Information and Communication Technology (ICT)

Metadata

National Bureau of Statistics of the Republic of Moldova (NBS)

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2. Metadata Update

2.1. Last certification of metadata

28.02.2022

2.2. Last update of metadata

21.02.2020

3. Statistical Presentation

3.1. General description

At various stages of the process of collecting, processing, centralizing and disseminating statistical information on Information and Communication Technology (ICT), cooperation takes place in various forms with economic agents, institutions directly or indirectly involved in the ICT sector to produce and disseminate statistical data qualitative and complete, which characterize the information society in the country.

Statistics on information technology in public administration, education, health and business comprise annual indicators on the situation in the field of computerization and Internet connection, elaborated on the basis of exhaustive statistical survey on legal and individual persons, which have IT tools, computer systems and IT services.

Through the above-mentioned statistical survey, statistical data are collected on allocated funds, investments and spending on computerization, the number of computers, including Internet access, the number of employees who regularly use the computer at work, including the Internet in work, information technology services and related activities.

Communications statistics comprise quarterly and annual indicators on the activity in the field of electronic communications and postal communications, as well as their evolution.

The statistical data on the activity in the field of electronic communications and postal communications are elaborated by the National Regulatory Agency for Electronic Communications and Information Technology. Centralized statistical reports are presented by the nominated institution in the address of the National Bureau of Statistics with quarterly and annual periodicity.

Centralized statistical reports on communications include the following statistical indicators: revenues from electronic communications activities, investments, average number of staff in the electronic communications sector, mobile and fixed telephony revenues, mobile and fixed telephony users, mobile and fixed telephony penetration at 100 residents, national telephone traffic of mobile and fixed networks,

international (inbound and outbound) international and fixed telephone traffic, public telephone stations, Internet access revenues, Internet access users, penetration of Internet access, dissemination revenues and retransmission of paid audiovisual programs, pay-TV penetration per 100 inhabitants, pay TV users, number of items (letter shipment, parcels, express postings) and postal orders, number of pensions, subsidies and disbursements distributed, mail boxes.

3.2. Concepts and definitions

3.2.1. Definitions

I. Concepts and definitions used in Information Technology statistics

Information technology – use of microelectronic means to collect, store, process, search, transmission, and present data, texts, images, and sounds.

PCs connected to Internet represents the totality of devices (personal computers, servers) with direct access to Internet network through personal IP address.

Internet – global community of information networks with huge resources and a large range of services.

Fixed-line broadband Internet access - technologies that provide at least 256 Kbit/s in one or both directions, such as DSL (Digital Subscriber Line), cable modem, leased lines, fiber-to-home, Powerline, satellite, fixed wireless, wireless LAN and WiMAX.

Mobile broadband Internet access - technologies that offer speeds of at least 256 Kbit / s in one or both directions, such as CDMA mobile broadband known in Europe as UMTS (Universal Mobile Telecommunications System); HSDPA, completed with HSUPA, CDMA2000 1xEV-DO and CDMA2000 1xEV-DV Access can be implemented by any device pocket, portable or mobile phone, etc.).

Local networks - LAN - data transmission networks by connecting computers located within the strictly defined area, for example, a separate building, edifice. Networks can be wireless.

Internet access users reflect the total number of subscribers subscribing to a basic Internet access service over the fixed and mobile networks, including the provision of broadband access services.

Investments, expenditures and consumption for computerization include all the resources allocated for: design and development of information systems, procurement of electronic and communications equipment, including computers, procurement of software products, information technology personnel training, other consumables and expenditures for consumables, maintenance equipment, databases, computer registers, computer networks, etc.

Electronic commerce (E-commerce) - the sale or purchase of goods or services made through a computer network by specific methods designed for the purpose of receiving or placing orders.

Electronic communications - Any transmission of voice, data, text, sound and images, based on a single technology or a combination of technologies.

User - an individual or legal person using or requesting publicly available electronic communications services;

Operator of mobile telephony - providers, registered in the Republic of Moldova, whose activity consists, in whole or in part, in the provision of mobile telephony services.

Fixed telephony operator - providers, registered in the Republic of Moldova, whose activity consists, in whole or in part, in the provision of fixed telephony services.

Public telephone stations represents the number of public telephones (potters) operated by the provider.

Fixed-line users represents the total number of access lines (from the 1-line access line or 1 telephone number = 1 subscriber) to fixed telephony services (this indicator will not reflect the number of subscribers to unmanaged Internet telephony services (over-the-top")).

National fixed network telephony traffic is the total volume of national voice traffic serviced by the fixed network.

Fixed-line outgoing international telephone traffic is the total volume of calls initiated by subscribers and intended for subscribers of foreign operators (calls to any telephone numbers that do not belong to the National Numbering Plan).

International telephone traffic of fixed networks is the volume of end-to-end international traffic transmitted by foreign (non-resident) operators.

Mobile users - subscribers (manifested through SIM, RUIM, USIM, etc.) on the mobile radio network, whether they subscribe to a voice, mobile Internet, data transport service (e.g., M2M-machine-to-machine), other subscribers.

National mobile phone traffic is the total volume of voice traffic at national level served by the mobile network.

Outbound international mobile phone traffic is the total volume of calls initiated by subscribers and intended for subscribers of foreign operators (calls to any telephone numbers that do not belong to the National Numbering Plan).

International telephone traffic of mobile networks is the volume of ending in its own network of international traffic transmitted by foreign operators.

Television stations represents the number of installations for transmitting mobile images by means of electromagnetic waves to an unlimited number of receiver stations.

TV users, for a fee, represents all TV subscribers who pay the TV service contract, but also based on a double play or triple play integrated service contract.

Radio stations represents the number of installations for transmitting radio broadcasts by means of electromagnetic waves to an unlimited number of receiving stations.

II. Concepts and definitions used in Postal Communications statistics

Postal communications - a system of postal units and routes that provide for the reception, processing, transport and distribution of postal items and the provision of postal services.

Postal communication services - product of the activity of receiving, processing, transmitting and distributing postal items.

The mail units are units that carry out services of receiving, transporting and delivering to the destination some written communications, documents, values and material goods for enterprises, institutions and for the population.

Urban post office – a public postal unit for the provision of postal services in the urban area.

Rural Post Office - a postal unit open to the public for the provision of postal services in rural areas.

Access points - physical facilities, including mailboxes, made available to the public either on public roads or at the premises of the universal postal service provider, through which postal items may be entered by users in the public postal network;

Sending mail - written, printed or recorded communication on any physical medium to be transported and distributed at the address indicated by the sender on this medium or on its packaging. Books, catalogs, newspapers and periodicals are not considered as correspondence.

Express reference - reference that is collected, packaged, transmitted and distributed by physical means as quickly as possible.

Sending postal - good having an address to be distributed by your postal service provider. This category includes mailing lists as well as books, catalogs, newspapers, periodicals and postal packages containing goods with or without commercial value.

International postal item - postal item sent from the territory of the Republic of Moldova to an address that it is not on its territory or sent from outside the Republic of Moldova to an address within its

territory.

Prints (books, catalogs, periodicals) are postal items that are not included in the mailing category.

The recommended postal items (shipment) are those items for which a flat rate guarantee is offered against the risks of loss, theft, total or partial destruction, damage and for which evidence of deposit at the access point or the consignee is issued upon request.

Declined postal items (shipments) are those items that are insured against loss, theft, total or partial destruction, damage, for an amount equal to the value declared by the sender.

Postcards are postal items containing goods with or without commercial value; postal items must not contain other postal items.

Cecograms - cecographic postcards submitted open, clichés bearing cecographies, sound recordings, and on special paper intended only for the use of the blind, if sent by or to an institution for the blind.

3.2.2. Unit of measurement

Number, units, thousands of units, millions of minutes, thousands of pieces - for physical indicators.

Value indicators for investments, expenditures and consumption for computerization, sum of postal mandates, pensions, subsidies, distributed allowances are expressed in *thousands lei* and revenues from electronic communications activities - *millions lei*.

3.2.3. Formula of calculation

Broadband Internet penetration, per 100 inhabitants - Broadband penetration rate, to 100 inhabitants = no. subscribers of Broadband Internet Access / Population of the Republic of Moldova * 100.

3.3. Used classifications

To identify the economic units participating in statistical surveys, the following classifications are used:

Classifier of Activities in Moldova Economy (CAEM - Clasificarea Activităților Economiei Moldovei in Romanian), harmonized with NACE ver.2.

Classifier of Ownership Forms in the Republic of Moldova (CFP – Clasificatorul formelor de proprietate in Romanian): approved via the Decision of the Standards, Metrology, and Technical Supervision Department no. 276-st dated 04.02.1997;

Classifier of Administrative-Territorial Units of the Republic of Moldova (CUATM - Clasificatorul unităților administrativ-teritoriale al Republicii Moldova), approved via the Moldova-Standard Department Decision no. 1398-ST dated 03.09.2003; enforced since 03.09.2003.

3.4. Scope

3.4.1. Sector coverage

Postal and courier activities - classes 5310 and 5320 of CAEM, Rev.2;

Electronic communications activities - classes 6110, 6120, 6130, 6190 of CAEM, Rev.2;

Information technology service activities - classes 6201, 6202, 6203, 6209 of CAEM, Rev.2;

Computer service activities - classes 6311, 6312 of CAEM, Rev.2;

Software editing activities - Classes 5821, 5829 of CAEM, Rev.2;

Renting and leasing of office machinery and equipment (including computers) - Class 7733;

Wholesale of computers, peripheral equipment and software, electronic and telecommunication components and equipment - classes 4651, 4652 of CAEM, Rev.2.

3.4.2. Statistical population

The statistical collectivity studied through statistical surveys (listed in point 4.1.1.) covers:

annually - (f.no.1-inf.) - legal entities and individuals, with the number of employees ≥ 10 , public institutions, residents "Moldova IT park" - exhaustive;

quarterly, annually:

- f. 1-CE National Regulatory Agency for Electronic Communications and Information Technology (ANRCETI);
- f. 1-CP National Regulatory Agency for Electronic Communications and Information Technology (ANRCETI).

3.4.3. Geographical coverage

The information is developed and disseminated without the data of the enterprises and organizations from the left part of the River Nistru and Bender municipality.

3.4.4. Time coverage

Annual time series are available in publications and on NBS web page – starting with 2000.

3.5. Level of disaggregation

Data resulting from the statistical survey on the situation in the field of computerization and Internet connection are <u>disaggregated</u> by:

Raions, municipalities, economic development regions (Chisinau, North, Central, South, ATU Gagauzia);

Ownership forms: public property, private property, mixed property (public and private) without foreign participation, joint ventures' property;

Economic activities at the level of CAEM classes (4 digits).

Data resulting from the statistical survey on information technologies are disseminated by observing confidentiality requirements.

Used symbols:

- the event did not exist;
- 0.0 small number of cases

3.6. Periodicity of dissemination

Quarterly, annually – statistical data on communications.

Annually – statistical data on the situation in the field of the computerization and Internet connection.

3.7. Timeliness

Preliminary quarterly data on communication – the 60th day after the reported quarter; final annual data – in July after the reported year.

Annual data on the situation in the field of computerization and internet connection. – July after the reported year.

3.8. Revision

Quarterly data are preliminary at the first dissemination; they are revised and disseminated annually.

Annual data are final at the first dissemination.

3.9. Period of reference

The reference period refers to:

quarter and year of reference – for statistical data on communications;

Year of reference – for statistical data on the computerization and Internet connection.

4. Data Collecting and Processing

4.1. Data source

4.1.1. Statistical surveys

Annual exhaustive statistical survey "Situation on the computerization and Internet connection" (f.no.1-inf.).

Statistical surveys based on administrative data (centralized statistical reports):

Quarterly, annually "Electronic Communications" (f. 1-CE);

Quarterly, annually "Postal communications" (f.no.1-CP).

4.1.2. Administrative sources

The National Regulatory Agency for Electronic Communications and Information Technology presents centralized statistical reports (f.no.1-CE) (f.no.1-CP).

4.1.3. Estimations

Not applicable.

4.2. Characteristics of the statistical survey/administrative sources

4.2.1. Objective and background

The main objective of the statistical surveys regarding the: *level of informatization and Internet connection; communications* is to obtain the necessary information for characterizing the information society and produce information on mail and telephone activities and means.

These surveys allow establishing the database regarding informatization level and computer technology, mail and landline activities and means, mobile telephony subscribers, and harnessing the results through studies and analyses.

To follow the informatization process and to fulfill the provisions set in the "Society Informatization Project in the Republic of Moldova" approved via the Republic of Moldova Government Decision No. 155 dated March 6, 1995, the statistical survey on "Situation on informatization level and computer technology endowment" was implemented in the national statistics starting with 1996. From 2015 - the statistical survey "Situation regarding computerization and Internet connection".

4.2.2. Statistical unit

The statistical unit for the **annual** statistical survey - f.no.1-inf. - legal entities and individual enterprises with the number of employees ≥ 10 , public institutions, residents of IT Moldova Park.

For the annual and quarterly surveys – f.no.1-CE and f.no.-1-CP - the National Regulatory Agency for Electronic Communications and Information Technology presents centralized statistical reports).

4.2.3. Circle of units covered in the survey

The following units are covered:

- in the exhaustive statistical survey f.no.1- inf. annually about 9000 units;
- in annual and quarterly surveys f.no. 1- EC and f.no.-1-CP National Regulatory Agency in

Electronic Communications and Information Technology.

4.2.4. Survey periodicity

Quarterly - f.no.1-CE and f.no.1-CP;

Annually - f.no.1-inf., f.no.-1-CE and f.no.-1-CP.

4.2.5. Data collecting

Questionnaires can be submitted on-line or on paper base in the address of the territorial statistical bodies.

The period of *reference* for the statistical surveys:

- f. no. 1- inf. is the calendar year;
- f. no.1- CE and f.no.1-CP is the quarter and the calendar year.

The *registration* period for the statistical surveys is the following:

- f. no.1- inf. by March 31 of the next year;
- -f. no. 1- CE quarterly to the 60th day after the reporting period, annually until the March 21 of the next year;
- f. no.1- CP quarterly on the 20th day after the reporting period, annually until the 21 March of

the next year.

4.3. Processing and compilation of data

4.3.1. Validation of data

The data are checked and analyzed for their quality, especially the internal, temporal and other data coherence within the territorial statistical body (1-inf reports), and then at central level by the NBS. Data from 1-EC and 1-CP reports are reviewed and analyzed centrally by the NBS. The results of the statistical surveys are materialized in statistical indicators expressed in total values, percentages, and mean numbers. The controls are based on visual methods, as well as on automated methods using soft applications.

Control methods allow verifying:

- integrity of the data filled in the report;
- compliance of the identification data;
- observance of logical conditions for data correlation.

4.3.2. Compilation/extrapolation of data

Not applicable.

4.3.3. Adjustments

Not applicable.

4.3.4. Quality assurance

The quality of statistical data is assured by observing the Fundamental Principles of Official Statistics adopted by the UN General Assembly on 29 January 2014, as well as those set forth in the national Law on Official Statistics no. 93 of 26 May 2017.

In its activity of producing statistical information, NBS pays huge importance to ensuring high quality of data. In this respect, a number of measures for quality assurance are carried out at every stage of the statistical process: organization of statistical surveys, collection, processing, and development of statistical information.

Important efforts are undertaken to ensure the plenitude and quality of data presentation by the respondents included in the statistical surveys.

Errors, inconsistencies, and suspicious data are brought to light so as to be verified and corrected.

The primary data are verified and analyzed from internal coherence point of view (within the questionnaire), temporal coherence (with data from previous periods), with data of other similar units, as well as with data available from other statistical surveys and administrative data sources. The missing or inconsistent data are imputed, if needed.

To ensure the quality of the primary data, meetings (seminars) are organized with interviewers – respondents for explaining the definitions, the correct way to fill in the questionnaires, especially when they are modified or implemented.

4.4. Data accuracy

4.4.1. Non-response rate

Non-responses were not registered for the statistical surveys mentioned in point 4.1.1.

4.4.2. Sampling errors

Not applicable.

5. Comparability and Coherence

5.1. International comparability

5.2. Comparability over the time

Comparability over the time of the main indicators is generally ensured, starting with 2000, and for some indicators - from 2015.

5.3. Coherence with other statistics

Coherence with other statistics is ensured by use of the same national classifiers.

Definitions, notions, and calculation methodology used in the statistical surveys for the ICT sector are common.

Coherence of data available in the quarterly and annual statistical surveys in communications area is ensured.

6. Institutional Mandate (normative-legal basis)

The NBS activity is based on respecting the Republic of Moldova Constitution, the Law on Official Statistics No. 93 dated 26.05.2017, other legislative and normative acts, NBS management decisions and orders.

The Law on Official Statistics regulates the organization and operation of the unique system of official statistics, establishing the general principles for collecting, processing, centralizing, diminishing, and stocking statistical information (art.1).

Art. 5 of the Law provides that the production of statistical information is based on respecting the following principles: impartiality, objectiveness, relevance, transparency, confidentiality, cost-efficiency etc.

Being the central statistical body, the National Bureau of Statistics is an administrative authority created under the Government for leading and coordinating the activity in the statistics area.

In accordance with Government Decision 935 of 24.09.2018 on the organization and operation of the NBS, the Bureau exercises the following tasks:

- 1) Coordinates the national statistical system on the development and production of official statistics;
- 2) Elaborates and implements strategies for the development of the national statistical system, annual and multiannual statistical programs;
- 3) Elaborates the normative and institutional framework necessary for the achievement of the strategic objectives in its field of activity, as well as the mechanisms for their implementation in practice;
- 4) Performs the management and control of the achievement in quality conditions of the programs and statistical plans adopted at central and regional level;
- 5) Harmonizes and aligns national statistical indicators, methodologies, methods and techniques with international regulations and standards;
- 6) Promotes the statistical culture in the society.

The legislative and normative acts ruling the activity of the NBS are available on its official page www.statistica.gov.md, under About NBS (https://www.statistica.gov.md/pageview.php?l=en&idc=323&)

7. Confidentiality

7.1. Principles

According to art. 19 of the Law on Official Statistics No. 93 dated 26.05.2017, producers of official statistics shall take all regulatory, administrative, technical and organizational measures to protect confidential data and prevent their disclosure.

Chapter VII of the above-mentioned law stipulates that the data collected, processed and stored for the production of statistical information are confidential if they allow the direct or indirect identification of the respondents.) The following shall not be considered confidential:

- a) data that can be obtained from publicly accessible sources according to the legislation;
- b) individual data on address, telephone, name, type of activity, number of employees of legal entities and individual entrepreneurs;
- c) data referring to public enterprises, institutions and organizations funded from the budget, submitted at the request of the public administration authorities.

According to the Law on Official Statistics, art. 20, access to confidential information is granted to the

persons who, according to their official functions, participate in the production of statistical information shall have access to individual data in so far as individual data are necessary for producing this information.

The same article stipulates that the access to individual data, which do not allow the direct identification of respondents, may be given for scientific survey projects, whose expected results do not refer to identifiable individual units, under the regulation approved by the central statistical authority.

Art. 23 (5) of the Law stipulates that the statistical information cannot be disseminated to users if it refers to 1-3 statistical units.

7.2. Practical assurance of the confidentiality rules

To ensure the protection of confidential statistical data in compliance with the Law on Official Statistics No. 93 dated 26.05.2017, the National Bureau of Statistics undertakes all the regulatory, administrative, technical, and organizational measures to protect the confidential statistical information and prevent its disclosure.

In compliance with the above-mentioned law, the employees of producers of official statistics, including temporary employees who, according to their official functions, have direct access to individual data shall be obliged to observe the confidentiality of these data during and after termination of employment.

Before being disseminated, the statistical data are verified if they meet the protection requirements set for confidential data. If the statistical data contain confidential information (see p. 7.1), they are not disseminated, but aggregated at the minimum available level which ensures the protection of data confidentiality.

8. Access to Information and Dissemination Format

8.1. Access to information

8.1.1. Calendar of statistical publications

Annually the Advance release calendar is developed by NBS.

8.1.2. Access to the calendar of statistical publications

The press release calendar is posted on the NBS official page www.statistica.gov.md.

8.1.3. Access to statistical data

According to the Law on Official Statistics No. 93 dated 26.05.2017, art. 23:

- a) Producers of official statistics shall be obliged to disseminate the statistical information within the deadlines specified in the programme of statistical works and in the press-release calendar.
- b) The dissemination of statistical information laid down in the programme of statistical works to all categories of users shall be made free of charge and under equal access conditions in terms of volume, quality and time of dissemination

The program of statistical work may be accessed on the web page www.statistica.gov.md, under About NBS / legislative and normative acts (http://www.statistica.gov.md/pageview.php?l=en&idc=323&)

The NBS web page <u>www.statistica.gov.md</u> represents the most important information source for ensuring users' access to different statistical information and transparency about the NBS activity.

All the operative information, informative notes, time series, as well as the statistical publications developed by NBS are placed on its official web page.

8.2. Dissemination format

8.2.1. Operative information / Analytical notes

The operative information and analytical notes are published on the official page of NBS: http://www.statistica.gov.md under Press Releases, according to the Press Release Calendar.

8.2.2. Publications

Publications developed by NBS covering statistical data on:

information technology

- Statistical Yearbook,
- Territorial statistics,
- Statistical pocket-book "Moldova in figures",

mail and telecommunications

- Statistical Yearbook.
- Statistical pochet-book,
- Quarterly Statistical Bulletin.

Access to publications:

- in electronic format, on NBS official page www.statistica.gov.md, under Products and services / Publications http://www.statistica.gov.md/pageview.php?l=en&idc=350&nod=1&)
- on hardcopies in the NBS library (more details at the address http://www.statistica.gov.md/libview.php?l=en&idc=340&id=2400)
- or may be bought from NBS office (more details on www.statistica.gov.md, under Products and services / Publications http://www.statistica.gov.md/pageview.php?l=en&idc=350&id=2219)

8.2.3. Database/time series

- Statistical databank http://statbank.statistica.md, under Economic statistics / Information technology
- NBS official page: http://www.statistica.gov.md under:
 - Press Releases
 - Statistics by themes / Economic statistics / Information technology. Post and telecommunications
 - Products and Services / Publications.

8.2.4. Questionnaires/data sent upon request from international organizations

The annual international questionnaire – Questionnaire on ICT usage by enterprises and on the ICT sector, United Nations Conference on Trade and Development (UNCTAD).

8.2.5. Request for additional data

NBS makes available for users additional statistical information beyond the data presented in the statistical publications, informative notes, operative information, as well as the data placed on the official web page in the limits of available information, in line with the Law on Official Statistics. Request can be sent personally, by post, by e-mail <a href="moilto:moi

http://www.statistica.gov.md/solicitare informatii statistice.php?l=en

9. Useful References (links)

9.1. Accessibility of documentation on methodology

The methodology is available on the official page www.statistica.gov.md, under Metadata (http://www.statistica.gov.md/pageview.php?l=en&idc=351&nod=1&).

9.2. Accessibility of documentation on Evaluation Reports

The NBS assessment reports are available on the official page www.statistica.gov.md, under About NBS / Assessments and opinions on NBS / Assessment reports (http://www.statistica.gov.md/pageview.php?l=en&idc=399&id=2739).

9.3. Accessibility of information on user surveys

User surveys are available on the official page $\underline{www.statistica.gov.md}$, under About NBS / Assessments and opinions on NBS / User surveys

(http://www.statistica.gov.md/pageview.php?l=en&idc=399&id=2740).

9.4. Other useful references

EUROSTAT database http://epp.eurostat.ec.europa.eu/portal/page/portal/stat

	istics/search_database
UNCTAD database	http://measuring-ict.unctad.org