

**JIMMA UNIVERSITY
FACULTY OF BUSINESS
DEPARTMENT OF MANAGEMENT**

A Research on

*The Advancement in Modern Communication Technology and
assessment of Expansion of telephone services, case study of
southwestern region.*

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Abstract

This study was done to assess the contribution of modern communication technology for the expansion of telecommunication service taking as a case of southwestern region ETC.

After the data cleaning and careful checking completed the number and percentages are used in tabular form in order to analyze the study.

The survey result shows that the actual users of telephone have been facing different types of difficulties among which, unclear sound, unexpected disconnection of lines, cross talk, inability to communicate with the near by woreda people, and threat of higher service charge because of cross talk etc.

During the study, it was learned that there is a higher degree of centralization by the corporation and this may cause inefficient utilization of all its capacities. It is recommended to use all the modern facilities fully and efficiently by efficient technical people to narrow the gap between clients need and the corporations offer. The level of awareness of the majority of the population 72/131(55%) towards modern telecommunication is lesser. Hence, it is recommended to have more promotional activities to increase awareness level of clients.

Finally, it is recommended to devise means of adjusting highly centralized management system in a way that would give a means for efficient utilization of the corporations capacity.

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Chapter One

1. Introduction

1.1. Introduction (Background)

Telecommunication plays a major role in exchange of views and information among various sectors of socio-cultural and economic groups of a society. A modern communications system, especially telecommunication is not only essential to a country's socio - economic development, but also it is one of the condition in attracting foreign capital, and encouraging computation in global market.

Most telephones connect with the telephone networks by means of wire run through the walls of homes and other buildings. A small clip connects each telephone to the wiring. Other phones connect with the network by radio.

Alexander Graham Bell invented the telephone in 1876. Today, hundreds of millions of telephones serve people all over the world. (World Book, 1996)

In Ethiopia Telecom service started in 1886 EC Institutionalized under the ministry of telephone, telegraph and post around 1903 EC and separated from postal service in 1945 EC and then called "*Ethiopian Telecommunication Authority*" by a directive issued by the provisional military government in 1973 EC Having the objective of promoting the development of high quality, efficient, reliable and affordable telecommunications service. "*Ethiopian Telecommunications corporation*" established by regulation no 10/1996 by main objective of providing the telecommunications service. Now, the Ethiopian Telecommunications Corporation (ETC) is expanding its network with in the country. (Wosenyeleh Tigu, Dec 2001).

In assessing the expansion of telephone service, it has been started with manual telephone in a wire system. In developing a communications system, *twisted - pair wire cable* tend to be modified to *coaxial cable*, then to *fiber optic cable*, this will continue to grow as developers of application take advantage of its high data transfer capacity to *microwave transmission* - sent through the atmosphere and space. This transmission media does not entail the expense of laying cable.

Microwave transmission is the line-of-sight between the transmitter and receiver, that is, one station will receive signals, amplify it, and retransmit it to the next transmission tower. (Palph M. Stair, 1998). This has also deficiency, before the curvature of the earth makes it impossible for the towers to "See one another" To overcome this problem another means of communication has been developed called *communications satellite*- a microwave station placed in outer space. The advantage of this system is the ability to receive and broadcast over large geographic regions to overcome such problems as the curvature of the earth and mountains (Lucas, 1997).

The service rendered by world telecommunications are: *switched and dedicated lines, private branch exchange, phones and dialing service, digital subscriber line, and Integrated services digital Network (ISDN) as voice mail, e-mail, Telecommuting, electronic Software distributions, teleconferencing, Video conferring and EDI (electronic data interchange)* (Robert, 1995).

An important feature of the development program of Ethiopian Telecommunications Authority (ETA), Now ETC, is the commencement of digitalization in 1989, which has led to the development of an integrated services digital network, analog with the digitalization of networks, telex, facsimiles, data transmission, International subscriber dialing, and national data processing service have been introduced. ETC is also implementing a computerized management information's system, but still not fully computerized (Teferi Kebede, 2001).

The need for undertaking this study was to assess the level of expansion of telephone service through out the country and to assess the clients /users/ level of awareness regarding modern communications technology and to assess their potential difficulties.

1.2 Statement of the problem

There is a gap between the demand and supply of telephone service in the region under study. That is, the benefit (Services) clients get from the corporation is not satisfying the clients demand.

The total number of users of telephone service is 6539 (this is the number of population size of the study), from this, actual users of telephone service are 4613 and potential users (Waiting subscribers) were 1926 in number. But ETC southwestern regional office has the maximum capacity of offering 8192 telephone lines. Hence, we can say that client's demand has not yet been met (Tele statistics, 2001)

One of the problems for not fully utilizing all the capacities is inefficient technical capability of employees that would have helped maximize the satisfaction clients derive from the service provision. Hence, the satisfaction clients get from the service provision was considered as *the dependent variable* and the supply of telephone service - *Independent variable*.

1.3. Significance of the study

The result of the study is expected to be helpful (significant) for the ETC (Ethiopian Telecommunication corporation) in harmonizing the supply of telephone service with the size and need of the population.

The study is also expected to provide information to the government or policy makers concerning the expansion of telecommunications infrastructure.

The study also helps the private investors who have interest to make investment in this sector (telephone service expansion).

1.4 Objective of the Study

General Objective

To assess the level (status) of expansion of telephone service in the region taking in to account how the development of modern communications technology makes contribution to wards the expansion of telecommunication service.

Specific Objectives

- ❖ To assess how the market for telephone service is increasing in line with the proportion of population size.
- ❖ To assess users (potential and actual users) level of awareness regarding modern communication technology.
- ❖ To assess potential difficulties of users of telephone service
- ❖ To identify the gap between telephone service expansion and users (clients) need for modern communication technology.

1.5 Operational Definitions

1. **Clients:** The total population of the case under study that is, the sum of actual users and potential users. Sometimes the word *Users* is used.
2. **Actual Users:** The current users of the telephone lines.
3. **Potential Users:** The waiting subscribers of the corporation.

Chapter Two

2. Methodology

2.1 Data/Materials/

All the necessary data were collected from the ETC Jimma branch, Marketing department and technique section, Such as the number of Actual users, potential users and the corporations maximum potential to supply as a *secondary data* and *primary data* was used in order to address different issues.

2.2 Method of Data Collection

The primary data were used to identify the need for waiting subscribers (potential users) and actual users are employed to identify sufficient number of respondents from the study subjects and questionnaires were distributed among them. Secondary data was also taken from the corporations marketing department and technique section using the interview questionnaire, to identify the population size, then sample is drawn and survey was conducted.

2.3 Cite of the study.

The study was conducted in ETC south - western regional office, Jimma town.

2.4 Sampling Technique

To make the study more realistic the method of data collection used in this study was clustered random sampling. This sampling technique is useful approach, primarily for questionnaire based data collection to fulfill the requirements of physical area coverage (Jill Hussey, 1998).

Sample Size

As the stated problem is the gap between the *demand* (the satisfaction clients derive from the service provision) and *supply*, the population size (the number of actual and potential users) is 6539. By using the stated sampling technique, the sample was drawn. That is:

X = is the population size (6539)

Z = the sample size

K = Percentage of sample (2%)

Z = XK

= 6539 x 0.02

= 131 were the sample size of the population.

This sample determination is willing to accept the degree of uncertainty in the conclusions drawn, because the appropriate number of subjects to include in a sample was complex.

2.5 Method of Analysis

After careful data clearing and checking completed, the number and percentages are used in tabular form in order to analyze the study.

2.6 Variables

- ❖ *Dependent variable* - the benefit Clients derive from the service Provision.
- ❖ *Independent variable* - The supply of telephone service.

2.7 Limitations of the Study

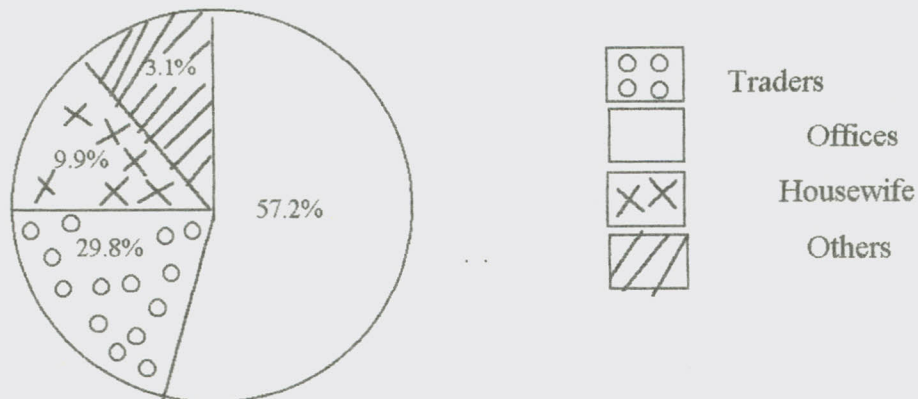
Some of the respondents were misunderstanding and biases while filling the questionnaire, even if it had been given in 'Amharic'. There was also an exaggerated response by the respondents and Survey time was too short to conduct the research.

Chapter Three

3. Results and Discussions

3.1 Results

A total of 131 respondents (actual and potential telephone users) were taken as a sample for this study. From this 92(70.2%) of the population were actual users and 39(29.8%) were potential users. Out of the total population 39(29.8%) were traders, 75(57.2%) were officers, 13(9.9%) were housewives and the remaining 4(3.1%) are others.



The pie chart shows the current job of the population

Table 1: show actual users who faced problems in telecommunications services.

Problems	Actual users who faced problems		Actual users not faced problems	
	No	%	No	%
➤ Delay in maintenance service (unclear sound)	10	16.4		
➤ Technical problem; unexpected disconnection of lines	23	37.7		
➤ Cross talk	23	37.7		
➤ Inability to communicate with the nearby woreda people	2	3.3		
➤ Threat of higher service charge	3	4.9		
Total actual users	61	66.3	31	33.7

From the services currently being offered by the corporation 61 (66.3%) of the actual users faced problems and 31 (33.7%) not faced problems. Out of the 61 (66.3%) of actual users faced problems, 10 (16.4%) faced the problem of delay in maintenance service, 23 (37.7%) faced technical problems, 23(37.7%) faced the problem of cross-talk, 2(3.3%) inability to communicate with the near by woreda people, and the remaining 3(4.9%) faced the problem of threat of higher service charge because of cross-talk.

Table 2: Shows users (clients) requested the telecommunication corporation to use the service other than telephone service.

	Requested		Not requested		Serves Requested							
					Mobile		Internet		Fax		Total	
	No	%	No	%	No	%	No	%	No	%	No	%
Actual users	11	84.6	81	68.6	7	87.5	2	66.7	3	75	12	80
Potential users	2	15.4	37	31.4	1	12.5	1	33.3	1	25	3	20
	13	10	118	90	8	53.3	3	20	4	26.7	15	100

13(10%) of respondents (users) in the study requested the telecommunication corporation to use services other than telephone like mobile, internet and fax (53.3% 20%, and 26.7%) respectively and the remaining 118 (90%) of users did not request. Out of the 13(10%) users requested the corporations offer, 12(80%) were actual users and 3(20%) were potential users (waiting subscribers).

39 (29.2%) of 131 clients (users) economic status allow them to use modern communications technology and 92 (70.8%) of the population (clients) economic status do not allow them to use modern communications technology.

Table 3:- Shows the number of the respondents who know the service rendered by the Telecommunication Corporation other than telephone.

	Know		Don't Know		Service Mentioned									
					Mobile		Telegram		Fax		Internet		Telex	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%
Actual Users	50	84.7	42	58.3	17	81	21	70	43	87.8	24	92.3	6	85.8
Potential Users	9	15.3	30	41.7	4	19	9	30	6	12.2	2	7.1	1	14.2
Total Users	59	45	72	55	21	15.8	30	22.5	49	36.8	26	19.5	7	5.4

59 (45%) of the population knows the service rendered by the corporation other than telephone service and 72(55%) don't know except telephone service. The detail would be in the discussion section.

40 (31%) of the respondents wants the service offered by the corporation and the remaining 89(69%) do not want (table 5).

Table 4:- Shows Factors that hindered potential users not to get on access to telephone service.

S.No	Factors	No	%
1.	Because of weak demand	1	2.56
2.	Threat of service charge	1	2.56
3.	Queue	15	38.46
4.	Low economic status	19	48.72
5.	Rental House	3	7.7
	Total of Potential Users	39	100

2.56% of the potential users not get an access to telephone service because of weak demand, 2.5% because of threat of higher service charge, 38.46% because of long Queue, 48.72% because of low economic status and the remaining 7.7% are because of residence in private rental house (that is uncertainty for how long they reside there).

3.2 Discussion

Discussions with officials and review of written documents were made in order to assess the level of expansion of telephone service in the region taking in to account how the development of modern communications technology makes contribution towards the expansion of telecommunications service.

Before the commencement of digitalization in 1989, and changing the analogue system to the digital systems the number of users of telephone services were 4613. However, after changing this analog system of telecommunications in to the digital one, the expansion of telephone service increased to 6539. This merely shows because of the advancement in modern communications technology the clients (users) need for modern communications has increased only by 1926. Still the corporation has the capacity of offering 8192 telephone lines to potential users (waiting subscribers) of the telephone lines. This implies that the corporation has not used full of its capacity. This happed because of the development of modern communications technology, which show clients increasing need for telephone service expansion.

From the interviews conducted in south western regional office, the effect of advancement of modern telecommunications as compared to the previous periods, the following advancement was achieved: *Telephone apparatus* - form the manual type to the analogue (automatic) and then to digital and *Cellular mobile*- that is telephone without wire connection within the limited space in the house. *Transmission* - from long line copper wire using analogue equipment to analog microwave transmission equipment, then to digital microwave transmission equipment to V. SAT, Satellite transmission. *Internet* - the network through the web site. By now ETC, Jimma has 12 Internet subscribers. DDN (digital data network) - a kind of communication, which interlinks computers of different area using wide area network (WAN).

The corporation is making a greater contribution for the development of telecommunication technology by reporting the increasing demand for telecommunication service from time to time to the concerned body, which is the "head office". This shows there is the problem of centralization by the corporation that forces the branch, ETC Jimma, to report to the head office. Because of this telecommunications, users have to wait the long queues to get maintenance service and the technical problems would not be solved easily because of inefficient technical capability of employees.

The corporation has made greater contribution to satisfy clients need that is the organisation facilitates a means of getting subscription so that the one who want the service can get an access easily except for the queues because of centralization effect. It gives also the technical support for installation and maintenance.

From the data obtained from ETC Jimma, the service currently being rendered by the corporation are: *telephone, telegram, fax, Internet and DDN (digital data network)*.

The corporation has the plan of distributing modern communications systems other than telephone service as *telemedicine, Tele-education, DDN, fax, and Internet*.

When assessing the potential difficulties of actual users of telephone service, (refer table 1), 61(66.3%) of actual users faced the problem in telecommunication service.

Not only the users of telephone service but also the technical sections were facing the same problem. The problem of technical section of the corporation was mainly on digital exchange because of the defect on the *digital exchanger*. The technical people works for 24 hours in 3 phase shifts. The machine, digital exchanger, works for 17 hours perfectly but after 18th hours the 3 phase breaker made off, that time the digital exchanger CN (main controller) completely loses its data from the computer. But, Now a day, the technologies that perform the heavy capacity, HD (hard disk), and OD (optical disk) are replaced in place of the previous manual dump.

Because of an improvement (development) in the present system, the problems stated in (table 1) believed to be solved. Because the present, digital system, expand the service in relation to *accuracy, modernization and facility*.

The previous information exchange was using analogue (automatic) and the accuracy was less as cross talk, dalliance, easy congestion, and malicious call (when problems made) but Now a days digital system performance, accuracy, modernization and accessibility of the facility are free of the aforementioned problems except from the centralized management system.

Currently there are advancements in: *accuracy* - no cross talk in the system. It has the individual subscriber call meter that never combine one line to an other, in *modernization* - the present system is up date system that is digital system even though a little bit less from *mobile exchange*, and the advancement in *facility* - the present, digital system, has many facilities for the users of telephone service. Some of them are: *malicious call, follow- me or call transfer, do not disturb me, wake up call, individual subscriber monthly call meter*. It is computer controlled, easily barring, easily connection and disconnection, able to handle the internet, control the traffic, it handle cellular traffic. All the afforstated facilities, modernization, accuracy in exchanges would be able to resolve the difficulties of users of telephone service.

Having all the advancements by the corporation in exchange, accuracy, modernization and facility, it has the future threat on the existing system that is less reliance will be on spare parts as the corporations are not the manufactures of the apparatus but followers of the technology.

When assessing the users (clients) level of awareness regarding modern communications technology (table 3), 59(45%) of the population knows the service rendered by the corporation and the remaining 72 (55%) do not know except the telephone service.

Out of the 59(45%) of respondents who knows the service currently rendered by the corporation, 21 (15.8%) knows the offer of mobile service, 30 (22.5%) knows telegram service, 49(36.8%) knows the fax service, 26(19.5%) knows the internet service and the remaining 7(5.4%) knows the offer of telex service. This shows only 45% knows the service offered by the corporation. Hence, more promotions should be done to increase the awareness level of clients (users).

Table 5:- Shows the respondents who want the service of telecommunication other than telephone service.

	Who Want		Who do not want		Serves Identified									
	No	%	No	%	Mobile		Telegram		Fax		Internet		Telex	
					No	%	No	%	No	%	No	%	No	%
Actual users	32	30	58	62.5	15	83.3	1	33.3	6	66.7	14	87.5	3	100
Potential users	8	20	31	34.8	3	16.7	2	66.7	3	33.3	2	12.5	-	-
Total Users	40	31	89	69	18	36.7	3	6.1	9	18.4	16	32.7	3	6.1

Table 5 shows that 40 (31%) of users need (want) modern communication technology, and the remaining 89 (69%) do not want.

Out of 40 (31%) of users who want the services of the corporation, 18(36.7%) want mobile service, 3(6.1%) want telegram service, 9(18.4%) want fax service, 16(32.7%) want internet service and the remaining 3(6.1%) of users want the offer of telex service.

Table 6:- Shows the level of economic status of the potential and actual users.

	Capable		Incapable		Total	
	No	%	No	%	No	%
Actual users	33	86.8	58	63	91	69.5
Potential users	6	13.2	34	37	40	30.5
Total Users	39	29.2	92	70.8	131	

175
89
10x

(Table-6) 39(29.2%) of the clients economic status allow them to use modern telecommunication technology and the remaining 92(70.2%) economic status do not allow them to use modern telecommunication. Out of this, 91(69.5%) were actual users and the remaining 40(30.5%) were potential users. This shows the majority 70.8% of the population has lower economic status thus unable to use modern telecommunication technology.

Table 7:- educational background of respondents.

	Uneducate		Elementary		Junior		High school		Certificate		Diploma & above		Total	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%
Actual users	2	50	6	50	7	46.7	36	81.8	10	52.6	31	66	92	70.2
Potential users	2	50	6	50	8	53.3	8	18.2	9	47.4	6	34	39	29.8
Total Users	4	3.1	12	9.2	15	11.4	44	33.6	19	14.5	37	28.2	131	

Out of the total 131 respondents, 4(3.1%) were uneducated, 12(9.2%) were elementary schools, 15(11.4%) were junior schools, 44(33.6%) were high school levels, 19(14.5%) were certificate holders and 37(28.2%) were diploma and above holders.

Out of the total 131 respondents, 4(3.1%) were uneducated, 12(9.2%) were elementary schools, 15(11.4%) were junior schools, 44(33.6%) were high school levels, 19(14.5%) were certificate holders and 37(28.2%) were diploma and above holders.

This shows the educational status of the population might have an influence in usage of telecommunications. That is,(table7) shows that 92(70.2%) of the population were actual users and 39(29.8%) were potential users of the service.

Out of the total population, the higher proportion: 44(33.6%) were high school completes, and 37 (28.2%) were diploma and above. Based on this it can be concluded that the educational status has an impact on the usage of telephone services.

Chapter IV

4. Conclusions and Recommendations

4.1. Conclusions

In assessing the expansion of telephone service in the region taking into account the advancement (development) of modern telecommunication technologies contribution to the service expansion. It is concluded that, there is a gap between the supply of telephone service and the satisfaction clients get from the service provision as compared to the corporations annual capacity to offer the service. Even though advances in new technology utilization are observed in ETC, the expansion of the services still remained insignificant.

The population has the threat (problem) of *cross talk and other technical problems such as: unclear sound: delay in maintenance service, and unexpected disconnection of lines*. But after the commencement of digitalization, the corporation has began to use digital system in place of analogue system and as a result, there is an improvement in accuracy and cross-talk and other stated problems can be solved.

Users level of awareness of modern telecommunications is lower. Therefore, sound promotional activities should be carried out to increase the awareness of modern telecommunication as it has contribution for the development of a nation.

There is a higher degree of centralization by the corporation and this causes inefficient utilization of all its capacities. It has also an impact on the development of expansion of telephone service efficiently.

Finally, there is inefficient technical capability of employees that would have an impact on full utilization of its capacities to maximize the satisfaction clients get from the service provided.

4.2. Recommendations

1. The Telecommunications Corporation has to have efficient technical capability in order to fully utilize all of its capacities that would narrow the gap between the supply of the telephone service being provided and the demand of clients.
2. The awareness level of the population has to be increased by using different promotional activities so the need for modern telecommunication technology would be increased in line with their economic status.
3. The corporation has to devise means of solving technical problems, as efficient utilization of equipment with skilled manpower.
4. The market (expansion) of telephone should increase in order to increase clients satisfaction because of the telecommunications greeter contribution for the development of a nation.
5. The highly centralized system of management should be adjusted (decentralized) in the way that would give a means for efficient utilization of the corporations capacity.

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6. Annexes

6.1. Questionnaire

This research is conducted to assess the Expansion of telephone service. Dear respondent the researcher would like to thank you for the genuine cooperation of filling the questionnaire of Jimma University undergraduate student's research.

1. Educational Background Uneducated High school
 Elementary Certificate
 Junior school Diploma & more than it
2. What is your current job? Trader offices House wife other specify
3. Are you user of telephone service Yes No
4. Are you satisfied by the service ETC Jimma renders? Yes No
5. Do you know any other service ETC Jimma zone renders? Yes No
If yes, specify _____.

6. Do you want service of Telecommunications Corporation other than telephone service?

Yes NO

If yes, Specify _____.

7. Does your economic condition allow you to be user of modern communications technology like mobile & fax? Yes No
8. Is there any factor that hindered you from the telecommunications services?
 Yes No

If yes, specify _____.

9. Have you requested Telecommunications Corporation to use any service other than telephone service? Yes No

If yes, specify _____.

10. Have you ever faced problem in telecommunication services?

Yes No

If yes, specify _____.

11. For what purpose you use the telephone service.

- To coordinate business activities
- To exchange of information in different regions.
- To rent the telephone service to customers
- To get help in emergency
- Other.

6.2. Interview Guide to ETC, Jimma

To the Marketing section

- 1- Would you mention the services currently rendered by the corporation?
- 2 - Does the organization have future plan of distributing modern Communications system other than telephone service?
- 3 - Is there any advancement in telecommunications in relation to the previous period? Would you state these advancements starting from the earlier Period to date?
- 4 - What efforts does the organization made for the advancement of modern Communications technology?
- 5 - Is there any client requested you to get the service other than telephone Service? If your answer is yes, would you give the recorded data showing the Clients request form?
- 6 - What contribution does the organization made to satisfy the clients need?

To the Technical Section

7. Have you ever faced technical problem in your performance because of the telecommunication system? If yes, what problem you faced?
8. How much does the previous system differs from the existing system to expand the service in relation to its accuracy, Modernization and facility?
9. It there any change of the system? If yes, what is the reason for that change?
10. What is the future threat of the existing system?

ይህ መጠይቅ በጅም ዩኒቨርሲቲ የቢዝነስ ፋኩልቲ፣ የማኔጅመንት ክፍል ተማሪ የተዘጋጀ ሲሆን ዓላማውም የህብረተሰቡን የስልክ አገልግሎት ፍላጎት ለማወቅና የወደፊት የስልክ አቅርቦት ለማገናዘብ ነው። ስለ ቀና ትብብርዎ አመሰግናለሁ።

1. የትምህርት ደረጃ ያልተማረ 2ኛ ደረጃ
 1ኛ ደረጃ ስርተፊኬት
 መለስተኛ 2ኛ ደረጃ ዲፕሎማና ከዚያ በላይ
2. አሁን የሚሠሩበት የሥራ ዘርፍ ነጋዴ የመንግስት ሠራተኛ
የቤት እመቤት ከዘህ የተለየ
3. የስልክ አገልግሎት ተጠቃሚ ንዎት? አዎ አይደለም
4. የጅም ቴሌኮሙኒኬሽን በሚሠጠው የስልክ አገልግሎት ረክተዋልን? አዎ አይደለም
5. ከስልክ ሌላ የጅም ቴሌኮሙኒኬሽን የሚሠጠውን አገልግሎት ያውቃሉ?
 አዎ አላውቅም
- 5.5. መልስዎ "አዎ" ከሆነ የሚያውቁትን ይግለጹ ----- .
6. ከስልክ አገልግሎት ሌላ የጅም ቴሌኮሙኒኬሽን እንዲያቀርብልዎ ይፈልጋሉ?
 አዎ አልፈልግም
- 6.5. መልስዎ "አዎ" ከሆነ ፋላጎትዎን ይግለጹ ----- .
7. ዘመናዊ የሆኑ የመገናኛ ዘዴዎችን እንደ ፋክስና ሞባይል ስልክ ተጠቃሚ እንዲሆኑ የኑሮ ደረጃዎ ይፈቅድሎታል? አዎ አይፈቀድም
8. ከስልክ አገልግሎት ተጠቃሚነት ያገድዎት ምክንያት አለዎት?
አዎ የለኝም
- 8.1. መልስዎ "አዎ" ከሆነ ምክንያቱን ይግለጹ ----- .

9. ከስልክ አገልግሎት ሌላ ተጠቃሚ ለመሆን ቴሌኮሙኒኬሽኑን ጠይቀው ያውቃሉ?
 አዎ አልጠየኩም

9.1. መልስዎ "አዎ" ከሆነ ምንድነው የጠየቁት _____ .

10. በስልክ አገልግሎት ላይ የገጠመዎት እክል (ችግር) አለ? አዎ
 የለም

10.1. መልስዎ "አዎ" ከሆነ የገጠመዎትን ችግር ይግለጹ _____ .

11. የስልክ አገልግሎት የሚጠቀሙት ለምንድነው?

- የንግድ ስራዎችን ለማፋጠን
- በተለያዩ አካባቢ ካሉ ሰዎች ጋር መረጃ ለመለዋወጥ
- ለሕዝብ ለማከራየት
- ለአደጋ ጊዜ የሚረዳዎትን ለመጥራት
- ለሌላ ምክንያት (ያልተገለጸ)



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