respondents who considered these services to require improvement, than of those who felt they needed none, speak French most often (33.1\% vs 27.9\%).

In the Atlantic Region, it was found that as the need for improvement in $C B$ and mobile radio services increased, so did the likelihood that respondents would:

- own CB/GRS equipment. Over twice as many of the respondents who feel these services need improvement, as those who do not, own CB/GRS equipment (27.4\% vs 12.1\%).
- own mobile radio equipment. A larger proportion of these respondents own mobile radio equipment (14.5\% vs $3.3 \%$ ).
- own both types of equipment. In relative terms, more of these households own CB/GRS and mobile radio equipment ( $12.9 \%$ vs $2.5 \%$ ).
- not speak English most often at home. Comparatively fewer of these respondents speak English most often (86.0\% vs 67.7\%).

Those respondents in the Quebec Region who feel that $C B / G R S$ and mobile radio services need improvement, are more likely to:

- own CB/GRS equipment. A larger proportion of the respondents who indicated that CB/GRS and mobile radio services need improvement, than those who do not, own $C B / G R S$ equipment (22.9\% vs $6.0 \%$ ).
own mobile radio equipment. Relatively more of these respondents own mobile equipment (12.5\% vs 1.8\%).
- own both types of equipment. Proportionately more of these respondents own both CB/GRS and mobile radio equipment (l0.8\% vs $1.6 \%$ ).
feel less strongly that telephone services require improvement.

The Ontario Region results indicate that as the need for improvement in $C B / G R S$ and mobile radio services increases, so does the tendency for respondents to:

- Own CB/GRS equipment. Relatively more of the respondents who feel improvements are necessary, than those who do not, own CB/GRS equipment (29.0\% vs 13.7\%).
- own mobile radio equipment. Similarly, a larger proportion of these respondents own mobile radio equipment (17.7\% vs 4.7\%).
- have both CB/GRS and mobile radio equipment. Comparatively more of these respondents own both types of equipment ( $14.5 \%$ vs $4.0 \%$ ).
- consider their way of life to be rural.
- have more people in their home. A larger proportion of the respondents who feel CB/GRS and mobile radio services need improvement, than those who do not, have more than two people in their home (83.9\% vs 61.1\%).

Those respondents in the Prairie Region who feel that $C B / G R S$ and mobile radio services require improvement, tend to:

- own CB/GRS equipment. While over half (52.6\%) of the respondents who feel improvements are necessary own this equipemnt, this is true of only $14.4 \%$ of those who feel no improvements are needed.
- own mobile radio equipment. Similarly, a larger proportion of these respondents own mobile radio equipment (12.4\% vs 2.7\%).
- own both types of equipment. Relatively more of these respondents own both CB/GRS and mobile radio equipment (12.4\% vs 1.3\%).
use their equipment mainly for emergencies and/or for convenience.
- feel that telephone service requires less improvement.
- are more physically isolated. While over half (61.9\%) of these respondents are more physically isolated than is the average in the Prairie region, this is true for only $40.6 \%$ of those who feel these services need no improvement.
- have a higher household income.
- have more people in their home. A smaller proportion of these respondents have only one or two people in their home (19.6\% vs $42.0 \%$ )

In the British Columbia Region, the results of this analysis indicate that as the intensity of need for improvement in $C B / G R S$ and mobile radio services increases, so does the likelihood, that respondents will:

- own CB/GRS equipment. In relative terms, more of the respondents who felt improvements were necessary, than those who did not, own CB/GRS equipment ( $45.7 \%$ vs $12.4 \%$ ).
- own mobile radio equipment. Proportionately more of these respondents own mobile radio equipment (26.1\% vs 7.5\%).
- have both CB/GRS and mobile radio equipment. Comparatively more of these respondents own both types of equipment (13.0\% vs 3.5\%).
- use their equipment for convenience. A larger proportion of these respondents are motivated to use their equipment for convenience (44.4\% vs 26.1\%).
- not use their equipment for outdoor sports.
- consider their way of life to be urban. Relatively more of these respondents consider their way of life urban (32.6\% vs $21.5 \%$ ).

The results for small communities indicate that those respondents who feel service improvements are necessary for $C B / G R S$ and mobile radio, tend to:
own CB/GRS equipment. In relative terms, a larger percentage of the respondents who feel service improvements are necessary, than those who do not, own CB/GRS equipment ( $36.4 \%$ vs 11.6\%).
own mobile radio equipment. Proportionately more of these respondents own mobile radio equipment ( $15.2 \%$ vs $3.7 \%$ ).
own both $C B / G R S$ and mobile radio equipment. Similarly, more of these respondents own both types of equipment ( $13.6 \%$ vs $2.6 \%$ ).
use their equipment for convenience. Relatively more of these respondents are motivated to use their equipment for convenience ( $47.9 \%$ vs $31.8 \%$ ).
feel less strongly that telephone services require improvement.

- speak French most often at home. Comparatively more of these respondents speak French most often (33.3\% vs 26.7\%).

Respondents in large communities who placed more emphasis on the need for improvements in CB/GRS and Mobile radio services are more likely to:

- own CB/GRS equipment.
- have a higher household income.
- have more household members. A relatively smaller proportion of the respondents who feel these services need improvement, than those who don't, have only one or two people in their home (13.8\% vs 41.9\%) .

A similar exercise was undertaken, at the national
 order to profile respondents in this group which felt these services required improvement. The results of this analysis indicate that, as the intensity of need for improvement in these services increases, so does the likelihood that respondents which own CB/mobile radio equipment will:

- have lived in their present home for a longer period of time.
- have a higher household income.
- be older. A larger proportion of the $\mathrm{CB} / \mathrm{mobile}$ radio owners who geel these services require the most improvement, as opposed to those who feel no improvements are necessary, are over 44 years of age (57.0\% vs 48.0\%) .
use their equipment for convenience.
- be satisfied with their overall telephone service.
- feel less strongly that telephone service needs
improvement. Relatively more of these respondents do not feel the phone service needs any improvement (95.5\% vs 37.4\%).
speak English most often at home. A larger proportion (92.0\% vs 69.8\%) of these respondents speak English most often at home.
- be men. Relatively more of these respondents are men ( $58.1 \%$ vs $45.9 \%$ ).


### 2.4 Short Term Demand Forecasts

### 2.4.1 Combined Telephone-Mobile Radio Forecastl

Respondents in rural households were offered a new combined telephone and mobile radio 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, for instance, in a home or car
- a basic monthly rate of $\$ 4$ per month

In order to use this new service, households would have to purchase some new equipment. 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 12 months. Twenty percent of the rural households indicated that they would purchase the equipment for $\$ 300$, and the proportion dropped to $15 \%$ at the $\$ 700$ price level. These results are illustrated by the maximum likelihood estimate of demand in Graph 1. A conservative estimate of the demand curve is also presented in Graph 1 and,

1 Based upon responses to Question 28.

## GRAPH 1

# PRICE-DEMAND RELATIONSHIP FOR COMBINED TELEPHONE AND MOBILE RADIO SERVICE <br> (NATIONAL) 



The estimated level of demand (i.e. the maximum likelihood estimate) is not expected to vary, in $68 \%$ of the cases, by more than $\pm 1.5 \%$ from the indicated levels.
although the conservative estimates are somewhat lower, the curve is similar to the maximum likelihood estimate.

Although the demand curve estimates for each region are generally around the same level as the national, the shape of the curves are dissimilar, with the possible exceptions of the Quebec and Ontario regions (see Graphs 2 to 6). Comparing the regions, the maximum likelihood estimate of the demand curve for each region is almost always significantly different from each of the other four regionsl. Despite these differences among the regions, it does appear that approximately $15 \%$ of the rural households in each region are interested in this new concept. These results may indicate that only those respondents who currently own $C B$ (i.e. $14.7 \%$ of the national sample) are interested in this service, and that these

1 There are four exceptions:

- the Atlantic region is not significantly different from Ontario at the $\$ 300$ price level
- Quebec is not significantly different from Ontario at the $\$ 700$ price level
the Prairies region is not significantly different from British Columbia at the $\$ 300$ or $\$ 700$ price levels.


## GRAPH 2

PRICE－DEMAND RELATIONSHIP<br>FOR<br>COMBINED TELEPHONE AND MOBILE RADIO SERVICE<br>（ATLANTIC REGION）



The estimated level of demand（i．e．the maximum likelihood estimate）is not expected to vary，in $68 \%$ of the cases，by more than $\pm 2.7 \%$ from the indicated levels．

## GRAPH 3

PRICE-DEMAND RELATIONSHIP
FOR
COMBINED TELEPEONE AND MOBILE RADIO SERVICE
(QUEBEC REGION)

Purchase<br>Cost of<br>Combined<br>Equipment<br>(\$)



Percent o Household


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 $\pm 2.9 \%$ from the indicated levels.

## GRAPH 4

## PRICE-DEMAND RELATIONSEIP <br> FOR <br> COMBINED TELEPHONE AND MOBILE RADIO SERVICE <br> (ONTARIO REGION)

```
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 $\pm 2.8 \%$ from the indicated levels.

## GRAPH 5

PRICE-DEMAND RELATIONSHIP FOR
COMBINED TELEPEONE AND MOBILE RADIO SERVICE
(PRAIRIES REGION)

```
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 $\pm 3.3 \%$ from the indicated levels.

## GRAPH 6

PRICE-DEMAND RELATIONSHIP<br>FOR<br>COMBINED TELEPAONE AND MOBILE RADIO SERVICE<br>(BRITISH COLUMBIA REGION)

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 $\pm 3.5 \%$ from the indicated levels.
respondents are relatively unconcerned about the price (withing the measured range). Alternatively, the variations in the curves across the regions may indicate that, while interested in the service, respondents were unable to make a sample purchase decision. The implication is that they were unable to identify the real value of such a service to themselves.

Examining the demand curve estimates for small and large communities, it is evident that while the small communty estimates are similar to the national estimates, those for large communities are not (see Graphs 7 and 8). The proportion of households in small communities who would purchase the equipment for this service is significantly larger than the proportion of households in large communities for each price level. In fact, the demand curve for large communities may indicate, that respondents who currently have the services, are interested in a combined and improved service regardless of the cost (within the presented range). On the other hand, the results could also suggest that respondents may not have fully grasped this new concept and were therefore unable to attach an appropriate cost to it. Thus, one could make a

# PRICE-DEMAND RELATIONSHIP FOR 

COMBINED TELEPHONE AND MOBILE RADIO SERVICE
(SMALC COMMUNITIES)

-....-. Maximum Likelihood 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 $\pm 1.7 \%$ from the indicated levels.

## GRAPH 8

## PRICE-DEMAND RELATIONSHIP FOR <br> COMBINED TELEPHONE AND MOBILE RADIO SERVICE <br> (LARGE COMMUNITIES)



The estimated level of demand (i.e. the maximum likelihood estimate) is not expected to vary, in $68 \%$ of the cases, by more than $\pm 3.9 \%$ from the indicated levels.
conclusion with respect to the approximate level of demand (e.g. approximately $20 \%$ of B.C. households would be interested in such a system), but the price levels are believed to be unreliable as it would seem, from the "excessively" inelastic demand curves, that respondents did not really know what such a system is worth to them.

### 2.4.2 Correlates

A profile of those respondents who would have a greater tendency to purchase the equipment necessary for the combined telephone and mobile radio service at each of the three different prices was developed. This was accomplished by relating the level of demand for the new service to a set of potential descriptor variables. This profiling exercise would provide us with a better understanding of the "different" consumers existing at each price. The analysis was only carried out at the national level.

As the likelihood that respondents will buy the necessary equipment for $\$ 300$ increases, so does the likelihood that respondents will:

- be more isolated in terms of communications. presently pay a higher total monthly phone bill.
use their phone mainly for business reasons.
currently own CB and/or General Radio Service (GRS). equipment. Relatively more of the respondents who would definitely buy the equipment, than those who would not, presently own $C B$ and/or GRS equipment (31.8\% versus 11.7\%). Further to this, a larger proportion of respondents who presently own CB/GRS equipment, than those who do not, would definitely buy the new equipment (14.3\% vs 5.8\%).
presently have mobile radio or mobile telephone equipment. Proportionately, more of these respondents have mobile equipment (11.6\% versus 4.2\%). Similarly, more current owners, than non-owners, would definitely buy this service (14.5\% vs 6.7\%) .
have a higher household income. A relatively larger proportion of the respondents who would certainly buy this equipment, than of those who would not, earn $\$ 25,000$ a year or more (40.7\% versus 17.1\%).
have more people in their household. More of these respondents, compared to those who would not buy the equipment, have more than three people in their home ( $65.6 \%$ versus $42.1 \%$ ).
have more education.
be younger. While over half (67.7\%) of the respondents who would definitely buy the equipment are under 45 years of age, this is true of only 42.2\% of those who would not.
be men. The majority (64.6\%) of these respondents (versus $45.8 \%$ of those who would not buy the equipment), are men.
not be homemakers or retired. A relatively smaller proportion of these respondents are homemakers ( $22.0 \%$ versus $40.9 \%$ ), or retired (5.1\% versus 17.1\%).
be farmers, unskilled labourers, or executives. In relative terms, more of the respondents who would definitely buy the equipment, than of those who would not, are farmers (23.2\% versus 8.7\%),

```
unskilled labourers (12.9% versus 6.5%), or
executives (ll.0% versus 2.5%).
```

The more likely respondents are to purchase the new equipment when the price was $\$ 500$, the more these respondents tended to:
presently be paying a higher basic phone rate.
have paid a higher total monthly phone bill.
use their telephone mainly for business reasons. A relatively larger proportion of the respondents who would definitely buy the equipment, than of those who would not, mentioned business reasons first (39.0\% versus 17.5\%).
not use their phone for social reasons. In relative terms more of these respondents did not mention social reasons (20.1\% versus 16.6\%), or mentioned this last (27.7\% versus 9.8\%).
presently own CB and/or General Radio Service (GRS) equipment. Comparatively more of the respondents who would definitely buy this equipment, than those who would not, currently own CB and/or GRS equipment (29.2\% versus lo.3\%). Additionally, a larger proportion of owners, than non-owners, would definitely buy this equipment (9.4\% vs $3.6 \%$ ).
have more education.
have a higher household income. Approximately twice as many of these respondents, as those who would not buy the equipment, earn $\$ 25,000$ a year or more (35.4\% versus 17.8\%).
have more people in their household. A relatively larger proportion of these respondents have more than four people in their home (35.9\% versus 19.2\%).
be younger. While most (71.2\%) of the respondents who would definitely buy the equipment are under 45 years of age, less than half (44.1\%) of those who would not are under 45 .

At a price of $\$ 700$ for this new equipment, the results of this analysis indicate that as the likelihood that respondents would buy the equipment increases, so does the likelihood that the respondents will:
be more physically isolated.
pay a higher total monthly telephone bill.
use their telephone mainly for business reasons. More than twice as many respondents who would definitely buy this equipment, as those who would not, mentioned business reasons first (53.2\% versus 20.6\%).
not use their telephone because of health problems.
presently own CB and/or General Radio Service (GRS) equipment. Relatively more of these households currently have CB and/or GRS equipment (37.4\% versus ll.5\%). A larger proportion of owners, than non-owners, would definitely buy the new equipment ( $8.8 \%$ vs $2.5 \%$ ).
currently own mobile radio or mobile telephone equipment. A comparatively larger proportion of these respondents presently have mobile equipment (24.5\% versus $3.6 \%$ ). In other words, more mobile radio owners, than non-owners, would definitely buy the equipment for this new service (16.2\% vs 2.7\%).
consider their mobile equipment more important.
have more education.
have a higher household income. Relatively more of the respondents who would definitely buy this equipment, than of those who would not, earn $\$ 25,000$ a year, or more (42.1\% versus 19.8\%).
be men. A comparatively larger percentage of these respondents, versus those who would not purchase the equipment, are men (58.1\% versus $46.2 \%$ ).

In addition to the profiles of potential buyers presented above, some further hypotheses were investigated in an attempt to obtain a better understanding of those respondents which are interested in this new service. Eirst, only those respondents who currently own $C B / m o b i l e$ radio service equipment and would "definitely" purchase the new equipment (i.e., indicated 9 or 10 chances in 10 of making this purchase), were compared to those present owners who would not or were unlikely to make this purchase. Secondly, a similar comparison was made between respondents which do not presently own $C B / m o b i l e ~ r a d i o$ equipment. The comparisons were made according to the following variables:

- satisfaction with current telephone service
- occupation
- household income
- distance to nearest city
- relative priority of need for improvement in CB/mobile radio services versus that for telephone service (for the first pair only).

The results of these comparisons indicate that:
a) present owners of $C B / m o b i l e$ radio services who would definitely purchase the new equipment do not significantly differ from those owners who would not definitely make this purchase (regardless of the pricel, in terms of satisfaction with current telephone service and household income.
b) for current $C B / m o b i l e ~ r a d i o ~ s e r v i c e ~ u s e r s, ~ t h e r e ~ i s ~$ no significant relationship between the likelihood of making this purchase, and occupation (regardless of the price).
c) with respect to distance from the nearest city, CB/mobile radio service users which would definitely buy this new equipment at a price of $\$ 700$, live significantly further from the nearest city, than do those who would not necessarily buy this equipment. (There is no significant difference between these groups at the $\$ 300$ and $\$ 500$ price levels).
d) respondents who do not presently own CB/mobile radio equipment but who would definitely make this purchase, do not significantly differ from those who would not definitely buy the equipment in terms of distance to the nearest city.
e) at the $\$ 500$ price level, non-owners who would definitely buy the new equipment are significantly more satisfied with their present overall phone service, than are those who would not make this purchase. (There is no significant difference at the $\$ 300$ and $\$ 700$ price levels).
f) non-owners who would definitely buy the equipment necessary for the new service when the price is $\$ 300$, have significantly higher household incomes than do those who would not make this purchase. (There are no significant differences at the other price levels). For example, almost twice as many of those who would definitely buy the equipment, as those who would not, have a household income of at least $\$ 25,000$ a year (37.0\% vs 17.7\%).
h) although, for non-owners, there is no significant relationship between occupation and the likelihood of buying this equipment at the $\$ 500$ and $\$ 700$ price levels, there is at the $\$ 300$ purchase cost. Almost three times as many non-owners who would definitely make this purchase, as those who would not, are farmers (26.8\% vs 9.7\%), or executives (8.3\% vs 2.5\%).

In conclusion, it is apparent that there are many similarities between the respondents who would purchase
this equipment at each of the three price levels. For example, each group presently pays more for their current telephone service, has $C B$ and/or GRS equipment, and is relatively more educated. The differences between the groups are less evident. However, it appears that a larger proportion of those respondents who would pay $\$ 700$ for this equipment, than of those who would pay $\$ 500$, or $\$ 300$, earn $\$ 25,000$ a year or more. Also, relatively more of the respondents who would pay the highest price, compared to those who would pay less, presently own mobile equipment, and consider this more important than their CB or GRS equipment.

Comparing those who would definitely buy the new service to those who would not, we generally find that there are few differences. Some noteable exceptions are that $C B / m o b i l e$ radio owners who are definitely willing to pay $\$ 700$ for the new equipment live significantly further from the nearest city, and non-owners who would definitely buy the new equipment at a price of $\$ 300$ have higher incomes and are more likely to be farmers than are those who would not definitely buy the new system at these prices.

### 2.5 Long Term Demand Forecasts

### 2.5.1 Combined Telephone - Mobile Radio Service

The model chosen for the long term demand forecasts is that typically adopted when modelling the adoption and diffusion of innovations. The modell describes the life cycle of an innovation, including the number of individuals adopting the innovation in a given year, the number of years required for the adoption to peak, and the number of years required for all potential adopters to make their decision to adopt. In order to use this model, it was necessary to identify three factors: 2

1 This model was earlier presented in greater detail. Refer to "Demand for Rural Communication Services in Canada - Focus Groups and Research Instruments." Final Report, Phase I, DOC (Hay 1979).

2 The "contagion factor", which is directly proportional to the rate of adoption, was estimated from historical data for rural cable television companies (the contagion factor "P" used was 0.8). The potential market is a function of the number of rural households which presently have $C B / G R S$ or mobile radio equipment and the proportion of respondents who do not have this type of equipment but indicated they would buy the new service (30.2\%); the price level, and the level of first year sales. . The first year sales were derived directly from the short term demand forecast (see Section 2.4). For further information on the derivation of these data, refer to "Study of the Demand for Communication Services in Rural Canada: Analysis of the Pilot Survey Results", DEMAND Research Consultants, (May 5, 1981).

1) the "contagion factor", which is directly related to the rate at which an innovation in communication is adopted,
2) the number of potential adopters, and
3) the number of adoptions which will occur during the first year.

Having derived these data, long term demand forecasts were developed for a new combined telephone and mobile radio service.l One forecast was derived for each price level (i.e. $\$ 300, \$ 500$, and $\$ 700$ ) and the results are presented in Graph 9 and Table 15.

While examining the results of this forecast, and others included in this section, it should be noted that historical data for rural cable companies was used to estimate parameters of all models. As is normally the procedure, these data were selected to generate model parameters which would reflect this general product class.

1 This service, which requires the purchase of new equipment, would provide the following features:

- a service equivalent to a private line telephone;
- a telephone which could be used in a number of places such as in a home or car; and,
- a basic monthly rate of $\$ 4$.


## GRAPH 9

## LONG TERM DEMAND FORECASTS

FOR

COMBINED TELEPBONE/MOBILE RADIO SERVICE


TABLE 15

LONG TERM DEMAND FORECASTS FOR COMBINED TELEPHONE/MOBILE RADIO SERVICE
(National)
Number of Rural Households Purchasing

| Year | (in Thousands) |  |  |
| :---: | :---: | :---: | :---: |
|  | \$300 | \$500 | \$700 |
| 1 | 75.6 | 52.3 | 46.5 |
| 2 | 101.4 | 75.3 | 68.3 |
| 3 | 101.8 | 82.2 | 76.4 |
| 4 | 76.4 | 66.6 | 63.3 |
| 5 | 45.7 | 42.1 | 40.7 |
| 6 | 23.7 | 22.6 | 22.0 |
| 7 | 11.4 | 11.0 | 10.8 |
| 8 | 5.3 | 5.2 | 5.1 |
| 9 | 2.4 | 2.4 | 2.3 |
| 10 | 1.1 | 1.1 | 1.1 |


| Total Households Adopting <br> after 9 Years | 443.8 | 359.6 | 335.5 |
| :--- | :--- | :---: | :---: |
| Potential Market: | 445.8 | 361.6 | 337.4 |
| Peak Sales: | 107.0 | 83.9 | 77.6 |
| Years to Peak Sales: | 2.1 | 2.3 |  |
|  |  |  | 2.4 |

Examining the forecasts in Graph 9, it is evident that the greatest number of adoptions of this service would occur within the first few years, regardless of the price level. In fact, the majority (i.e. over 50\%), of the potential adoptersl will have purchased the necessary equipment within three years. The peak sales would occur after approximately 25 months when the cost is $\$ 300$, and after 28 and 29 months for the \$500 and $\$ 700$ price scenarios respectively.

In the previous discussion of the short term demand forecast (refer to Section 2.4.1), it was noted that a relatively small percentage (i.e. 20\%) of the respondents would purchase the equipment required for this service, at a cost of $\$ 300$, within twelve months. These initial "adopters" would then become information providers to other potential adopters who are more reluctant. It is important to note that while these

1 The potential market for this service is comprised of households who would be willing to purchase this equipment for the mobile communications and interconnectability to the telephone network the system provides. On the other hand, the potential market defined in the telephone report (a more complete reference is given in the Introduction) is comprised of households who do not care about mobility but regard the system simply as a means of obtaining single party telephone service.
information providers indicated they would probably subscribe, it does not mean that they "definitely" would, but that they are "predisposed" towards this new service. As a result, these respondents are considered to be "carriers" which implies that while most would probably make this purchase, not all would. Therefore, the first year sales according to the long term forecast are not as high as those in the short term demand estimates. In this manner, most potential purchasers are exposed to the service within a few years. Hence, there is a sharp decline in the number of adoptions between the third and seventh years, as fewer members of the potential market remain. During the later years, only the "laggards" remain to purchase the equipment.

With respect to the other price levels, the same process occurs, but the potential market size decreases. Additionally, as the price increases, the potential adopters become somewhat more reluctant to make the purchase, so the peak sales occur later, and the slopes of the respective curves become less extreme.

Regardless of the price level, market saturation occurs after approximately nine years, although the cumulative sales differ. At a price of $\$ 300$,
essentially all potential adopters (i.e. $99.6 \%$ of potential market or 443,800 households) will have purchased this equipment after nine years. This adoption level represents $30.1 \%$ of all present rural households (i.e. $1,476,154$ ). Within the same time frame, at a cost of $\$ 500$. , 359,600 households (99.5\% of the potential market) will have purchased the equipment. That is, a price increase of 66.7\% represents a decrease of only $19.0 \%$ in the number of adopters. Additionally, after nine years, only $0.6 \%$ (or 1900 households) of the potential market remain when the cost is $\$ 700$. In this case, a price increase of $233 \%$ (over the $\$ 300$ price level), diminishes the number of subscribers by only $24.4 \%$.

To conclude, more than half of the "potential adopters" of the combined telephone and mobile radio service would purchase the necessary equipment within three years, despite the price, and within nine years the market would essentially be saturated.

## 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. As a result, it is generally difficult to qualify the findings. However, a number of interesting conclusions may be derived and are as follows:

1. Over 230,000 rural households make use of $C B / G R S$ or mobile equipment. Household penetration varies from a high of $22 \%$ in the Prairies to a low of $9 \%$ in Quebec.
2. Owners of $C B / G R S$ equipment do not appear to be very different from mobile radio owners. Examining the profiles of both of these groups did not bring to light any major differences in terms of household characteristics. Additionally, the motivational patterns between the two groups are similar.
3. Very few significant demographic and attitudinal differences exist between those who would definitely purchase the new equipment and those
who would not for both owner and non-owners of $\mathrm{CB} / \mathrm{mob} i l e$ radio equipment.
4. For the rural population as a whole there is a low perceived need for improvement in CB/mobile radio services. In fact, $C B / m o b i l e ~ r a d i o ~ r a n k e d ~$ twelfth in importance relative to eleven other community services. However, when one only considers the user population for this service, its rank increases to ninth in relative importance.
5. Generally, a new telecommunication innovation is adopted relatively quickly. A long term demand forecast, developed for the new combined telephone-mobile radio service, indicated that at least $50 \%$ of the households in the potential market would adopt this service within a short time period (i.e., three years).
6. For the new combined telephone and mobile radio service, it may be concluded that there is a demand for this service among a particular segment of the population (i.e. approximately l5\% of rural households). First year potential sales
of the equipment necessary for this new service offering combined with a monthly rental fee of $\$ 4.00$ could amount to approximately $\$ 1941,2,3$ million. In this instance, total potential sales following a nine year period would amount to an estimated $\$ 279$ million for equipment offered at a $\$ 300$ purchase cost and an additional monthly rental charge of $\$ 4.00$. On the other hand, at a $\$ 700$ acquisition price and equal rental fee, the total estimated revenue over this same period is \$341 million.

1
These estimates are expressed in today's dollar value. That is, the "present value" of money over the period of time of interest has not been accounted for.

2 These estimates are provided through a projection of the level of demand presented in section 2.4 (short term demand) and section 2.5 (long term demand) to the population data presented in table $A-2$.

3 It should be remembered that the long term forecast could be affected by several factors: the adoption rate, level of first year sales or number of opinion leaders, and the total potential market. Sensitivity analysis involving a manipulation of some or all of these variables was not conducted. The estimates provided are maximum likelihood estimates, that is, "most likely" estimates.

## APPENDIX A

## METHODOLOGY

## APPENDIX A

## METHODOLOGY

## A.l 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 rural domestic suscribers for existing and proposed communication services and to forecast short term and long 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 the needs and demand of rural people with respect to telecommunication services. A review of the literature was carriedl out and focus group interviews were subsequently conducted across Canada in order to provide basic information required for the design of the survey questionnaire2.
- Development and test of the survey design. DEMAND Research Consultants was commissioned to design the final questionnaire and to carry out the analysis required to test the questionnaires and the survey design; Canadian facts was commissioned to develop the sampling design and to conduct the pretest and pilot field work. These activities culminated in a

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).
pilot survey whose results have been analyzed in two reportsl,2.

- Full scale survey and analysis. Canadian Facts was commissioned to conduct the field work and DEMAND Research Consultants was commissioned to undertake the analysis.

This part of the report deals with the methodological aspects relevant to the whole residential survey (covering three communication services: telephone, television, mobile radio service). The purpose is to give the reader the basic 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 need and forecasting models underlying the analysis. Section A. 3 outlines the survey method used to actually make the measurements. Section A. 4 provides an operational definition of "rural" and of "residential subscriber" and summarizes the procedure implemented to draw a representative sample of that population. finally, section A.5 illustrates some basic population dispersion characteristics and compares the sample to the sampling frame along five demographic characteristics in order to present its representativeness. In addition, the weighing scheme used in the analysis conducted at the national level is explained.

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

2 O'Hara, S. "Study of the Demand for Communication Services in Rural Canada: Pilot Survey Field Report", Canadian Facts, Ottawa, (October 1980).

## A. 2 Need and Forecasting Models

Some of the concepts implied by the objectives do not lend themselves to straightforward measurement, because they involve subjective, non-observable notions (e.g. needs, motivations, satisfaction, demand). In such situations, the desired information must be inferred, that is obtained indirectly from other pieces of related information more easily measured. To do this, the analyst must rely on some technique, model or theory which has been proven valid. The rationale for selecting the techniques, models and theories involved in the present study has already been discussed in a previous reportl. Two techniques and one model will be briefly presented here.

## A.2.1 Conjoint Measurement

One of the objectives of this study is to "identify which aspects of telephone (and television) service are most needed." Telephone service, for instance, comprises several attributes (e.g. number of parties on the line, basic monthly charge, size of free call area). Respondents could have been asked to indicate "how important to them" each of these attributes was. But, on the basis of information gathered during the focus groups, there was a serious doubt as to whether repondents could actually provide reliable answers to this type of question. Therefore, it was decided to tely on conjoint measurement, a different approach2 at measuring respondents' preferences for the various aspects of a multiattribute object (i.e. service).

Conjoint measurement is a technique developed by psychometricians to measure people's perceptions and preferences. As the name suggests, conjoint measurement is concerned with the joint effect of two or more independent variables on the ordering of $a$

1 "Demand for Rural Communication Services in Canada: Focus Groups and Research Instruments", op. cit., pp. 48-74.

2 That is, different from the "how important to them" approach just mentioned.
dependent variable. For example, one's preference for various types of telephone services may depend on the joint influence of such variables as the number of parties sharing a line, the size of the free calling area, or the basic monthly charge.

The conjoint measurement technique starts with the respondent rank-ordering (a measure of preference) various telephone service "packages". For example, one package could include: a private line, a large free calling area and an $\$ 18.00$ basic monthly charge; another package could include: a two-party line, a small free calling area and a $\$ 6.00$ basic monthly charge. With this rank-ordering as input, conjoint measurement performs the rather remarkable job of decomposing the original preferences into separate and compatible utility scales by which the original preferences can be reconstituted. Two valuable pieces of information can be obtained from this decomposition:

1) an accurate estimate of the relative importance of the various components of telephone service (number of parties on line, size of free call area, basic monthly charge), and
2) an indication of how sensitive respondents would be to a change in the level of the various attributes (for example, how respondents would react to an increase (decrease) in monthly charge from, say, $\$ 6$ to $\$ 12$, or $\$ 6$ to $\$ 20$, etc.).

Together these two pieces of information will indicate what respondents want in the way of telephone service.

The main drawback of the conjoint measurement task rests with the rather large number of choices the respondent has to make, which can result in fatique and ultimately low reliability. This eventuality was investigated at both the pretest and the pilot stages of the survey. The results of the conjoint measurements were found both internally and externally consistent.l

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. 26-31, 50-55.

## A.2.2 Simulated Choice Scenarios

Following a review of the available sources of secondary informationl and after consultations with authorities from the Department of Communications, a survey of buying intentions emerged as the best approach to forecast "short term" demand in the specific context of this study. 2 Buying intentions provide reliable 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 the pilot survey were found internally and externally consistent3. Furthermore, during a meeting where the results of the pilot survey were presented, attendees from the Department of Communications reported evidence (i.e. information which they had a knowledge of or had on hand) congruent with the short term demand forecasts ${ }^{4}$.

## A.2.3 Diffusion Model

The Lawton and Lawton model, chosen for the long term demand forecasts, is grounded in the diffusion theory tradition5; its roots are in the mathematical

1 "Demand for Rural Communication Services: Literature Review", op. cit.

2 "Demand for Rural Communication Services: Focus Groups and Research Instrument" op. cit., 50-54, 69-71.

3 "Study of the Demand for Communication Services in Rural Canada: Analysis of Pilot Survey Results", op. cit., 32-40, 55-74.

4 May 19, 1981, Department of Communications, Ottawa.
5 The model is presented in detail in "Demand for Rural Communication Services in Canada: Focus Group and Research Instruments" op. cit., 55-63.
models of epidemologists studying the spread of diseases and of chemists investigating the nature of chemical reactions. The model has been used to successfully forecast the diffusion of cable TV services as well as a host of products and services.

The model describes the entire life cycle of an innovation: number of individuals adopting the innovation in a given year, the number of years required for the adoption to peak, and the number of years required for all potential adopters to make their decision to adopt.

It requires only three input parameters:

1) a measure of contagion which can be derived from analyses of selected time series;
2) the number of first year adopters, provided by the short term forecast;
3) the number of potential adopters which will be defined as a percentage of the total number of rural households in Canada.

The model was tested for its appropriateness to the present study with several data setsl and was deemed suitable to long term demand forecasting.

## A. 3 Survey Method and Instrument

The data for the survey was collected through personal interviews. The choice of this method was justified by the nature of some of the questions (e.g. conjoint measurement) and the length of the questionnaire. The overall measurement strategy was designed to minimize the incidence of two sources of errors:

1
"Study of the Demand for Communications Services in Rural Canada: Analysis of Pilot Survey Results", op. cit., 100-118.

1) errors due to the non-representativeness of the sample; and
2) errors occuring during the measurement process.

The first source of error will be considered in the next two sections dealing with sampling issues. This section focuses on the measurement process itself. Several actions were taken to insure that the survey would provide valid information:

- Rural people's knowledge of various telecommunication related concepts was assessed during the focus group phase.
- The questionnaire items were arranged in a sequence allowing respondents to gain familiarity with the subject matter before the most crucial questions were asked (buying intentions with respect to new service).
- Care was taken to minimize potential biases for some questions requiring respondents to process information (e.g. conjoint measurement, simulated choice scenarios). For example, visual aids were designed for several questions to assist both the interviewee and the interviewer (a sample of these are reproduced as Figures $A-1$ and $A-2$ ). Skip patterns were carefully ${ }^{\circ}$ designed to minimize the length of the interview.
- Scales that have been found reliable in previous research were retained (e.g. "constant sum scale" used to measure the relative strength of the need for improvement in communication services).
- The order of items for multi-item questions was systematically rotated. A rotational. pattern necessitating nine questionnaire versions was designed (see Table A-1).
- Prior to the pilot survey, the English and the French questionnaires had been pre-tested for respondent and interviewer understanding of instructions and questions.

CARD TV16 (recto)

| Mo. of CHAMMELS | RECEPTIOM | MO. OF CHAMMELS | RECEPTIBA |
| :---: | :---: | :---: | :---: |
|  | Yeay 6008 |  | Yeir coas |
| Programmata | COST |  | COST |
| betted | ( | SAME | 0 |
| P4 |  | P9 |  |

CARD TV16 (versot
-Three channels in your own language

- with very good quality of reception
-with better programming than that currently available
-at a \$6 monthly charge.
-Six channels in your own language
-with very good quality of reception
-with the same programming as that currently available
-at an $\$ 18$ monthly charge.

CARD T9 (recto)

| Unt | C88T | CAUME AREA | UNE | cost | CAWME AREA |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | $\$ 8$ |  |
| private |  | SABE | tren party |  | ungea |
|  |  | P3 |  |  | P4 |

## CARD T9 (verso)

-A private line
-with a $\$ 20$ basic monthly charge
-and the same free calling area you have now?
-A two party line
-with a $\$ 6$ basic monthly charge
-and a larger free calling area than the cne you have now?

ก

TABLE A-I

## definition of the version <br> FOR EACH QLESTION RESIDENTIAL SURVEY



- Finally, a pilot study was conducted to verify that possible sources of measurement errors had been effectively controlled.l Several changes, including price levels in the simulated choice scenarios, were subsequently made.

At the outset of this process the questionnaire, appearing in Appendix $B$, was deemed to be $a$ valid instrument to gather the pieces of information required by the project. The content of the questionnaire is briefly presented below:

- Section $A$ was designed to position the need for improvement in telecommunication services in rural areas relative to other services. Section $B$ relates to telephone service, Section $C$ to television service, Section $D$ to mobile radio service and Section $E$ to general information.
- Questions 6 and 17 are aimed at discovering to what extent respondents are satisfied with various aspects of the telephone and TV service they currently receive.
- Questions 12 and 20 were used to provide the minimum data required to perform a conjoint measurement analysis.
- Questions 13, 21, 22, 23, 28 correspond to the various simulated choice scenarios designed to measure rural respondents' buying intentions with respect to improved services (i.e. comparable to that available in urban areas). Three price levels (high, medium, low). were used for each scenario (see Table A-1).
- The other questions are self-explanatory.

Administration procedures have also been carefully specified to minimize respondent errors, interviewer

1 "Study of the Demand for Communication Services in Rural Canada: Analysis of Pilot Survey Results", op. cit.
errors and to handle the "not at home" problem. A detailed account is given in the field report.l

## 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. Each step will be discussed in this section.

## A.4.1 Sampling Frame

Before developing a sampling frame, it is necessary to precisely define the population to be surveyed. Rural households are involved in this project; it is therefore necessary to have an operational definition of "rural" and to establish a procedure for developing the frame. This aspect of the survey was conducted by Steve Brown and Keith Richardson and is reported in detail in a companion report2.

The sampling frame that was developed was composed of census Enumeration Areas (EA's). The EA's retained in the sampling frame had a population density of greater than 0.8 persons per square mile and were located outside the boundaries of:

[^2]a) Census Metropolitan Areas (CMA's);
b) Cities, towns and villages (CSD's) and Census Agglomerations (CA's) with population size over 2,499 and global density greater than 999 persons/sq. mile.

EA's with no private households and EA's that correspond to Indian Reserves were excluded.

Of the 35,154 EA's that were defined for the 1976 census, 11,785 met the criteria implied by the definition of rural and were retained to compose the sampling frame. A total of $1,476,154$ households were living in these rural EA's. Table A-2 provides a provincial breakdown of the number of households in rural Canada and Table A-3 provides a regional breakdown of the number of households in rural Canada by community size. 1

The frame was stratified by subprovincial region (smaller area within the provinces), and community size (that is, communities with a population of less than 1000, and communities of 1000 to 2499). The frame was stratified in this manner to provide even coverage of the rural portions of each of the five regions. (Atlantic, Quebec, Ontario, Prairies, and B.C.). Within each region two replicated samples of EAs were selected based on probability proportionate to size, i.e. the number of households per EA. This design was used in order to provide a basis for obtaining close estimates of the standard error applicable to statistics derived from the survey ${ }^{2}$.

1 Rural households were identified by computer selection from the 1976 national census data which resulted in the creation of five files $S G 1,2,4,5$ and 6. Households in file SG6 were not included in the field survey although the characteristics of households in this file are sufficiently close to the aggregate that the survey results can be considered representative of this group also.

O'Hara, S., "Study of the Demand for communication Services in Rural Canada - Residential Survey", Canadian Facts, Ottawa, (1981), p.10.

RESIDENTIAL SAMPLING PRAME
RURAL HOUSEHOLDSI
ATLANTIC ..... 244,561

Newfoundland
Prince Edward Island Nova Scotia
New Brunswick

52,546
21,336
86,107
84,572
QUEBEC
ONTARIO
PRAIRIES
337,310
Manitoba
Saskatchewan
Alberta
BRITISH COLUMBIA
134,448
RURAL CANADA

Source: Brown, S. and Richardson, K., "Sampling Frames for the Rural Residential and Business Demånd Surveys", Department of Communications, Ottawa, (May 1981), p. 18

1 These figures exclude those households in EA's which were included in the SG6 file.

## RESIDENTIAL SAMPLING FRAME

HOUSEHOLDS (1976)1

| Region | Community Size |  |
| ---: | ---: | ---: |
| Large | Small |  |
| Atlantic | 28,834 | 215,727 |
| Quebec | 51,634 | 276,050 |
| Ontario | 46,462 | 316,292 |
| Prairies | 47,535 | 289,775 |
| British Columbia | 19,545 | 114,903 |
| roral | 194,010 | $1,212,747$ |
|  | $1,406,757$ |  |

1 These figures exclude those households in EA's which were included in the SG6 file.

## A.4.2 Sample Size

An accuracy of $+5 \%$ at $95 \%$ level of confidence was required for estimates at the regional level. This implies a sample size of 400 completed interviews per region, or a national sample of 2,000 completed interviews.

## A.4.3 Sampling Procedure

Two replicated samples of EAs were selected proportionately to the number of households per EA. Then, within each of the 729 EAs so selected, a location was selected at random. Interviewers were instructed to select households at this location according to a pre-specified procedurel. Only households which could be identified as primary residences were selected; interviews were conducted with the male or female head of household, on an alternate basis.

## A. 5 Sample Characteristics and Representativeness

## A.5.1 Population Dispersion Characteristics

Population dispersion is a key factor in the provision of communications services. In this section a set of graphs illustrate characteristics derived from the sample. Figures $A-3$ to $A-18$ illustrate the distribution of the sample with respect to distance to the nearest city and nearest neighbour as derived from the answers to Question 34 a) and g) (nationally and by region and community size; distribution and cumulative).

1 The procedure is described in more detail in o'Hara, $S$. "Study of the Demand for Communication Services in Rural Canada - Residential Survey", Canadian Facts, Ottawa, (1981).

FIGURE A-3
SAMPLE DISTRIBUTION
OF
DISTANCE TO NEAREST CITY (National)



## FIGURE A-5

SAMPLE DISTRIBUTION
OF
DISTANCE TO NEAREST CITY
(Atlantic Region)


SAMPLE DISTRIBUTION
OF
DISTANCE TO NEAREST NEIGHBOUR
(Atlantic Region)


FIGURE A-7
SAMPLE DISTRIBUTION
OF
DISTANCE TO NEAREST CITY
(Quebec Region)


FIGURE A-8

## SAMPLE DISTRIBUTION

OF

## DISTANCE TO NEAREST NEIGHBOUR

(Quebec Region)


FIGURE A-9
SAMPLE DISTRIBUTION
OF
DISTANCE TO NEAREST CITY
(Ontario Region)


FIGURE A-10
SAMPLE DISTRIBUTION
OF
DISTANCE TO NEAREST NEIGHBOUR
(Ontario Region)


FIGURE A-11
SAMPLE DISTRIBUTION
OF
DISTANCE TO NEAREST CITY
(Prairie Region)


FIGURE A-12
SAMPLE DISTRIBUTION
OF
DISTANCE TO NEAREST NEIGHBOUR
(Prairie Region)


FIGURE A-13
SAMPLE DISTRIBUTION
OF
DISTANCE TO NEAREST CITY
(British Columbia Region)


FIGURE A-14
SAMPLE DISTRIBUTION
OF
DISTANCE TO NEAREST NEIGHBOUR
(British Columbia Region)


FIGURE A-15
SAMPLE DISTRIBUTION
of
DISTANCE TO NEAREST CITY
(SMALL COMMUNITIES)

_ Distribution
.——— Cumulative Distance (as per question 34)

SAMPLE DISTRIBUTION
OF
DISTANCE TO NEAREST NEIGHBOUR
(SMALL COMMUNITIES)


FIGURE A-17
SAMPLE DISTRIBUTION
OF
DISTANCE TO NEAREST CITY


Cumulative
Distance (as per question 34)

## SAMPLE DISTRIBUTION

of
DISTANCE TO NEAREST NEIGHBOUR
(LARGE COMMUNITIES)


As would be expected there is considerable regional variation in population distribution (see Figures A6, A8, Al0, Al2, Al4). On a national basis two thirds of the sample households were located within 100 yards from their nearest neighbour (Figure A4). In the Prairie region however where overall population density is lowest in rural canada, only one third of the sample households were within 100 yards of their nearest neighbour. Similarly the prairies households are farthest from the nearest city except for the Atlantic Region.

## A.5.2 Sample Characteristics

The final data base consisted of 2,667 respondents. Although numerous measures were included in the survey instrument, five demographic measures were compared to Statistics Canada data which is based on the 1976 Census. This enabled the representativeness of the sample along the following five dimensions to be evaluated:
i) tenure
ii) type of dwelling
iii) household size
iv) language
v) marital status

The comparison of the Statistics Canada information to the survey resultsl (see Table A-4) suggests that the sample is generally well balanced along these dimensions, and that the sampling procedure was carried out in a reliable fashion. However, some discrepancies are worth noting. For example, while the survey reports $69 \%$ to speak English, Statistics Canada reports 62\%. Although this might at first appear to be a large discrepancy, it is explained quite easily. The survey measured the language spoken most often at home while Statistics Canada in their 1976 Census year measured mother tongue. The difference is obvious and explains why more people would report speaking English at home. In addition, the comparisons indicate that people who are married and live in the prairie region were oversampled, as were people in single or semi-detached houses in the Prairies and B.C.

1 The survey data is unweighted except at the National level, and the Statistics Canada data excludes the SG6 file.


[^3]
## TABLE A-4 (cont'd).

SAMPIE CHARACTERISTICS

| Language | Atlantlc |  | Quebec |  | Ontorio |  | Prairles |  | B.C. |  | National |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\frac{\text { Framel Survey }}{}{ }^{\text {a }}$ |  | Frame Survey ${ }^{2}$ |  | Frame Survey ${ }^{2}$ |  | Framel Survey ${ }^{2}$ |  | Framel Survey ${ }^{2}$ |  | Franel | Survey ${ }^{3}$ |
|  | $(932,865)$ | (551) | $(1,249,595)$ | (585) | $(1,220,880)$ | (507) | $(1,122,965)$ | (549) | $(428,090)$ | (475) | $(4,954,395)$ | $(2,047)$ |
|  | \% | $\%$ | $\%$ | \% | $\%$ | $\%$ | $\%$ | \% | \% | $\%$ | 8 | 8 |
| English | 81 | 84 | 7 | 5 | 85 | 92 | 75 | 94 | 86 | 96 | 62 | 69 |
| French | 18 | 16 | 92 | 95 | 7 | 4 | 5 | 2 | 2 | 1 | 30 | 28 |
| Other | 1 | 0 | 1 | 0 | 6 | 4 | 19 | 4. | 10 | 2 | 7 | 2 |
| Not Stated | 1 | 1 | 1 | 0 | 1 | * | 1 | 1 | 2 | 1 | 1 | * |
| Mar 1tal Status | $(244,595)$ | (551) | $(327,490)$ | (585) | $(362,830)$ | (507) | $(337,275)$ | (549) | $(134,475)$ | (475) | $(1,406,665)$ | $(2,047)$ |
|  | $\%$ | $\%$ | $\%$ | 8 | 9 | 8 | 8 | 8 | $\$$ | $\%$ | $\%$ | 8 |
| Marrled ${ }^{4}$ | 79 | 84 | 82 | 88 | 80 | 84 | 77 | 87 | 78 | 85 | 79 | 86 |
| Separated | 2 | 2 | 2 | 1 | 3 | 1 | 2 | 2 | 4 | 2 | 2 | 1 |
| Wldowed | 12 | 9 | 9 | 6 | 11 | 8 | 11 | 7 | 7 | 4 | 10 | 7 |
| Divarced | 1 | 1 | 1 | * | 2 | 1 | 1 | 1 | 3 | 2 | 2 | 1 |
| Single | 6 | 5 | 6 | 5 | * 6 | 6 | 9 | 5 | 8 | 6 | 7 | 5 |

[^4]
## A.5.3 Weighting Scheme

As previously explained in section A.4.l (Sampling Frame), the frame was stratified to provide even coverage of the rural portions of each of the five regions (Atlantic, Quebec, Ontario, Prairies, and B.C.). In so doing, the resultant sample was not distributed according to the actual proportion of rural households in each region (e.g. rural households in the Atlantic region and in B.C. were oversampled). In order to correct for the disproportionate regional representation, the total national sample was weighted down (i.e. from 2667 respondents to 2047). In addition, the data presented for small and large rural communities was weighted down such that it would represent all regions. The regional data was not weighted as it proved to be representative in terms of the proportions of small and large communities within each region.

As a result there are, in effect, three different total sample sizes:
a) the national data base ( 2047 respondents) which is representative of the population size of both community sizes and the five regions.
b) the regional data base (2667 respondents distributed as follows: Atlantic region, 551 respondents; Quebec, 585 respondents; Ontario, 507 respondents; Prairies, 549 respondents; and B.C., 475 respondents) is representative of both small and large community sizes within each region.
c) the community data base (2057 respondents distributed as follows: small, 1787 respondents; and large, 270 respondents) is representative of the population size across the five regions for each community size.

It is important to remember that no one type of respondent 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 respondents sampled was 2,667 ).

APPENDIX B
GLOSSARY OF TECHNICAL TERMS

## APPENDIX B

GLOSSARY OF TECHNICAL TERMS

The definitions or discussions presented below are not comprehensive; only the aspects relevant to the analysis reported here have been retained.

- Frequency distribution: The frequency distribution of a given questionnaire item merely describes how the sample answered the question.

The "shape" of a frequency distribution is of particular interest to the researcher; besides indicating how the measurement went, this shape has important analytical implications. For instance, certain statistical analyses (e.g. correlation, regression) usually assume that the shape of the distribution exhibits certain characteristics (e.g. unimodality, normality, etc.). Several statistics are commonly used to characterise the shape of a frequency distribution:

```
- measures of central tendency (mean, mode,
    median)
- measures of dispersion or spread about the
    mean (variance, standard deviation)
- measure of symmetry (skewness)
- measure of relative flatness (kurtosis)
```

- Crosstabulation: A crosstabulation is a joint frequency distribution of cases according to two or more classifactory variables. These joint frequency distributions can be statistically analyzed by certain tests of significance, e.g. the chi-square statistic, to determine whether or not a relationship exists between them.
- Measures of association: Hypothesis testing usually involves an investigation of whether the answers to one question (e.g. purchase intentions) are related to the answers of one or several other questions (e.g. degree of satisfaction, intensity of need). Several measures of statistical association are available because some of them (e.g. regression, correlation) can only be used when the variables involved exhibit certain distributional and scaling characteristics. When these characteristics are not satisfied, "non-parametric" measures of association are used (e.g. Cramer's V, Contingency Coefficient, Lambda).
- Correlation coefficients: They measure the degree (or strength) of statistical association between two variables. They range from -1 to +1 ; the sign of the coefficient indicates the direction of the relationship (inverse or positive); the absolute value indicates the degree of association: a "0" indicates an absence of statistical association, which means that the two variables vary independently of each other; a "l" indicates a perfect statistical association, which means that the variation in one variable parallels exactly the variation in the other variable. The Pearson coefficient is used for interval-scaled variables while the Spearman coefficient is used for ordinal-scaled (rank ordered) variables.
- Level of significance: This concept arises when random samples are used to infer the existence of relationships in the population. A test of significance is used to learn the probability that the relationship observed in the sample could have happened by chance. The probability of the observed relationship occuring by chance is equal to the proportion of every possible sample in which the relationship between two variables is as strong or stronger than in the observed sample. It has become convention in social science to accept as statistically significant relationships which have a probability of occuring by chance 5 percent of the time or less (i.e. 5\%), that is, in no more than 5 out of 100 samples. The significance tests used in this report include the 2 , the significance test for the correlation coefficient, and the fisher test (for the coefficient of determination $\mathrm{R}^{2}$ ).
- Standard error: The standard error statistic indicates the potential degree of discrepancy between the sample mean and the unknown population mean. If we were to draw an infinite number of equal-sized samples from a given population, the means of these samples would be normally distributed around the true population mean. The standard deviation of this distribution is called the standard error. About $66 \%$ of the sample means would be contained in the interval defined by the population mean $\pm$ one standard error.
- Factor analysis: This is a technique that can be used to reduce a set of intercorrelated variables into a smaller set of new variables (called factors) which are truly independent (uncorrelated).


# APPENDIX C QUESTIONNAIRE 



ASK TO SPEAK TO THE HEAD OF HOUSEHOLO.

Hello, I am of Canadlan Facts, marke t research company. We are conducting a survey on behalf of the Government of Canada (HANO LETTER Of INTRODUCTION). We would appreclate your co-operation.
A. Is this your primary residence, that is, do you live in this home for six months or more of the year?

YES ............ H NO ......... [
B. (IF YES TO A ABOVE, INTERVIEW MALE HEAO OF HOUSEHOLO)



ASK TO SPEAK TO THE HEAD OF hOUSEHOLD.

Hello, I am of Canadian Facts, a market research company. We are conducting a survey on behatf of the Government of Canada (HAND LETTER OF INTRDDUCTION). We would appreciate your co-operation.
A. Is this your primary residence, that is, do you live in thls home for $s$ ix months or more of the year?

YES ............ D NO ......... | R RECDRD BELOW ANO |
| :---: |
| ENO INTERVIEW |

8. (IF YES TO A ABOVE, INTERVIEN FEMALE HEAD OF HOUSEMOLD)

| TRIP: | $\underline{1}$ | $\underline{2}$ | 3 |
| :--- | :--- | :--- | :--- |
| DATE: |  |  |  |

NO ONE AT HOME .............................20-1 .......21-1 .......22-1
NOT A PRIMARY RESIDENCE ....................... 2 ......... 2 ........ 2
NO FEMALE HEAD OF HOUSEHOLD ................ 3 ........ 3 ........ 3
INITIAL REFUSAL 4 ....... 4 ....... 4
(EXPLAIN REFUSAL)
RESPONDENT NOT AT HOME ....................... 5 ........ 5 ........ 5
RESPONDENT REFUSAL 6 ....... 6 ........ 6
TERMINATION ..................................................................... 7
(SPECIFY QUESTION NUMBER
COMPLETION ...................................... 8 ........ 8 ........ 8
$\qquad$

1-a) (HAND CARD A, HOLD DECK A)
Please read this card and tell me all of the services you strongly feel must be improved in your area.
(FOR EACH SERVICE MENTIONED (UP TO 6), REMOVE THE CORRESPONDING CARD FROM DECK A. WHEN RESPONDENT HAS SELECTED UP TO 6 SERVICES. TAKE BACK CARD A AND HAND RESPONDENT THE DECK OF CARDS HE/SHE HAS SELECTED.)
-b) Now looking at the services you have selected, which one do you feel most needs to be improved in your area? (REMOVE CARD, CIRCLE CODE 1 BELOH BESIDESERVICE MENTIONED.)
-c) And which is your second choice for improvement in your area? (REMOVE CARD. CIRCLE CODE 2 BELOW BESIDE SERVICE MENTIONED.)

What is your next choice? (RECORD BELOW UNDER THIRN)
(REPEAT UNIIL ALL CARDS HAVE BEEN RECORDED IN ORDER SELECTED BY RESPONDENT)


I am going to give you a list of four telecommunication services. Suppose that you had 10 points to allocate for improvement to these services in your area. The more points you give to a service the more you feel it must be improved, the less points you give the less you feel it must be improved. You can allocate the 10 points to one or all the services, but remember that the total must add up to 10 . (HAND TO RESPONDENT, RESPONDENT RECORDS)

NO. OF POINTS

| Telephone services ...................... |
| :---: |
| CB or mobile radio services |
| Radio broadcasting services |
| Television services |

TOTAL MUST ADD UP TO $10 \quad 10$
NO ITPROVEMENT NEEDED ..... 22/24
in any of these. SERVICES ..... 25/27


5-a) (IF NO TELEPHONE IN HOUSEHOLD, ASK:) Would you tell me why you do not have a phone? (DO NOT READ LIST) (CIRCLE CODE 1 POR FIRST MENTION.)
-b) And are there any other reasons why you do not have a phone in your home? (CIRCLE CODE 2 POR SECOND MEMTION, CODE 3 POR THIRD MENTION)

| 5-a) | 5-6) |  |
| :---: | :---: | :---: |
| REASONS | POR LACX | OF PHONE: |
| FIRST | SECOND | THIRD |
| MENTION | MENTION | MENTION |

TOO EXPENSIVE ..........40-1 ... 2 ... 3
TELEPHONE ON ORDER/ WAITING FOR INSTALLATION ..41-1 ... 2 ... 3

RECENTLY MOVED TO HOUSE 42-1 ... 2 ... 3
CANNOT GET THE TYPE OF
SERVICE I HANI ........ 43-1 ... 2 ... 3
UNOBTAIMABLE, CAN'T
GET IT .................44-1 ... 2 ... 3
SERVICE NOT AVAILABLE .45-1 ... 2 ... 3
NO NEED FOR ONE ........46-1 ... 2 ... 3
OTHER (SPFCIFY) $\qquad$
CO TO QUESTION 13
(IAND CARD B)
Please look at this scale and cell me how satisfied your household is with each of the following aspects of your present telephone service. (RFAD FACH ITEM AND RECORD ANSWER BEFORE READING THE NEXT ONE.) (START READING AT THE " $X$ " AND CONTINUE FOR ALL STATEMENTS)

| VERY |  |  | VERY |  | NOT |
| :--- | :--- | :--- | :--- | :--- | :--- |
| SATIS- | DISSA- | DISSA- | DON'T | APPLI- |  |
| SATISFIED | FIED | TISFIED | TISFIED | KNOW | CABLE |

$X \quad a$
) Speed of repair service? ...........47-1 ... 2 ..... 3 ..... 4 $\qquad$ 5 6
b) Reliability of service, i.e.. few breakdowns? ....... $43^{-1} \ldots .2$..... 3 ..... $4 \ldots \ldots$.
c) Speed of installation service?

e) Number of parties on your line? .... 51 -1 ... 2 ..... 3 ..... $4 \ldots \ldots .5$
f) Size of area within which you can call
free, 1.e., without long distance charges? ........... 52 -
) Ability to call. free of charge, essential services such as police, hospital, etc.? ... 53-1 ... 2 ..... 3 ..... 4 .... 5 .... 6
h) Overall clarity of comunication

1) Billing service?.. $55-1 \ldots \ldots \quad 2 \ldots \ldots$
j) Basic monthly charge (not including long distance calls)? ........ $56-1$... $2 \ldots \ldots$.
k) Cost of long distance calls? .. $57-1$... 2 ..... 3 ..... $4 \ldots . . .$.
2) Cost of installa-

m) Availabilicy of
line when you
want it? ........ $59-1$... $2 \ldots \ldots$.
n) Your telephone


1-a) What eype of residential celephone service do you pay for? is it a... (READ LIST)?

-b) Including yourself, how many parties are actually on your line at che present cime?

NO. OF PARTIES: $\qquad$ 62/63 (WRITE IN)
DON'T KNOH ..

8-a) For how many years have you had a (REPEAT TYPE OF SERVICE MENTIONED IN Q. 7-a) )?

LESS THAN 1 YEAR .. $\square$
NO. OF YEARS : $\quad$ (SPECIFY) $64 / 66$
-b) Did you have to pay more than $\$ 50$ to have your telephone installed?

-c) How much did it cost? $\quad 71 / 74$ (SPECIFY)

DUP. 1/4 5-3
DUY. 6
9. Now I am going to read a list of community facilities and services. Please tell me if you have to make a long distance call from your home in order to telephone ..... (READ LIST)?

|  | LONG DISTANCE CALL REQUIRED: |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | YES | NO | DON' | I KNOW |
| The nearest hospital | 7-1 | 2 | .. 3 | 3 |
| The nearest doctor | 8-1 | 2 | . 3 | 3 |
| The nearest centist |  | 2 | . 3 | 3 |
| The nearest elementary school | 10-1 | 2 | - | 3 |
| The nearest secondary school | 11-1 | 2 | - | 3 |
| The place where you work. | 12-1 | 2 | - | 3 |
| The nearest fire department | 13-1 | 2 | - | 3 |
| The nearest police station | 14-1 | 2 | . . 3 | 3 |
| The nearcst grocery store | 15-1 | 2 | - | 3 |
| The nearest service station | 16-1 | 2 | . . | 3 |
| Municipal offices | 17-1 | 2 | . . | 3 |

(-.A) itave there been any major improvements in your telephone service since le way first installed?

| $\pm 0$ | 2 COTOQ .11 |
| :---: | :---: |

-b) (If YES IM Q. 10-a)) Did you yourself ask for this improvement, or did the pelephone company carry out the improvement on its own?

Asked for improvement .....19-1
Company cartied out on
ite oun ....................... 2
-c) How long ago did this improvement take place?
:ONTHS
YEARS 22/23 (SPECIFY)

11-a) On the average, how much is your total monthily phone bill?
\$

RESPONDENT CHECKED PHONE BILL(S): YES ...27-1

NO .... 2
-b) Excluding charges for long distance calls; and tax, how much is the basic monthiy charge for your telephone?
$\$ \prod_{\text {(WRITE IN) }} 28 / 29$
RESPONDENT CHECXED PHONE BILL(S):
YES ...30-1
NO .... 2
-c) Does your monthly phone bill include charges for any of the following optional equipment? (READ LIST)

12. Suppose chat you have just moved to a different place; you have the chotce betwein two, and only two, types of telephone service. For each of the fullowing situations. could you indicate which rype of service you would buy?
(SHUFFLE DECK AND HAND TO RESPONDENT. HAVE RESPONDENT TELL YOU WHICH CARD Hr./SHE IS LOOKING AT (TI TO T17) AND CHECK $V$ BOX. THEN RECORD RESPONDENT'S CHOICE (PI TO P9) FOR EACH CARD.)


# 1s. Recent breakthroughs in telephone technology make it possible to offer you a telephone service comparable to that available in large cities; chat 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). <br> (HAND CARD C AND READ:) 

> Subscribing to this new telephone service would give you:
> a private line
> a larger free calling area (so that people in surrounding commities and essential services could be called without long distance charges).

## Choice situation A:

(READ STATEMENT)

Suppose that this new improved celephone service is available to you as early as next month, and that the basic monthly charge (that is, not including long distance calls) is $\$ 10$ per monch, how likely would you be to buy this service within the next 12 monelis?
(lland respondent scale card and circle answer below)

## RESTONDENT'S CHOICE:

Certain or almost certain (9 or 10 chances in 10) ....49-1
Good possibillty (7 or 8 chances in 10) .................. 2
Fairly good possibility ( 4,5 or 6 chances in 10) ..... 3
Fair possibility (2 or 3 chances in 10) ................. 4
No chance or almost no chance ( 0 or 1 chance in 10) .. 5

Eceent 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 privare line and enjoy a large free calling area (chat is, people in surrounding commaities and essential services could be called without long distance charges).
(FATD CARD C AND READ:).

Subscribing to this new telephone service vould give you:
a private line
a larger free calling area (so that people in surrounding communities and essential services could be called without long distance charges).

## Choice situacion B:

(READ STATEMENT)

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 calls) is $\$ 18$ per month, how likely would you be to buy this service within the next $\overline{12}$ months?
(HAND RESPONDENT SCALE CARD AND CIRCLE ANSWER BELOW)

PESTOKDENT'S CHOICE:
Certain or almost certain (9 or 10 chances in 10) ....49-1
Good possibility ( 7 or 8 chances in 10 ) ................. 2
Fairly good possibility ( 4,5 or 6 chances in 10) ..... 3
Fair possibility ( 2 or 3 chances in 10 ) .................. 4
No chance or almost no chance ( 0 or 1 chance in 10) $\therefore 5$

BIN B2038
13. Recent breakthroughs in telephone technology make it possible to offer you a telephone scrvice 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 communicics and essential services could be called without long distance charges).
(HALD CARD C AND READ:)

Subscribing to this new telephone service would give you:

> a private line
> a larger free calling area (so that people
> in surrounding communities and essential services could be called without long distance charges).

## Choice situation c:

## (READ STATENENT)

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 calls) is $\$ 25$ per monch, how likely would you be to buy this service within the next 12 months?
(HAND RESPONDENT SCALE CARD AND CIRCLE ANSWER BELOW)

## RESPONDENT'S CHOICE:

Certain or almost certain (9 or 10 chances in 10) ....49-1
Good possibility (7 or 8 chances in 10) ..... 2
Fairly good possibility ( 4,5 or 6 chances in 10) ..... 3
Fair possibilicy (2 or 3 chances in 10) ..... 4
No chance or almost no chance ( 0 or 1 chance in 10) ..... 5

(i-a) (If SO TV IN HOME, ASK:) Why don't you use a television set in your home? (DO NOT READ LIST. CIRCLE CODE 1 FOR FIRST MENTION.)
-b) Any other reason? (CIRCLE CODE 2 bELON FOR SECOND MENTION, ETC. PROBE, CUDE UNLY FIRST THREE MENTIONS.)

| 15-a) | 15-b) |  |
| :---: | :---: | :---: |
| REASONS | FOR NOT WAT | ING TV: |
| FITST | SECOND | THIRD |
| MENTION | MENTION | MENTION |



16-a) (IF ONE OR MORE TV IN USE IN HOME, ASK:) What is your TV mainly used for in your home? (DO NOT READ LIST. CIRCLE CODE 1 FOR FIRST MENTION.)
-b) Anything else? (CIRCLE CODE 2 FOR SECOND MENTION, ETC. PROBE, CODE ONLY FIRST THREE MENTIONS.)


| 17. | (!LAND CARD TVB) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Plesee look at this seste and tell se how satisfied your household is wish eacli of the following aspects of your present TV service. (RFAD EACH ITFY AND RECORD ANSWER BEFORE READING THE NEXT ONE .) (START READING AT THE "X" AND CONTINUE FOR ALL STATEMENTS) |  |  |  |  |  |
|  | VERY SATISFLED | $\begin{aligned} & \text { SAIIS- } \\ & \text { PIED } \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { DISSA- } \\ & \text { IISFIED } \end{aligned}$ | $\begin{aligned} & \text { VERY } \\ & \text { DISSA- } \\ & \text { TISFIED } \end{aligned}$ | $\begin{aligned} & \text { DON'T } \\ & \text { KNOH } \\ & \hline \end{aligned}$ | NOT <br> APPII- <br> CABLE |
| ( $x-4$ ) | overall quality of plecure on most channels? ......................... 7-1 | $2$ | - 3 | - 4 | 5 | 6 |
| -b) | Overall qualley of sound on most channels? .......................... 8-1 | $2$ | - 3 | - 4 | 5 | 6 |
| -c) | Concent of national <br> programing? | $2$ | . 3 | - 4 | 5 | 6 |
| -d) | Amount of local programming. . 10-1 | - 2 | - 3 | . 4 | 5 | - 6 |
| -e) | The number of French Canadian channels you receive? $\qquad$ | $2$ | 3 | - 4 | 5 | - 6 |
| -f) | The number of English Canadian channels you receive? $\qquad$ | $2$ | . 3 | . 4 | . 5 | 6 |
| -g) | The number of American channels you receive? | 2 | 3 | 4 | 5 | 6 |
| -h) | The cost of the reception equipment you require? | $2$ | 3 | . 4 | 5 | - 6 |
| -1) | The reliability of your reeeption equipment? <br> ...... 15-1 | - 2 | . 3 | . 4 | . 5 | . 6 |
| -j) | Your television service <br> In general? <br> ................... 16-1 | $\ldots 2$ | $3$ | .. 4 | . 5 | - 6 |

18-a) How many American stations can you get on your TV set(s)? (RECORD BELOW)
-b) On how many of thesc (NO. OF AMERICAN STATIONS) do you generally get good reception? (RECORD BELOW)
-c) And on how many do you generally get poor reception? (RECORD BELOW)
-d) How many Canadian stations, with English programs, can you get on your TV set(s)? (RECORD BELOW)
-e) And on how many of these (NO. OF ENGLISH STATIONS) would you say that you generally get good reception? (RECORD BELOW)
-f) And on how many do you generally get poor reception? (RECORD BELOW)
-g) Finally, how many Canadian stations, with French programs, can you get on your TV set(s)? (RECORD BELON)
-h) On how many of these (NO. OF FRENCH STATIONS) do you generally get good reception? (RECORD RELOW)
-i) And on how many do you generally get poor reception? (RECORD BELOW)

|  | $\begin{aligned} & -a),-b),-c) \\ & \text { AMERICAN } \\ & \text { STATIONS } \end{aligned}$ | -d), -e,- f) <br> ENGLISH <br> CANADIAN <br> STATIONS | $\begin{aligned} & \left.\left.\left.-\frac{-g}{}\right)_{,}-\mathrm{h}\right)_{2}-1\right) \\ & \text { FRENCH } \\ & \text { CANADIAN } \\ & \text { STATIONS } \\ & \hline \end{aligned}$ |
| :---: | :---: | :---: | :---: |
| total no. | 17/18 | 23/24 | 29/30 |
| RECEPTION: | 19/20 | 25/26 | 31/32 |
|  | 21/22 | 27/28 | 33/34 |

DO NOT WATCH
.35-1
19-a) Has there been any major improvement. in your area. with respect to overall television service?

-b) (IF YES IN Q.19-a))
How long ago did that improvement take place?

| NO. OF MONTHS: |  |
| :--- | :--- |
| NO. OF YEARS : |  |
| (SPECIFY) |  |
| (SPECIFY) |  |

-c) Do you have any of the following TV equipment for receiving TV programs? (READ LIST)
YES NO
External antenna, not
including rabbit ears .....41-1 ........... 2
$\qquad$
$\qquad$
$\qquad$
-d) When did you buy this equipment?
years $45 / 46$
-e) (IF YES TO ONE OR MORE IN 19-c))
How much has this equipment cost you in cotal, including any repairs you may have made?
$\$$ (SPECIFY) $47 / 49$

choice between two, and only two, types of TV service. For each of the following situations, could you indicate which type of service you would buy? (Shuffle deck and hand to respondent. have respondent tell you hhich card hF./SIIE IS LOOKING AT (TV-1 TO TV-23) AND CHECK $\checkmark$ bOX. THEN RECORD RESPONDENT'S CHOLCE (PI TO P9) FOR EACH CARD.)

|  |  |  | DESCRIPTION |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| CARD: |  |  | CHANNELS | RECEPTION | $\begin{aligned} & \text { PROGRAM- } \\ & \text { MING } \end{aligned}$ | MONTHLY RATE | CHO | CE: |  |
| TV-1 | ... $\square$ | $\longrightarrow$ | $\begin{array}{r} 2 \\ 2 \end{array}$ | Fair <br> Excellent | Same Same | $\$ 6$ | $\begin{aligned} & \text { P1 } \\ & \text { P2 } \end{aligned}$ | $\begin{gathered} \ldots \\ \ldots V^{50-1} \end{gathered}$ | - |
| TV-2 | ... $\square$ | $\longrightarrow$ | $\begin{aligned} & 6 \\ & 4 \end{aligned}$ | Fair <br> Excellent | Better Better | $\begin{aligned} & \$ 12 \\ & \$ 6 \end{aligned}$ | $\begin{aligned} & \text { P8 } \\ & \text { P4 } \end{aligned}$ | $\begin{aligned} & \ldots . .51-1 \\ & \ldots . . \\ & 2 \end{aligned}$ |  |
| TV-3 | ... | $\longrightarrow$ | $\begin{aligned} & 6 \\ & 6 \end{aligned}$ | Fair <br> Excellent | Better Same | $\begin{aligned} & \$ 12 \\ & \$ 20^{\circ} \end{aligned}$ | P88 P9 | $\begin{aligned} & . . .52-1 \\ & \ldots . . \end{aligned}$ |  |
| TV-4 | $\ldots \square$ | $\longrightarrow$ | $\begin{aligned} & 4 \\ & 2 \end{aligned}$ | $\begin{aligned} & \mathrm{Fair} \\ & \mathrm{Fair} \end{aligned}$ | Same Better | $\begin{aligned} & \$ 12 \\ & \$ 20 \end{aligned}$ | $\begin{aligned} & \text { P5 } \\ & \text { P3 } \end{aligned}$ | $\begin{aligned} & . . .53-1 \\ & \ldots . .{ }^{2} \end{aligned}$ |  |
| TV-S | $\ldots \square$ | $\longrightarrow$ | $\begin{aligned} & 2 \\ & 4 \end{aligned}$ | $\begin{aligned} & \text { Fair } \\ & \text { Fair } \end{aligned}$ | Better <br> Same | $\begin{aligned} & \$ 20 \\ & \$ 20 \end{aligned}$ | $\begin{aligned} & \text { P3 } \\ & \text { P6 } \end{aligned}$ | $\begin{aligned} & \ldots .{ }^{54-1} \\ & \ldots . .{ }^{2} \end{aligned}$ |  |
| TV-6 | $\ldots \square$ | $\longrightarrow$ | $\begin{aligned} & 6 \\ & 2 \end{aligned}$ | $\begin{aligned} & \text { Fair } \\ & \text { Fair } \end{aligned}$ | Same Better | $\begin{aligned} & \$ 6 \\ & \$ 20 \end{aligned}$ | $\begin{aligned} & \text { P7 } \\ & \text { P3 } \end{aligned}$ | $\begin{aligned} & . . .5^{5-1} \\ & \ldots . .{ }^{1} \end{aligned}$ |  |
| TV-7 | $\ldots$ | $\longrightarrow$ | $\begin{aligned} & 6 \\ & 2 \end{aligned}$ | Excellent Fair | Same Better | $\begin{aligned} & \$ 20 \\ & \$ 20 \end{aligned}$ | $\begin{aligned} & \text { P9 } \\ & \text { P3 } \end{aligned}$ | $\begin{aligned} & \ldots .5^{56-1} \\ & \ldots . .{ }^{2} \end{aligned}$ |  |
| TV-8 | ... $\square$ | $\longrightarrow$ | $\begin{aligned} & 2 \\ & 2 \end{aligned}$ | $\begin{aligned} & \text { Excellent } \\ & \text { Fair } \end{aligned}$ | Same Better | $\begin{aligned} & \$ 12 \\ & \$ 20 \end{aligned}$ | P2 P3 | $\begin{aligned} & \text {....57-1 } \\ & \ldots . . .{ }^{2} \end{aligned}$ |  |
| TV-9 | ... | $\longrightarrow$ | $\begin{aligned} & 2 \\ & 2 \end{aligned}$ | $\begin{aligned} & \text { Fair } \\ & \text { Fair } \end{aligned}$ | Better Same | $\begin{aligned} & \$ 20 \\ & \$ 6 \end{aligned}$ | P3 P1 | $\begin{aligned} & \text {....58-1 } \\ & \ldots . . .{ }^{5} \end{aligned}$ |  |
| TV-10 | $\ldots \square$ | $\longrightarrow$ | $\begin{aligned} & 4 \\ & 6 \end{aligned}$ | Excellent Fair | Better Same | $\begin{aligned} & \$ 6 \\ & \$ 6 \end{aligned}$ | $\begin{aligned} & \text { P4 } \\ & \text { P7 } \end{aligned}$ | $\ldots{ }^{\text {.... 59-1 }}$ |  |
| TV-11 | .. | $\longrightarrow$ | $\begin{aligned} & 2 \\ & 4 \end{aligned}$ | Fair Fair | Same Same | $\begin{aligned} & \$ 6 \\ & \$ 20 \end{aligned}$ | $\begin{aligned} & \text { P1 } \\ & \text { P6 } \end{aligned}$ | $\begin{aligned} & \quad . .{ }^{60-1} \\ & \ldots . .{ }^{2} \end{aligned}$ |  |
| TV-12 | .. | $\longrightarrow$ | $\begin{aligned} & 6 \\ & 2 \end{aligned}$ | Fair <br> Excellent | Better Same | $\begin{aligned} & \$ 12 \\ & \$ 12 \end{aligned}$ | $\begin{aligned} & \text { P8 } \\ & \text { P2 } \end{aligned}$ | $\begin{aligned} & \ldots . .61-1 \\ & \ldots . .{ }^{2} \end{aligned}$ |  |
| TV-13 | $\ldots \square$ | $\longrightarrow$ | $\begin{aligned} & 6 \\ & 6 \end{aligned}$ | Fair <br> Fair | Same <br> Better | $\begin{aligned} & \$ 6 \\ & \$ 12 \end{aligned}$ | $\begin{aligned} & \text { P7 } \\ & \text { P8 } \end{aligned}$ | $\begin{aligned} & \ldots . .62-1 \\ & \ldots . . \\ & 2 \end{aligned}$ |  |
| TV-14 | .. $\square$ | $\longrightarrow$ | $\begin{aligned} & 6 \\ & 6 \end{aligned}$ | $\begin{aligned} & \text { Excellent } \\ & \text { Pair } \end{aligned}$ | Same Same | $\begin{aligned} & \$ 20 \\ & \$ 6 \end{aligned}$ | $\begin{aligned} & \text { P9 } \\ & \text { P7 } \end{aligned}$ | $\begin{aligned} & \text {....63-1 } \\ & \ldots . .6 \end{aligned}$ |  |
| TV-15 | .. $\square$ | $\longrightarrow$ | $\begin{aligned} & 4 \\ & 2 \end{aligned}$ | $\begin{aligned} & \mathrm{Fair} \\ & \mathrm{Fair} \end{aligned}$ | Same Same | $\$ 12$ | P5 P1 | ....64-1 ${ }^{\text {a }}$ |  |
| Tv-16 | . $\square$ | $\longrightarrow$ | $\begin{aligned} & 4 \\ & 6 \end{aligned}$ | Excellent Excellent | Better Same | $\$ 6$ | $\begin{aligned} & \text { P4 } \\ & \text { P9 } \end{aligned}$ | $\begin{gathered} \quad . . .65-1 \\ \ldots . . \\ 2 \end{gathered}$ |  |
| TV-17 | . $\square$ | $\longrightarrow$ | $\begin{aligned} & 2 \\ & 6 \end{aligned}$ | Fair Fair | Same <br> Better | $\begin{aligned} & \$ 6 \\ & \$ 12 \end{aligned}$ | $\begin{aligned} & \mathrm{P} 1 \\ & \mathrm{~PB} \end{aligned}$ | $\begin{aligned} & \ldots . .66-1 \\ & \ldots . . \\ & 2 \end{aligned}$ |  |
| TV-18 | . $\square$ | $\longrightarrow$ | $\begin{aligned} & 6 \\ & 4 \end{aligned}$ | $\begin{aligned} & \text { Excellent } \\ & \text { Fair } \end{aligned}$ | $\begin{aligned} & \text { Same } \\ & \text { Same } \end{aligned}$ | $\begin{aligned} & \$ 20 \\ & \$ 12 \end{aligned}$ | $\begin{aligned} & \text { P9 } \\ & \text { PS } \end{aligned}$ |  |  |
| TV-19 | . $\square$ | $\longrightarrow$ | $\begin{aligned} & 2 \\ & 6 \end{aligned}$ | $\begin{aligned} & \text { Excelleat } \\ & \text { Fair } \end{aligned}$ | Same Same | $\begin{aligned} & \$ 12 \\ & \$ 6 \end{aligned}$ | $\begin{aligned} & \text { P2 } \\ & \text { P7 } \end{aligned}$ | $\begin{aligned} & \ldots . .68-1 \\ & \ldots .{ }^{2} \end{aligned}$ |  |
| TV-20 | .. $\square$ | $\longrightarrow$ | $\begin{aligned} & 2 \\ & 6 \end{aligned}$ | Excellent <br> Excellent | Same Same | $\begin{aligned} & \$ 12 \\ & \$ 20 \end{aligned}$ | P2 P9 | $\begin{aligned} & \ldots .69-1 \\ & \cdots . .{ }^{2} \end{aligned}$ |  |
| TV-21 | . $\square$ | $\longrightarrow$ | $\begin{aligned} & 2 \\ & 4 \end{aligned}$ | Excellent Fair | Same Same | $\begin{aligned} & \$ 12 \\ & \$ 12 \end{aligned}$ | P2 P5 | $\begin{aligned} & \quad . .70-1 \\ & \cdots \cdot{ }^{2} \end{aligned}$ |  |
| TV-22 | . $\square$ | $\longrightarrow$ | $\begin{aligned} & 4 \\ & 2 \end{aligned}$ | Fair <br> Excellent | Same Same | \$20 | $\begin{aligned} & \text { P6 } \\ & \text { P2 } \end{aligned}$ | $\begin{aligned} & \quad . .71-1 \\ & \ldots . .{ }^{2} \end{aligned}$ |  |
| TV-23 | $\ldots \square$ | $\rightarrow$ | $\begin{aligned} & 6 \\ & 2 \end{aligned}$ | $\begin{aligned} & \text { Excellent } \\ & \text { Fair } \end{aligned}$ | Same <br> Same | \$20 | $\begin{aligned} & \text { P9 } \\ & \text { P1 } \\ & \text { ROO } \end{aligned}$ | $\begin{aligned} & \ldots .7^{-1} \\ & \ldots . . \end{aligned}$ | 73/74 |

$\therefore \quad$ Eccent breskthroughs in television broadcasting technology make it ?usifble co offer you a celevision service comparable to that avallable in large cities; that is, anyone could get at least six different channela, and ehe reception on each channel would be excellent.
(HAND CARD TV C AND READ)

Subscribing to chls new eelevision service would give you:

- reception of ac least six different chaninels in your own language (English or French)
- excellent reception on each channel
- same type of programing as you receive now


#### Abstract

Choice situation $A$ : (READ STATEMENT) Suppose that this new improved television service is available to you as early as next wonth, and costs \$ . 6 per month; liow likely would you be to buy this servica within the next 12 months? (HAND RESPONDENT SCALE CARD AND CIRCLE ANSWER BELOW)


## RESPONDENT'S CHOICE:


Recent breakthroughs in television broadcasting technology make itpossible to offer you a television service comparable to that availablein large cities; that is, anyone could get at least six different channels,and the reception on each channel would be excellent.
(HAND CARD TV C AND READ)
Subscribing to this new television service wuld give you:

- reception of at least six different channels in your ownlanguage (English or French)
- excellent reception on each channel
- same type of programing as you receive now
Choice situation B:
(READ STATEMENT)
Suppose that this new improved television service is available to youas early as next month, and costs $\$ 12$ per month; how likely would you beto huy this service. within.the next 12 months?
(HAND RESPONDENT SCALE CARD AND CIRCLE ANSWER BELOW)
RESPONDEMT'S CHOICE:
Certain or almost certain (9 or 10 chances in 10) .... 7-1
ood possibility ( 7 or 8 chances in 10) ..... 2
Fairly good possibility ( 4,5 or 6 chances in 10 ) ..... 3
Fair possibility (2 or 3 chances in 10) ..... 4
No chance or almost no chance ( 0 or 1 chance in 10) ..... 5
$\therefore$. Recent breakthroughs in television broadcasting technology make it possible to offer you a celevision service comparable to that available in large cities; that is, anyone could get at least six different channels, and the reception on each channel would be excellent.
(:AND CARD TV C ARD READ)

Subscribing to this ncu celevision service would give you:

- reception of at least six different channels in your own language (English or French)
- excellent reception on each channel
- same rype of programing as you receive now


## Choice situation C:

(READ STATEEETI)
Suppose that this nev improved television service is available to you as early as next monch, and costs $\$ 20$ per month; how ijkely would you be to buy this uervice vitbla the next 12 months?
(HAND RESPONDENT SCALE CARD AND CIRCLE ANSEER BELOK)

## FISPO:IDEST'S CHOICE:

> Certain or aloost certain (9 or 10 chances in 10) .... 7-1
> Cood possibility ( 7 or 8 chances in 10)

```
'fcent breakchroughs in celevision broadcasting technology make it
ussible co offer you a celevision service comparable to that available
In large cities; that is, anyone could get at least six different channels,
and the reception on each channel would be excellcnt.
GHAND CARD TV D AND READ)
Suhseribing to chis nev celevision service vould give you:
- reception of at least six different channels ineyour own language (English or French)
- excellenc reception on each channel
- same cype of programing as you receive now
```

Bin FICTURE 1

Cholce situation A:
(READ STATERENT)
You, suppose that chis same laproved celevision service fa available through a differenc technology which would require you to buy (cash or credit) a special recepifion unit coselng $\$ 400$. This unit would replace all of your existing reception equipment, including antenna, booster, rotor, etc. how llkely would you be co buy this service within the next $\mathbf{1 2}$ months?
(HAND RESPONDENT SCALE CARD AND CIRCLE ANSNER BELOW)

## RESPONDENT'S CHOICE:

| Good possibility (7 or 8 chances in 10) Falrly gool possibilicy ( 4,5 ur 6 chances In 10) Falr possibility ( 2 ne 3 chances in 10) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Falrly yool prasibility ( 4,5 or 6 chances in 10 ) ..... |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

22. Recent breakthroughs in television broadcasting technology make it possible to offer you a television service comparable to that available in large cities; that is, anyone could get at least six different channels, and the reception on each channel would be excellent.
(HAND CARD IV D AND READ)

Subscribing to this new television service would give you:

- reception of at least six different channels la your uwn language (English or Erench)
- excellent reception on each channel
- same type of programing as you recelve now


## SHOW PICTURE I

## Choice situation B:

## (READ STATEMENT)

Now, suppose that this same improved television service is available through a differzat technology which would require you to buy (cash or credic) a special reception unit costing $\$ 600$. This unit would replace all of your existing reception equipment, including antenna, booster, rotor, etc. how likely would you be to buy this service within the next 12 months?
(HAND RESPONDENT SCALE CARD AND CIRCLE ANSWER BELOW)

RESPONDENT'S CHOLCE:

22. Recent breakthroughs in television broadcasting technology make it possible to offer you a television service comparable to that avallable in large cities; that is, anyone could get at least six different channels, and the reception on each channel would be excellent.
(HAND CARD IV D AND READ)

Subscribing to this new television service would give you:

- reception of at least six different channels in: youc urr language (English or French)
- excellent reception on each channel
- same type of programing as you receive now

SHOW PICTURE I

## Choice situation C:

## (READ STATEMENT)

Now, suppose that this same improved television service is available through a different technology which would require you to buy (cash or credit) a special reception unit costing $\$ 800$. This unit would replace all of your existing reception equipment, including antenna, booster, rotor, etc. how likely would you be to buy this service within the next 12 months?
(HAND RESPONDENT SCALE CARD AND CIRCLE ANSWER BELOW)

## RESPONDENT'S CHOICE:

$$
\begin{aligned}
& \text { Certain or almost certain (9 or } 10 \text { chances in 10) .... 8-1 } \\
& \text { Good possibility (7 or } 8 \text { chances in 10) ................. } 2 \\
& \text { 'Fairly good possibility ( } 4,5 \text { or } 6 \text { chances in 10) .... } 3 \\
& \text { Fair possibility (2 or } 3 \text { chances in 10) .................. } 4 \\
& \text { No chance or almost no chance ( } 0 \text { or } 1 \text { chance in 10) .. } 5
\end{aligned}
$$

23. Another recent television and telephone technology makes it possible to of fer you a combined television and telephone service. That is, you could get at least six different channels with excellent reception on each channel, as well as a private line and a large free califing area where you could call without long distance charges, people in surrounding commuities and essential services.
(HAND CARD TV E AND READ)

Subscribing to this new combined television and telephone service would give you:
for television:

- reception of at least six different channels in your own language (English or French)
- excellent reception on each channel
- same type of programming as you receive now
for telephone:
- private line
- a larger free calling area (people in surrounding area and essential services could be called free)


## Cholce situation A:

## (READ STATEMENT)

Suppose that this new combined Telephone/Television service is available to you as early as next month and costs $\$ 1.5$ per month; how likely would you be to buy this service within the next 12 nontlis?
(HAND RESPONDENT SCALE CARD AND CIRCLE ANSWER BELOH)

RI:SLONDENT'S CHOICE:
Certain or almost certain (9 or 10 chances in 10) ....9-9-1
Good possibility ( 7 or 8 chances in 10) .................. 2
Fairly good possibility (4, 5 or 6 chances in 10) .... 3
Fair possibility ( 2 or 3 chances in 10) ................... 4
No chance or almost no chance ( 0 or 1 chance in 10) .. $S$
23. Another recent television and telephone technology makes it possible to offer you a combined television and telephone service. That is, you could get at least six different channels with excellent reception on each channel, as well as a private line and a large free califng area where you could call without long distance chaiges, people in surrounding commuities and essential services.
(HAND CARD TV E AND READ)

Subscribing to this new combined television and telephone service would give you:

```
for television:
    - reception of at least six different channels in your own
        language (English or French)
    - excelleat reception on each channel
    - same type of programming as you receive now
    for telephone:
    - private line
    - a larger free calling area (people in aurrounding area
        and essential services could be called free)
```


## Chofce situation B:

## (READ STATEMENT)

Suppose that this new combined Telephone/Television service is available to you as early as next month and costs $\$ 25$ per month; how likely would you be to buy this service within the next 12 months?
(HAND RESPONDENT SCALE CARD AND CIRCLE ANSWER BELOW)

## RESPONDENT'S CHOICE:

> Certain or almost certain (9 or 10 chances in 10).....9-1
> Good possibility ( 7 or 8 chances in 10) ................. 2
> Fairly good possibility (4, 5 or 6 chances in 10) .... 3
> Fair possibility (2 or 3 chances in 10) .................. 4
> No chance or almost no chance ( 0 or 1 chance in 10) .. 5
23. Another recent television and telephone technology makes it possible to offer you a combined television and telephone service. That is, you could get at least six different channels with excellent reception on each channel, as well as a private line and a large free calling area there you could call without long distance charges, people in surrounding. comunities and essential services.
(HAND CARD TV E AND READ)

Subscribing to this new combined television and telephone service would give you:
for television:

- reception of at least six different channels in your own language (English or French)
- excellent reception on each channel
- same type of programming as you receive now
for telephone:
- private line
- a larger free calling area (people in surrounding area and essential services could be called free)


## Cholce situation C:

(READ STATEMENT)
Suppose that this new combined Telephone/Television service is available to you as early as next month and costs $\$ 35$ per month; how likely would you be to buy this service vichin the next 12 nonths?
(HAND RESPONDENT SCALE CARD AND CIRCLE ANSWER BELOW)

## RESPONDENT'S CHOICE:

Certain or almost certain (9 or 10 chances in 10) ....9-1
Good possibility (7 or 8 chances in 10) .................. 2
Fairly good possibility ( 4,5 or 6 chances in 10) .... 3Fair possibility ( 2 or 3 chances in 10) ................... 4
No chance or almost no chance ( 0 or 1 chance in 10) .. 5

## SECTION D

24. Does anyone in your household, including yourself, have any $C B$ and/or General Radio Service (GRS) equipment?
```
YES ..................10-1
NO
``` \(\qquad\)

And do you or anyone in this house have any mobile radio or mobile telephone equipment?


IF NO TO BOTH Q. 24 AND Q. 25, GO TO Q. 28.
26. Which type of equipment would you say is most important to this household, CB or mobile radio?

\(27-a)\) What is your (MOST IMPORTANT IN ?. 26) mainly used for? (DO NOT READ LIST)
(CODE 1 FOR FIRST MENTION) (CODE 2 FOR SECOND MENTION, ETC.)
-b) Anything else? (PROBE, CODE THE FIRST 3 RESPONSES IN ORDER MENTIONED)

28. A recent rechnology 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 mobile 2 -way radio or as a portable telephone. To get this new service, one set of new equipment SHOW PICTURE 2 would be needed for each moblle telephone you require.
(HAND CARD R AND READ)

Buying the special equipment to replace your present telephone set would give you:
- a service equivalent to a private line telephone service
- a telephone which can be used in a number of places; for instance, in your home or car
- basic monthiy rate of \(\$ 4\) per month

\section*{Cholce situacion A:}
(READ STATEMENT)

Suppose that cne set of new combined mobile radio-mobile telephone equipment is available to you as early as next month and costs \$300; how likely would you be to buy this service uithin the next 12 months?
(HAND RESPONDENI SCALE CARD AND CIRCLE ANSWER BELOW)

RESPONDENT'S CHOICE:

23. A recent cechnology makes it possible to replace your present telephone service with a service which combines relephone and mobile radio benefits. In ocher 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 SHOW PICTURE 2 would be needed for each mobile celephone you require.
(LLAND CARU R AND READ;

Buying the special equipment to replace your present telephone set would give you:
- a service equivalent to a private line
telephone service
- a telephone which can be used in a
number of places; for instance,
in your home or car
- basic monthly rate of \(\$ 4\) per month

\section*{Choice situation B:}
(READ STATEMENT)

Suppose that one set of new combined mobile radio-mobile telephone equipment is avallable to you as early as next month and costs \(\$ 500\); how likely esuld you be to buy this service within the next 12 months?
(iLHDD RESPONDENT SCAIE CARD AND CIRCLE ANSLER BELOW)

FESPONDENT'S CHOICE:

Certain or almost certain ( 9 or 10 chancea in 10) ....20-1
Good possibility (7 or 8 chances in 10) ................. 2
Fairly good possibility ( 4,5 or 6 chances in 10) .... 3
Fair possibility (2 or 3 chances in 20) .................. 4
No chance or almost no chance ( 0 or 1 chance in 10) .. 5
23. 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 SHOW PICTURE 2, would be needed for each mobile telephone you require.
(HAND CAR K AND READ;

Buying the special equipment to replace your present telephone set would give you:

> - a service equivalent to a private line telephone service
> - a telephone which can be used in a number of places; for instance, in your home or car
> - basic monthly rate of \(\$ 4\) per monch

\section*{Choice situation C:}
(READ STATEMLENT)

Suppose that one set of new combined mobile radio-mobile telephone equipment ": available to you as early as next month and costs \$700; how likely worlit you be to buy this service within the next 12 months?
(HAND RESPONDENT SCALE CARD AND CIRCLE ANSWER BELOW)

RESPOMDENT'S CHOICE:

Certain or almosi certain (9 or 10 chancea in 10) ....20-1
Good possibility (7 or 8 chances in 10) .................. 2
Faizly good possibility ( 4,5 or 6 chances in 10) .... 3
Fais possibility ( 2 or 3 chances in 10) .................. 4
No chance or almost no chance ( 0 or 1 chance in 10) .. 5

And now just a few questions to help us in classifying your answers.
29. For how many years have you lived in this home?
\[
\text { NO. OF YEARS: } \frac{}{\text { (SPECIFY) }} \quad 21 / 22
\]
30. Do you:
(READ LIST)?
Own this home? .................23-1
Rent this home? ............... 2

31-a) Do you consider this home to be located in a rural area or an urban
area?
URBAN ...24-1
RURAL .... 2
OTHER (SPECIFY) \(\qquad\)
-b) And is your way of life more urban or more rural?

URBAN ... 25-1
RURAL .... 2
OTHER (SPECIFY) \(\qquad\)
32. Would you say that this home is part of a commenity that is a town, a village, a settlement, etc., or that this home is isclated?

ISOLATED \(2 6 \longdiv { - 1 \quad \mathrm { TO } \text { Q. } 3 4 }\)

PART OF A COMMUNITY ... 2

33 . (IF IN COMMNITT AT Q.32)
Approximately how many people live in this community?

NO. OF PEOPLE: (SPECIFY) \(27 / 30\)
34. (HAND CARD E-1)

Please look at this card and cell me how far this home is from: (READ LIST AND RECORD)

a) Your nearest

b) the nearest grocery store.. 32-1....2.......3......4....... 5.......6.......7.................. 9
c) the nearest elementary school 33-1....2.......3......4......5......6....... 7................... . 9
d) the local police

e) the local
fire department 35-1....2.......3......4.......5.......6.......7.................. 9
f) the nearest

g) the nearest city
(WRITE IN NAME)
35. How many people including yourself, live in this household who are:

NO. OF PEOPLE
Under 5 years of age .................38-
Sto 14 ................................. . . . . 39-_
15 to 24 . . . . . . . . . . . . . . . . . . . . . . . . . 40 40____

45 tо 54 ..................................42-
55 to 64 ..................................43-_

TOTAL - \(45 / 46\)
36. So chere are people living in this household? (TOTAL NO. IN HOUSEHOLD)
(CORRECT TOTAL IF REQUIRED)
37. What is your occupation?
(TYPE OF JOB) IN
(TYPE OF COMPANY)
RETIRED 48-1

UNEMPLOYED 2

HOMEMAKER ....................... 3
(IF EMPLOYED OUTSIDE THE HOME, ASK:) Is that full-cime or part-time?
FULL-TIME ...............49-1
PART-TIME ............... 2
38-a) What is your marital status?
MARRIED
50-1
\begin{tabular}{|c|c|c|}
\hline SINGLE (NEVER MARRIED). & \multicolumn{2}{|l|}{2} \\
\hline SEPARATED & 3 & GO TO \\
\hline WIDOWED & 4 & Q. 39 \\
\hline DIVORCED & 5 & \\
\hline
\end{tabular}
-b) What is che occupation of your spouse?
(TYPE OF JOB)
IN
(TYPE OF COMPANY)
RETIRED . . . . . . . . . . . . . . . . . . . . 521
UNEMPLOYED ........................ 2
homemaker .....:................. 3
(IF EMPLOYED OUTSIDE THE HOME, ASK:) Is that full-time or part-rime?
FULL-TIME ..............53-1
PART-TIME ............... 2
PUBLIC/ELEMENTARY (GRADES 1 TO 8: QUEBEC, GRADES 1 TO 7) .......................... 54-1 ..... 2
SECONDARY/IILII SCHOOL (GRADES 9 TO 13: QUEBEC, GRADES 8 TO 12) .......................... 3 ..... 4
TECHNICAL/SENIOR COLLEGE (ABOVE GRADES 12 OR 13; QUEBEC, CEGEP) ......................... 5 ..... 6
UNIVERSITY ..... 8
POST-GRADUATE ..... 9 ..... 0
NO FORMAL SCHOOLING ..... 55-1
REFUSED ..... 2
40. (HAND CARD E-2) And in which age group. are you?
A. 18 TO 24 ..... 56-1
B. 25 TO 34 ..... 2
C. 35 T0 44 ..... 3
D. 45 TO 54 ..... 4
E. 55 OR OVER ..... 5
REFUSED ..... 6
41. (HAND CARD E-3) And what was the total household income from all sourcesbefore taxes during 1979? Just tell me which letter coincides with yourincome group?
\begin{tabular}{|c|c|}
\hline \(L\) & . . . . . . . . . . . . . . . 57-1 \\
\hline M & 2 \\
\hline N & 3 \\
\hline 0 & 4 \\
\hline P & 5 \\
\hline Q & 6 \\
\hline R & 7 \\
\hline S & . 8 \\
\hline T & .. 9 \\
\hline U & .... 0 \\
\hline V & . . 58-1 \\
\hline W & . 2 \\
\hline
\end{tabular}
42. What language is spoken most often in this household?
\[
\begin{aligned}
& \text { ENGLISH ............... S2-1 } \\
& \text { FRENCH ................. } 2 \\
& \text { OTHER (SPECIFY) }
\end{aligned}
\]
Type of dwelling: (OBSERVE, DO NOT ASK)
SINGLE OR SEMI-DETACHED HOUSE ..... 60.1
ROW HOUSES ..... 2
DUPLEX; TRIPLEX, QUADRUPLEX ..... 3
SUITE OVER STORE, ETC. ..... 4
APARTMENT (5 TO 7 UNITS) ..... 5
APARTMENT ( 8 TO 19 UNITS) ..... 6
APARTMENT ( 20 OR MDRE UNITS) ..... 7
ROOM(S), PART OF HOME ..... 8
OTHER (CIRCLE CODE AND SPECIFY)

ASK TO SEE THE PHONE BILL IF NOT VOLUNTEERED. RECORD NAME OF PHONE COMPANY.
BASIC MONTHLY CHARGE: ..... 61/63TOTAL MONTHLY CHARGE:
\(\qquad\) 64/66RECORD NAME OF PHONE COMPANY:
\(\qquad\) 67-
\(\qquad\)FINISH TIME: 70.

DEBRIEFING
In this survey we have described a number of possible service options. These options may not be available in this area in the near future. They have been included for illustrative purposes only.

NAME : \(\qquad\)

ADDRESS: \(\qquad\)

CITY: \(\qquad\) TELEPHONE NO. \(\qquad\)

DATE: \(\qquad\) INTERVIEWER:

72-
73-

BOURGEOIS, JACQUES C.
--An analysis of the demand for improyed ...

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DATE DUE
DATE DE RETOUR
```


[^0]:    1 Based upon responses to Question 1.

[^1]:    1 Based upon responses to Question 2.

[^2]:    1 O'Hara, S., "Study of the Demand for Communication Services in Rural Canada - Residential Survey", Canadian Facts, Ottawa, (1981).

    2 Brown, Steve and Richardson, Keith, "Sampling Frames for the Rural Residential and Business Demand Surveys", Department of Communications, Ottawa, (May 1981).

[^3]:    * Less than 0.5\%

    Statlstics Canada data based on the 1976 Census (excludes SG6)
    Unwelghted
    Welghted
    Statistics Canada data includes "moveable" dwellings even If on foundations.
    5 Base for statistics Canada data is Total families (excluding one person households). Therefore, survey data has been calculated on households with 2 or more persons.

[^4]:    * Less than 0.5\%

    1 Statistics Canada data based on the 1976 Census (excludes SG6)
    Unweighted
    3 Welghted
    4 Survey data Includes "Common Law"

