



**State of Palestine  
Palestinian Central Bureau of Statistics**

**Household Survey on Information and  
Communications Technology, 2019  
User Guide**

**March, 2020**

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## **Introduction**

The Palestinian society's access to information and communication technology tools is one of the main inputs to achieve social development and economic change to the status of Palestinian society; on the basis of its impact on the revolution of information and communications technology that has become a feature of this era. Therefore, and within the scope of the efforts exerted by the Palestinian Central Bureau of Statistics in providing official Palestinian statistics on various areas of life for the Palestinian community, PCBS implemented the household survey for information and communications technology for the year 2019. The main objective of this report is to present the trends of accessing and using information and communication technology by households and individuals in Palestine, and enriching the information and communications technology database with indicators that meet national needs and are in line with international recommendations.

We hope that we succeeded in filling an additional gap in the information side on main issues related to information and communications technology. We hope that this effort will be of benefit to the Palestinian planners and decision-makers in taking effective decisions in the field of technology and communications.

## Concepts, Indicators and Definitions

The following concepts , indicators and definitions are defined in accordance with the glossary and guide of statistical indicators issued by PCBS and certified on the latest international recommendations in statistics and consistent with international systems.

### **Radio:**

A radio is defined as a device capable of receiving broadcast radio signals, using common frequencies, such as FM, AM, LW and SW. A radio may be a stand-alone device, or it may be integrated with device, another such as an alarm clock, an audio player, a mobile telephone or a computer.

### **Television:**

A television (TV) is a device capable of receiving broadcast television signals, using popular access means such as over-the-air, cable and satellite. A television set is typically a stand-alone device, but it may also be integrated with another device, such as a computer or a mobile telephone.

### **Fixed Telephone Line:**

A fixed telephone line refers to a telephone line connecting a customer's terminal equipment (e.g. telephone set, facsimile machine) to the public switched telephone network (PSTN) and which has a dedicated port on a telephone exchange

### **Desktop:**

A computer that usually remains fixed in one place; normally the user is placed in front of it, behind the keyboard.

### **Laptop:**

A computer that is small enough to carry and usually enables the same tasks as a desktop computer; it includes notebooks and netbooks but does not include tablets and similar handheld computers.

### **Tablet:**

A tablet is a computer that is integrated into a flat touch screen, operated by touching the screen rather than (or as well as) using a physical keyboard.

### **Internet:**

The Internet is a worldwide public computer network. It provides access to a number of communication services including the World Wide Web and carries e-mails, news, entertainment and data files, irrespective of the device used (not assumed to be only via a computer – it may also be by mobile telephone, tablet, PDA, games machine, digital TV etc.). Access can be via a fixed or mobile network.

### **Mobile (cellular) Telephone:**

Mobile (cellular) telephone refers to a portable telephone subscribing to a public mobile telephone service using cellular technology, which provides access to the PSTN. This includes analogue and digital cellular systems and technologies such as IMT-2000 (3G) and IMT-Advanced. Users of both postpaid subscriptions and prepaid accounts are included.

**Smart Phone:**

A smart phone refers to a mobile handset that is used as the person's primary phone device which has smart capabilities, including Internet-based services, and performs many of the functions of a computer, including having an operating system capable of downloading and running applications.

**E-Commerce:**

It is an electronic transaction that involves the sale or purchase of goods or services, whether between businesses, households, individuals, governments, and public or private organizations and is implemented via the Internet, whereby the process of requesting purchase or sale via the Internet regardless of the payment mechanism and its method is implemented.

**Direct-to-home (DTH) satellite services:**

TV services received via a satellite dish capable of receiving satellite television broadcasts

**Internet-protocol TV (IPTV):**

Multimedia services such as television/video/audio/text/graphics/data delivered over an IP-based network managed to support the required level of quality of service, quality of experience, security, interactivity and reliability; it does not include video accessed over the public Internet, for example, by streaming. IPTV services are also generally aimed at viewing over a television set rather than a personal computer.

## Survey Questionnaire

### Questionnaire

The survey questionnaire consists of identification data, quality controls and three main sections:

**Section I:** Data on household members that include identification fields, the characteristics of household members (demographic and social) such as the relationship of individuals to the head of household, sex, date of birth and age.

**Section II:** Household data include information regarding computer processing, access to the Internet, and possession of various media and computer equipment. This section includes information on topics related to the use of computer and Internet, as well as supervision by households of their children (5-17 years old) while using the computer and Internet, and protective measures taken by the household in the home.

**Section III:** Data on Individuals (10 years and over) about computer use, access to the Internet and possession of a mobile phone.

### Data Set Linkage

The data set consists of two files, so to merge files into one data file there is need for key variables that were shown in the following table:

| File Name            | Content                                    | Key Variables                                      |
|----------------------|--------------------------------------------|----------------------------------------------------|
| HICT-MAINFF-WEIGHTED | Household data                             | IDSAM: Questionnaire's serial number in the sample |
| per10y-ict-weighted  | Data for persons (aged 10 years and above) | IDSAM: Questionnaire's serial number in the sample |

### Target Population

All Palestinian households and individuals (10 years and above) whose usual place of residence in 2019 was in the state of Palestine.

### Sampling Frame

The sampling frame consists of master sample which were enumerated in the 2017 census. Each enumeration area consists of buildings and housing units with an average of about 150 households. These enumeration areas are used as primary sampling units (PSUs) in the first stage of the sampling selection.

### Sample size

The estimated sample size is 8,040 households.

### Sample Design

The sample is three stages stratified cluster (pps) sample. The design comprised three stages:

**Stage (1):** Selection a stratified sample of 536 enumeration areas with (pps) method.

**Stage (2):** Selection a stratified random sample of 15 households from each enumeration area selected in the first stage.

**Stage (3):** Selection one person of the (10 years and above) age group in a random method by using KISH TABLES.

## Sample Strata

The population was divided by:

- 1- Governorate (16 governorates, where Jerusalem was considered as two statistical areas)
- 2- Type of Locality (urban, rural, refugee camps).

## Weights Calculation of Households

The weight of statistical units (sampling unit) in the sample is defined as the mathematical inverse of the selection probability where the sample of the survey is two stage stratified cluster sample (pps). In the first stage, we calculated the weight of enumeration areas depending on the probability of each enumeration area (pps sample). Then, in the second stage, we calculated weight of households in each enumeration area. Initial households weights resulted from product of weight of first stage and weight of second stage. In the final stage, households weights obtained after adjustment of initial weights with the households estimates of the middle year 2019 on the level of design strata (governorate, locality type).

In regards to the 10 years and above individuals file, we added the final household weight for each person. Then, we calculated the primary person weight by multiplying the household weight which the person belongs to and the number of persons in the age group 10 years and above by gender in the household which the person belongs to. Then, we adjusted the initial person weight with the individuals estimates of the middle and of the third quarters of the year 2019 on the level of region (West bank, Gaza strip), gender (male, female ), Five –year age groups (15 groups). We, then, obtained the final adjusted person weight.

## Calculation of Variance

### Variance Estimation of the Most Important Indicators at the level of Palestine

| Variable                                                                                              | Estimate | Standard Error | 95% Confidence Interval |        | C.V% |
|-------------------------------------------------------------------------------------------------------|----------|----------------|-------------------------|--------|------|
|                                                                                                       |          |                | Lower%                  | Upper% |      |
| Percentage of households with Internet access at Home                                                 | 79.6     | 0.7            | 78.1                    | 80.9   | 0.9  |
| Percentage of households with smart phone                                                             | 86.2     | 0.5            | 85.1                    | 87.3   | 0.6  |
| Percentage of Individuals (10 Years and Over) Who Use Computer                                        | 26.0     | 0.9            | 24.2                    | 27.7   | 3.4  |
| Percentage of Individuals (10 Years and Over) Who Use the Internet                                    | 70.6     | 0.9            | 68.8                    | 72.3   | 1.3  |
| Percentage of Individuals (10 Years and Over) Who Use Internet and Purchased Goods or Services Online | 6.8      | 0.5            | 5.9                     | 8.0    | 7.8  |

## Reference Date

The date referred to in the calculation of all sets of indicators in this survey is the data collection time. Fieldwork activities had started on 10/07/2019 till 03/10/2019.

## Data Collection

Collecting data started on 10/07/2019 and ended on 03/10/2019 in a corresponding interview method for individuals aged 10 years and above who are staying usually with their household in the State of Palestine in 2019. Data were collected using PC-tablet devices in the West Bank and Gaza Strip. In Jerusalem (J1)<sup>1</sup>, data; however, were collected using paper questionnaires.

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<sup>1</sup> Those parts of Jerusalem which were annexed by Israeli Occupation in 1967.

## Response Rates

The survey sample consists of about 8,040 households of which 6,231 households completed the interview; whereas 3,963 households from the West Bank and 2,268 households in Gaza Strip. Weights were modified to account for non-response rate. The response rate in the West Bank reached 77.6% while in the Gaza Strip it reached 92.7%.

### Response, Non-Response Cases and Over Coverage

| Response, Non-Response Cases and Over Coverage | No. of cases |
|------------------------------------------------|--------------|
| Household completed                            | 6,231        |
| <b>Non-response cases</b>                      |              |
| Traveling households                           | 134          |
| No one at home                                 | 713          |
| Refused to cooperate                           | 223          |
| No available information                       | 49           |
| Other                                          | 201          |
| <b>Total</b>                                   | <b>1,320</b> |
| <b>Over coverage cases</b>                     |              |
| Unit does not exist                            | 77           |
| Vacant Housing unit                            | 412          |
| <b>Total</b>                                   | <b>489</b>   |
| <b>Total sample size</b>                       | <b>8,040</b> |

### Response and Non-Response Formulas:

$$\begin{aligned} \text{Percentage of over coverage errors} &= \frac{\text{Total cases of over coverage}}{\text{Number of cases in original sample}} \times 100\% \\ &= 6.1\% \end{aligned}$$

$$\begin{aligned} \text{Non response rate} &= \frac{\text{Total cases of non response}}{\text{Net Sample size}} \times 100\% \\ &= 17.5\% \end{aligned}$$

$$\text{Net sample} = \text{Original sample} - \text{cases of over coverage}$$

$$\begin{aligned} \text{Response rate} &= 100\% - \text{non-response rate} \\ &= 82.5\% \end{aligned}$$

## Data Quality

### Accuracy

The data accuracy test includes multiple aspects of the survey, most notably sampling errors and non-sampling errors due to the staff and survey tools, as well as survey response rates and their most important impact on estimates. This section includes the following:

### Sampling Errors

Data of this survey affected by sampling errors due to use of the sample and not a complete enumeration. Therefore, certain differences are expected in comparison with the real values obtained through censuses. Variance were calculated for the most important indicators, There

is no problem to disseminate results at the national level and at the level of the West Bank and Gaza Strip.

### **Non-Sampling Errors**

Non-Sampling errors are possible at all stages of the project, during data collection or processing. These are referred to non-response errors, response errors, interviewing errors and data entry errors. To avoid errors and reduce their effects, strenuous efforts were made to train the field workers intensively. They were trained on how to carry out the interview, what to discuss and what to avoid, as well as practical and theoretical training during the training course.

The implementation of the survey encountered non-response where the case (household was not present at home) during the fieldwork visit become the high percentage of the non response cases. The total non-response rate reached 17.5%. The refusal percentage reached 2.9% which is relatively low percentage compared to the household surveys conducted by PCBS, and the reason is the questionnaire survey is clear.

### **Data Processing**

#### **Programming Consistency Check**

The data collection program was designed in accordance with the questionnaire's design and its skips. The program was examined more than once before the conducting of the training course by the project management where the notes and modifications were reflected on the program by the Data Processing Department after ensuring that it was free of errors before going to the field.

Using PC-tablet devices reduced data processing stages, and fieldworkers collected data and sent it directly to server, and project management withdraw the data at any time.

In order to work in parallel with Jerusalem (J1), a data entry program was developed using the same technology and using the same database used for PC-tablet devices.

### **Data Cleaning**

After the completion of data entry and audit phase, data is cleaned by conducting internal tests for the outlier answers and comprehensive audit rules through using SPSS program to extract and modify errors and discrepancies to prepare clean and accurate data ready for tabulation and publishing.

### **Tabulation**

After finalizing checking and cleaning data from any errors. Tables extracted according to prepared list of tables.

### Derived Variables

| Variable Name          | Description                                                                      | Variable values                                                                                                         |
|------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| area                   | Region (North of West Bank, Middle of West Bank, South of West Bank, Gaza Strip) | 1. North of West Bank<br>2. Middle of West Bank<br>3. South of West Bank                                                |
| Region                 | Region                                                                           | 1. West Bank<br>2. Gaza Strip                                                                                           |
| telephone              | Availability of a fixed telephone line                                           | 1. Yes<br>2. No                                                                                                         |
| computer               | Availability of Computer                                                         | 1. Yes<br>2. No                                                                                                         |
| availability_of_mobile | Availability of Mobile phone                                                     | 1. Yes<br>2. No                                                                                                         |
| Internet_at_home       | Availability of Internet Access at home                                          | 1. Yes<br>2. No                                                                                                         |
| hh_mobile              | Number of Individuals Who Use Mobile Phone                                       | 1. One Individual<br>2. Two Individuals<br>3. Three Individuals<br>4. Four Individuals<br>5. Five Individuals and above |
| smat_phone_user        | Number of Individuals Who Use Smart Phone                                        | 1. One Individual<br>2. Two Individuals<br>3. Three Individuals<br>4. Four Individuals<br>5. Five Individuals and above |
| Smart_phoe_line        | Number of Smart Phone Lines                                                      | 1. One line<br>2. Two lines<br>3. Three lines<br>4. Four lines<br>5. Five lines and above                               |
| HHSIZE_sum             | Total number of Household                                                        | Number                                                                                                                  |
| HH_SIZE                | Household Size                                                                   | 1. 1<br>2. 3-2<br>3. 5-4<br>4. 6+                                                                                       |
| HH_SEX                 | Sex of Head of Household                                                         | 1. Male<br>2. Female                                                                                                    |
| HH_CHILD15             | Household with children under 15 years old                                       | 0. Household without children under 15 years old<br>1. Household with children under 15 years old                       |
| HH_EDUC                | Qualification of Head of Household                                               | 1. None<br>2. Elementary<br>3. Preparatory<br>4. Secondary<br>5. Intermediate Diploma<br>6. Bachelor and above          |

| <b>Variable Name</b> | <b>Description</b>                       | <b>Variable values</b>                                                                                                                                                                                                                                                    |
|----------------------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| hh_relation_labour   | Labour Force Status of Head of Household | 1. Employed<br>2. Unemployed<br>3. Outside Labour Force                                                                                                                                                                                                                   |
| Computer_Use         | Computer Use                             | 1. Yes<br>2. No                                                                                                                                                                                                                                                           |
| Qualification        | Qualification                            | 1. None<br>2. Elementary<br>3. Preparatory<br>4. Secondary<br>5. Intermediate Diploma<br>6. Bachelor and above                                                                                                                                                            |
| Mobile               | Own a mobile phone                       | 1. Yes<br>2. No                                                                                                                                                                                                                                                           |
| jawal                | Own a Palestinian Mobile Line (Jawal)    | 1. Yes<br>2. No                                                                                                                                                                                                                                                           |
| oreedo               | Own a Palestinian Mobile Line (oreedo)   | 1. Yes<br>2. No                                                                                                                                                                                                                                                           |
| Pal_SIM              | Own a Palestinian Mobile Line            | 1. Yes<br>2. No                                                                                                                                                                                                                                                           |
| Israeli_SIM          | Own a Israeli Mobile Line                | 1. Yes<br>2. No                                                                                                                                                                                                                                                           |
| other_SIM            | Own other Mobile Line                    | 1. Yes<br>2. No                                                                                                                                                                                                                                                           |
| agegroup             | Age group                                | 1. 10-17<br>2. 18-29<br>3. 30-39<br>4. 40-49<br>5. 50-59<br>6. 60+                                                                                                                                                                                                        |
| occupation           | Occupation                               | 1. Legislators, Senior Officials & Managers.<br>2. Professionals, Technicians, Associates and Clerks.<br>3. Service and Sales Workers.<br>4. Skilled Agricultural & Fishery Workers.<br>5. Craft and Related Trade Workers.<br>6. Plant & Machine Operators & Assemblers. |
| Empch1               | Labour Force Status                      | 1. Employed<br>2. Unemployed<br>3. Outside Labour Force                                                                                                                                                                                                                   |