

Statistical product– Information Communication Technologies (ICT) indices (quarterly)

Processes	Sub-processes	Sub-process description
<i>Specify needs</i>		
	1.1 Identify needs	<p>Taking into account that the Government of the Republic of Armenia declared the information and communications sector ICT as the most important sector for an economic development, thus the statistical information on this sphere is very important, especially, on provided services, the volume of production and number of employees. The main goal of the collection of indicators is to provide users with monthly and quarterly information on the ICT indices. The indicator is used in trade for developing strategy, solving strategic tasks, as well as with the aim to study services sectors in business environment, to reveal trends of the social development in the trade sphere and for other purposes.</p>
	1.2 Consult and confirm needs	<p>The indicator is collected according to the Annual Statistical Program (it is available on the Armstat website at https://www.armstat.am/am/?nid=191), which is also elaborated based on the users requirements on the statistical information taking into account the limits of available resources, the capacity of statistical information providers and cost-effectiveness. The users' opinions about statistical information are studied by business discussions as well as through the "User satisfaction survey questionnaire" which is available on Armstat website (see: https://www.armstat.am/am/?nid=131).</p>
	1.3 Establish output objectives	<p>In the process of the collection, use, publication and storage of needed information (data) for the calculation of indicators the provisions of RA Law on "Official Statistics" related to the statistical data confidentiality are strictly followed (see:</p>

		http://www.armstat.am/file/doc/99486043.pdf).
	1.4 Identify concepts	The need to introduce indicators is stimulated by the requirements of users of statistical information.
	1.5 Check data	Legal entities and individual entrepreneurs in the ICT sector are the main sources for the calculation of the indicators, Data collection is carried out by the statistical reporting form according to the Annual and Five –Year Statistical programs.
	1.6 Prepare business case	The necessary data for calculating indicators are obtained from the statistical reporting forms. Before the approval of the statistical reporting form by the RA State Council on Statistics and its state registration by the RA Ministry of Justice, as a legal act, the discussions on indicators included in them and the instructions for their completion are carried out with different interested institutions, research organizations, and users, as well as the opinion of international experts is taken into account.
Design		
	2.1 Design outputs	<p>The data are collected based on the Law on "Official Statistics" (see: https://www.armstat.am/am/?nid=638) and "Five Year Statistical Program" (see: https://www.armstat.am/am/?nid=719), as well as the Resolution No. 05-N of RA State Council on Statistics "On Approval of the Procedure for the collection of statistical data" dated 20 June 2016 (see: https://www.arlis.am/DocumentView.aspx?docID=122973 and Resolution "On Approval of Annual Statistical Program" (see: https://www.armstat.am/am/?nid=191), as well as on:</p> <ol style="list-style-type: none"> 1. Resolution No 24-A of RA State Council on Statistics dated 05 September 2018 on approval of summary statistical reporting form received from the administrative register on "IT and informational services" Form 1- IT (monthly) and of the instruction of filling in it. 2. Resolution No 10-N of RA State Council on Statistics

		<p>dated 19 October 2018 on approval of statistical reporting form on “ Trade turnover” Form 1- trade (monthly) and of the instruction of filling in it,</p> <p>4. Resolution No 25-N of RA State Council on Statistics dated 19 October 2018 on approval of statistical reporting form on “Report on the industrial production of organization” Form 1- production (monthly) and of the instruction of filling in it,</p> <p>5. Resolution No 67-N of RA State Council on Statistics dated 12 November 2018 on approval of statistical reporting form on “Preparation and broadcasting of radio programs, on revenues derived from telecommunication activities” Form 13- communication (monthly) and of the instruction of filling in it.</p>
	2.2 Design variable descriptions	<p>For the collection of indicators are used the Classification of Types of Economic Activity is used for the collection of indicators (Order of the Minister of Economy of RA N-1579 RA, OB 04.11.2013 30/(474)1, dated 10 December 2019) (NACE Rev.2) (see: https://www.armstat.am/am/?nid=370), as well as the Manual for the Production of Statistics on the Information Economy, United Nations Conference on Trade and Development) (see: http://unctad.org/en/docs/sdteecb20072_en.pdf),</p>
	2.3. Design collection	<p>Statistical data collection is carried out mainly in paper form through the statistical reporting forms, approved by the RA State Council on Statistics, according to Annual Statistical Program. The electronic method of the collection of information is also applied. Data collection in ICT sphere is carried out mainly by widespread calculation method.</p>
	2.4 Design frame and sample	<p>The design of the general population is implemented to provide complete information regarding the sphere. For this purpose, it is implemented the receiving of information from all possible sources on the fact of activity of economic entities of ICT sector previously known and immediately, economic entities of the relevant sectors are informed about being covered in the statistical observation field and then the relevant statistical information is collected.</p>
	2.5 Design processing	<p>After the collection of information the statistical indicators are</p>

	and analysis	subject to arithmetic and logical checks, and in case of necessity the appropriate adjustments are carried out also by contacting the relevant organizations that provide the information. In case of submission of not reliable, incomplete or corrupted information on indicators, in case of need the process of verification is also implemented according to the requirements of the Article 169.2 of RA Code on “Administrative Offences”, as a result the prior period data are subject to be adjusted.
	2.6 Design production systems and workflow	The preparatory work is carried out for all processes from the collection of information and until its publication, particularly, related to the appropriate notification of respondents, the training of the staff through professional courses and etc.
<i>Build</i>		
	3.1 Build collection instrument	The statistical reporting form needed for the collection of information and the instruction for filling it in, are available in paper and electronic form (see link: https://www.armstat.am/am/?nid=547).
	3.2 Build or enhance process components	The guidelines and instructions necessary for information verification are available. Input software package (Microsoft Office Access) has necessary tools for arithmetic and logical checks of input data, systems for checking the sum total, logical relations, organizations’ registration, identification and tax codes compliance and other automated checks ‘ systems.
	3.3 Build or enhance dissemination components	The dissemination of information is possible in paper, as well as in electronic form of publication of information on monthly, quarterly and annual basis in accordance with the Annual Statistical Program.
	3.4 Configure workflows	The derivation of statistical product is carried out by the following successive stages: <ol style="list-style-type: none"> 1. collection of information, 2. arithmetic and logical checks and adjustments, 3. information input through the pre designed input software (Microsoft Office Access software),

		<p>4. comparison of obtained summary data with the corresponding time series,</p> <p>5. dissemination of information in paper or electronic forms through the yearbooks, information reports, statistical handbooks, as well as through the official response letters upon the official requests.</p>
	3.5 Test production system	Due to indicators changes in the statistical reporting form the input software is regularly undergoing to relevant changes. The testing of software is also carried out in case of need.
	3.6 Test statistical business production	In parallel with the inclusion of the indicators in the statistical reporting form, the field examination of the latter is implemented to reveal the opportunities of the respondents to provide with the indicators, as well as to test their understanding of it.
	3.7 Finalize production system	The composition of methodological clarifications on the completion of indicators available in statistical reporting form and provision to the statistical information providers (respondents) is carried out. The consents of information providers on indicators got during the workshops are summarized.
<i>Collection</i>		
	4.1 Create frame and select sample	Basic information is collected from organizations, as well as from individual entrepreneurs, and for statistical purposes the all economic entities are involved in monitoring which ensures high degree accuracy.
	4.2. Set up collection	In order to organize the collection of statistical data, the formation of order on printing of relevant statistical reporting form and in case of need of the instruction of filling in it, their printing and distribution to the relevant organizations is implemented according to the number of organizations previously known as subject to observation. At the same time the statistical reporting forms and the instruction of filling them are accessible on the Armstat official website (see the link: ` https://www.armstat.am/am/?nid=547).

		<p>The required network resources for the report collection in the electronic form are in place.</p> <p>The responsible staff of structural and territorial units has relevant knowledge and skills for the organization of the statistical information collection process.</p>
	4.3 Run collection	<p>Statistical data collection is carried out by the Armstat territorial units, relevant units of regional departments by hand, mail and electronic system means according to the Resolution of RA State Council on Statistics No 05-N on the “Approval of the Procedure of the collection of Statistical Data” dated 20 June 2016 (see` https://www.arlis.am/DocumentView.aspx?docID=122973).</p>
	4.4 Finalize collection	<p>The collected information, after being arithmetically and logically cross checked, is input in the electronic environment. The information input is carried out automated, as well as by direct input of information in electronic environment.</p> <p>The reports received by electronic forms after being entered in the electronic environment are archived, keeping confidentiality in accordance to legislative order (see the IV point of the link http://armstat.am/file/doc/99454478.pdf).</p>
<i>Process</i>		
	5.1 Integrate data	<p>The unification of relevant data received from the Armstat Yerevan and marz (regional) departments in one common database is implemented, in a result of which the duplications would be excluded.</p>
	5.2 Classify and code	<p>The coding process by the main type of activity of the organization according to the classification of economic activities (NACE Rev. 2), as well as the encoding of marz and territorial units in accordance with a predetermined order is implemented.</p>
	5.3. Review and validate	<p>The cross checking of incomplete and corrupted presented data , as well as the compiling of incorrect encoded data with requirements of pre-approved classifications is implemented. In the case of need, the validation of relevant codes on registration in the tax bodies, identification, registration of</p>

		organizations in state register is implemented using the data provided by the business register maintained by the Armstat and by the body of the RA Ministry of Justice implementing state register of legal entities being used as an administrative data source.
	5.4 Edit and impute	The completion of the missing data is implemented using the data on the indicator presented for the previous period in case of the lack of the alternative information on them. The completed data in case of being available for the next periods is subject to adjustment.
	5.5 Derive new variables and units	Additional calculations and estimation for the calculation of other indicators are not available.
	5.6 Calculate weights	As the providing information ensures the statistical completeness of ICT sector, thus there is no need to calculate additional weights.
	5.7 Calculate aggregates	The summary data by separate statistical indicators are derived based on the input data through the pre-designed software.
	5.8 Finalize data files	Often, the calculation of primary indicators that are subject to further adjustment is done due to the necessity to obtain operative statistical data. The first published data is classified as preliminary. The changes in the published data are guided by explanatory notes.
<i>Analyze</i>		
	6.1. Prepare draft outputs	The creation of indicator groups, as well as time series of statistical indicators is implemented based on obtained statistical summary data. The received indicators calculation is used to present the summary information, as well as to create the time series of indicators.
	6.2 Validate outputs	The methodological requirements to the received indicators are strictly followed during the whole process of indicators receiving according to the pre-defined classifications, methodological guidelines and the instruction on completing the statistical reporting form. Output data are compared with the previous month (period) indicators, as well as the relevant month (period) of the last

		year. It is carried out the study of differences between the data.
	6.3 Interpret and explain outputs	The logical analysis of the received summary indicators is carried out taking into account the impact of various phenomena taking place in the economy on the given sphere.
	6.4 Apply disclosure control	The confidentiality of statistical indicators (not containing individual (personal) data) that is subject to publication, as well as requested by the users of statistical information is strictly followed according to the Law on Official Statistics and the Resolution of the SCS No 53 " Approval of the Order on Protection of Statistical Confidentiality" dated 25 June 2001, and only summarized data are provided (see: https://www.armstat.am/file/doc/99454478.pdf).
	6.5 Finalize outputs	Before the dissemination of summary information, it is conducted an analysis of the summary indicators of the service sector by time series, as well as the relevant indicators are compared with other types of services.
<i>Dissemination</i>		
	7.1 Update output systems	The work on the derivation of relevant tables of statistical indicators that are subject to publication and final adjustments are carried out, as well as the time series update is implemented. In the case of the need the changes and/ or additions are made in the concepts and methodological explanations of the relevant indicator.
	7.2 Produce dissemination products	All the production steps are implemented for the disseminating products: preparation of explanatory text, tables, charts and other materials, editing of these products and making them compliant with publishing standards. The information on the statistical indicators is published in Armenian, Russian and English through the yearbooks, statistical handbooks and monthly informational reports. 1. Social- economic Situation of the Republic of Armenia (monthly) (https://www.armstat.am/am/?nid=82).
	7.3 Manage release of dissemination products	The dissemination of statistical information is carried out according to the schedule envisaged by the Five-Year and Annual Statistical Programs. In case of the changes and

		adjustments made in the indicators provided by the providers of statistical information the indicators already published by the Armstat are also being changed and adjusted correspondingly.
	7.4 Promote dissemination products	Various information presented on the Armstat official website (indicators, metadata, notifications, news about the sphere, micro-data, etc.) is not only a statistical tool, but also dissemination tool of information on the Armstat activity, which promotes the effectiveness of the sector's activities.
	7.5 Manage user support	In case of the official request of the users of statistical information related to the information not being published, the calculation of additional indicators is carried out at possible extend and submitted to them following the principle of confidentiality of statistical information.
<i>Evaluation</i>		
	8.1 Gather evaluation input	The collection of data received from the same source and/ or from the administrative register on relevant organizations is carried out for the purpose of comparison.
	8.2 Conduct evaluation	The comparisons of data on the same organizations received by the same source included in the different reporting forms are implemented from the point of view of the quality management of statistical indicators. The relevant information provided by administrative registers, such as the body of state registration of legal entities of the RA Ministry of Justice and / or the Ministry of Finance serves as informational basis for the evaluation of information quality.
	8.3 Agree an action plan	In the case of detection of discrepancies between the information received from different sources on the same indicator being compared, the revealing of the possible reasons is carried out, and the corresponding final adjustment is implemented based on it.