



IMPLEMENTING A SURVEY ON EXPORTS OF ICT-ENABLED SERVICES

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Implementing a Survey on Exports of ICT-enabled Services

Analytical report on the main findings and lessons learnt from survey implementation during 2017¹

¹ This technical note is based on a detailed report prepared by Dr. Thierry Coulet, from Sciences Po Lyon, with contributions and guidance from Torbjörn Fredriksson (team leader) and Diana Korca of the ICT Policy Section at UNCTAD. The report was commissioned by UNCTAD, following the implementation in 2017 of a model questionnaire in three developing countries, namely Costa Rica, India and Thailand. The model questionnaire had been commissioned by UNCTAD and prepared by Dr. Thierry Coulet in December 2016, with inputs and feedback from the Central Bank of Costa Rica, the Directorate General of Commercial Intelligence and Statistics, of the Ministry of Commerce and Industry of India, the Thai Electronic Transactions Development Agency, WTO, IMF, OECD. Lessons learned from the implementation of the survey in Costa Rica, India and Thailand were reflected in the revised version of the model questionnaire attached in the annex to this report. Financial contribution from the Government of Sweden is gratefully acknowledged for this project.

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1. BACKGROUND AND OBJECTIVES OF THE PROJECT

This project lies within the perspective of statistics on the digital economy. It stems from the observation that no comparable statistics on trade in ICT-related services are currently available while there is a growing demand for better data from countries exporting such services. There is also a need to better understand the impact of enhanced ICT access and use on services trade. The major motivations for this project thus related to the discrepancy between the growing importance of trade in ICT-enabled services and the lack of associated statistics.

Information and communications technologies (ICTs) are a key enabling factor for the development of services trade. This is directly related to the falling prices for voice and data communications which enable companies to segment and relocate work to remote locations. This trend is accompanied by a transformation of the nature of the traded services, with an evolution, in particular, from basic call centre activities to much more complex business process operations.

Trade negotiations were also at the core of a renewed interest in services and e-commerce. In this context, it is crucial that policymakers can quantify such trade more accurately than the current statistical system allows. New statistics would allow to understand how better ICT access affects growth in trade in services.

In 2015 UNCTAD launched a project to measure international trade in ICT-enabled services. Between 2015 and 2016 a Task Group on ICT Services and ICT-enabled Services has been created to coordinate efforts and reduce the risk of duplicating work. The Task Group was created under the umbrella of the Partnership on Measuring ICT for Development, an inter-agency initiative to improve ICT statistics, especially in developing countries by coordinating efforts between the several specialized agencies. The Task Group is led by UNCTAD and member organizations are UNSD, WTO, OECD, UNESCWA, ITU and the World Bank. Based on the terms of reference developed in consultation with the Task Group, UNCTAD commissioned a first study to assess the feasibility of measuring trade in ICT-enabled services and to take stock of existing approaches. A first report² published in October 2015 presented a summary of issues and proposed a new approach and indicators for measuring exports of ICT-enabled services from developing countries. The report has been presented for review and approved by the United Nations Statistical Commission at its 47th session in 2016.³ Throughout the project, coordination with the inter-agency Task Force on International Trade Statistics has helped ensure consistency with the existing standards for measuring trade in services.

In a second phase of the project (2016 to 2017) a model questionnaire for an enterprise survey was developed and four countries, Costa Rica, Egypt, India and Thailand expressed an interest in implementing a pilot survey based on national adaptations of this model questionnaire. While Egypt preferred to postpone

² UNCTAD (2015). International trade in ICT services and ICT-enabled services. UNCTAD Technical Notes on ICT for Development No. 3, Geneva, http://unctad.org/en/Pages/DTL/STI_and_ICTs/ICT4D-Technical-Notes.aspx.

³ *Report of the Partnership on Measuring Information and Communications Technology for Development: information and communication technology statistics to the 47th Session of the UN Statistical Commission (E/CN.3/2016/13)*, <http://unstats.un.org/unsd/statcom/47th-session/documents/2016-13-Partnership-on-measuring-ICT-for-development-E.pdf> and *Report of the Interagency Task Force on international trade statistics to the 47th Session of the UN Statistical Commission (E/CN.3/2016/24)*, <http://unstats.un.org/unsd/statcom/47th-session/documents/2016-24-Interagency-TF-on-international-trade-statistics-E.pdf>.

the implementation of the project, pilot surveys were conducted in Costa Rica, India and, partly, in Thailand. The project was funded by the Government of Sweden and it came to an end in December 2017.

In all three implementing countries, prior to the launch of the survey, a preparatory workshop was organised with the following general objectives:

- to present the project as well as the model questionnaire;
- to discuss methodological characteristics of the survey to be implemented, including concepts, definitions and classifications;
- to agree on a timeline for the survey implementation;
- to discuss a tabulation plan as well as other analytical aspects to be included in the final report.

In the wake of these three pilot surveys, an expert meeting was organized by UNCTAD in December 2017 to review preliminary results and draw lessons from survey implementation.⁴ Finally, a dedicated session during the UNCTAD E-commerce Week 2018 presented a review of findings and recommendations.⁵

This synthesis report analyses the results achieved through the implementation of the three pilot surveys and incorporates clarifications agreed during the discussions at the December 2017 expert meeting and the E-commerce Week 2018 dedicated session. It also proposes certain adaptations to the survey questionnaire considering the lessons learned. The revised model survey questionnaire is attached in Annex 1, which also includes a cover letter to accompany the survey questionnaire. Annex 2 provides the detailed description of services covered under the main reporting categories in the survey questionnaire. Annex 3 shows a minimum tabulation plan for presenting results after survey implementation.

2. MAIN FINDINGS AND LESSONS LEARNT FROM SURVEY IMPLEMENTATION IN 2017

A. General findings and recommendations

The pilot surveys allowed for the finetuning of important methodological and procedural issues outlined in this report. These are relevant for other countries that consider implementing a similar survey on trade in ICT-enabled services. The pilot surveys also produced significant results, even though in one case the survey was limited to one sector.

In *Costa Rica*, the survey found that most companies exporting services over ICT networks belonged to the services sector (81.8 %) and that most of them were large companies (63.2 %). The survey also showed that affiliates from foreign companies play a significant role in these exports. Such facts are fundamental to better understand the dynamics of trade in ICT-enabled services and to develop evidence-based policies to foster its development. The survey also found that, in 2016, *potential* ICT-enabled services represented 39% of total services exports.⁶ Some 97% of the exports of services that could be ICT-enabled were found to

⁴ For more information see UNCTAD (2017). UNCTAD Expert Meeting on Results from Pilot Surveys on Exports of ICT-enabled Services, 28-29 November 2017, <http://unctad.org/en/pages/MeetingDetails.aspx?meetingid=1651>.

⁵ For more information see UNCTAD (2018). UNCTAD E-commerce Week 2018. Session on Measuring Exports of Digitally-delivered Services, 16 April 2018, <http://unctad.org/en/conferences/e-week2018/Pages/MeetingDetails.aspx?meetingid=1720>.

⁶ Costa Rica: Exports of Services Over Information and Communication Technology Networks (ICT), Rigoberto Torres Mora, Chief, International Accounts, Macroeconomic Statistics Department, Central Bank of Costa Rica, 16 April 2018, http://unctad.org/meetings/en/Presentation/dtl_eWeek2018p03_RigobertoTorresMora_en.pdf.

have been delivered over ICT networks, with a predominance of the management, administration and back-office services sector. The *actual* ICT-enabled services thus represented 38% of total services exports.

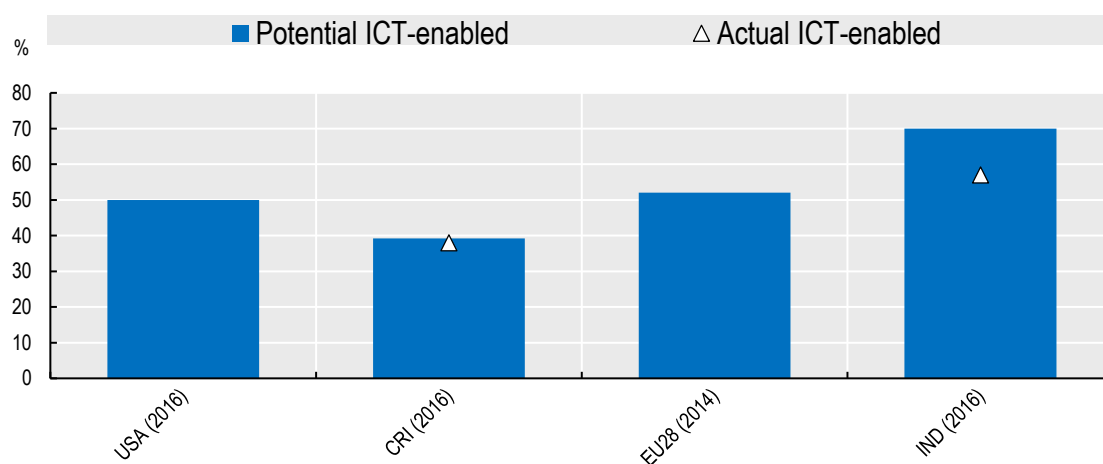
In *India*, balance of payments statistics indicate that 70% of total services exports could be ICT-enabled in the financial year 2016-17.⁷ The survey found that in 2016-17, about 81% of potential ICT-enabled services exports were actually delivered over ICT networks. ICT-enabled services thus accounted for 57% of total services exports from India. Computer services were the biggest contributor accounting for almost two-thirds of the total amount. For services exporting SMEs, delivery over ICT networks constituted the predominant mode of supply (more than 99%).

In Thailand the pilot survey was limited to the telecommunications sector, where most exports are (and were indeed found to be) ICT-enabled. Still the pilot survey offered the opportunity to collect feedback on the feasibility for services exporting enterprises to respond to the questionnaire.

In the United States, a study found that *potential* ICT-enabled services represented a little over 50% of total services trade in 2016. The Bureau of Economic Analysis considers modifying its questionnaire to be able to capture actual ICT-enabled services.⁸

In the case of the European Union, another study found that *potential* ICT-enabled services represented 52% of total services exports in 2014, when including intra-EU trade, and 56% when excluding intra-EU trade (US Department of Commerce, 2016).⁹

**Chart 1. ICT-enabled services as a percentage of services exports (actual and potential)
2016 or latest available year, countries with available data**



Source: UNCTAD, based on India: Directorate General of Commercial Intelligence and Statistics, Costa Rica: Central Bank, US: Bureau of Economic Analysis, EU28: US Department of Commerce. Note: For India the reference period of the survey was April 2016 to March 2017.

⁷ Compilation of Statistics of ICT-enabled services: Experiences from a survey, Amitava Saha, Director in-charge, Services Trade Statistics Division, Directorate General of Commercial Intelligence and Statistics, Ministry of Commerce and Industry, India, 16 April 2018, http://unctad.org/meetings/en/Presentation/dtl_eWeek2018p04_AmitavaSaha_en.pdf.

⁸ Measuring Digital Trade in the U.S, Jessica R. Nicholson, Senior Economist, Bureau of Economic Analysis, United States, 16 April 2018, http://unctad.org/meetings/en/Presentation/dtl_eWeek2018p05_JessicaNicholson_en.pdf and Grimm (2016).

⁹ ICT-Enabled Services Trade in the European Union, US Department of Commerce, Office of the Chief Economist, August 2016, available online at: http://www.esa.doc.gov/sites/default/files/ICT-Enabled%20Services%20Trade%20in%20the%20EU_0.pdf.

The rest of the section discusses various qualitative, methodological and organizational recommendations stemming from the pilot survey implementation.

The implementation of a survey usually requires the use of a range of statistical tools and techniques, such as settlements and business registers, sampling and grossing-up methods, that usually are the matter of various national institutions. The successful implementation of such a survey therefore benefits from the cooperation of, at least, the central bank and the statistical office and, according to its administrative organization, the line ministry or national agency in charge of the development and regulation of e-commerce and services trade.

Effective inter-institutional cooperation is hence a pre-requisite for success. However, no survey can be successful without an understanding and a sharing of its objectives and modalities by those who will be solicited to answer the survey: the private sector. In this context, it is important to involve representatives of the private sector at an early stage of the conception of the survey. This may take the form of a roundtable gathering all the public entities involved in the development and implementation of the survey and the representatives of the professional organizations, and private sector associations or federations that are the most closely related to ICT-enabled services. Such a roundtable should be used to present and discuss the objectives of the survey, the modalities of its implementation and, more specifically, the details of the sampling strategy, the frequency of the survey, the questionnaire to be filled in by enterprises and the deadline for submission of the answers. The feedback from the private sector representatives on the draft questionnaire should, in particular, be key in ensuring its understanding by future respondents.

In addition, the private sector representatives could, in some countries, contribute to the development of the sample frame. This is especially true when there is no national settlement or business register and when the list of enterprises belonging to these associations can be used as a basis for the constitution of the sample frame. Finally, the professional organizations could be mobilized in an awareness-raising campaign towards the private sector which would help to improve the response rate.

Once the principle of the survey is agreed upon and the cooperation of the private sector is secured, it is necessary to attach high importance to the specification of the technical characteristics of the survey. These include, in particular, the constitution of the sample frame, the sampling strategy, the devising of the questionnaire, the material form of the survey, the treatment of non-responses, the exploitation of the survey results and the dissemination of the statistics produced. These points are shortly developed in the next section.

B. Technical recommendations

i. The constitution of the sample frame

The preferred observation unit for this survey is the resident services exporting enterprise. For this purpose, the most natural sample frame is the business register, or ideally, the balance of payments (BOP) register of services exporting firms if one is available. Usually the BOP register is managed by the national central bank and it includes details about the exporting or importing resident enterprises. A BOP register should include not only the basic identification variables, such as name, postal address of the company, name of the president or CEO etc., but also key economic information regarding, in particular, the nature and type of exports and imports performed over the last few years.

In many developing countries, such a balance of payments register is not available at the central bank, which may still manage a settlement register that includes only identification variables. This could also be used as a basis for constituting the sample frame for the survey, even though the available information will most probably be more limited and will not provide the details required for the segmentation of the sample, as discussed below.

When neither a BOP nor a settlement register is available, another option is to use a general business register which is usually managed by the national statistical office. Finally, when no official register of companies is available, the only solution is to make use of private registers, such as the lists of members of one or several professional business organizations. In this case, in particular, the cooperation of these professional organizations is key to the success of the project.

ii. Segmentation and sampling strategy

Once the sample frame is constituted, it is necessary to devise a segmentation and sampling strategy which should both ensure the production of meaningful statistical results and be consistent with the treatment capacities of the institutions implementing the survey.

The segmentation of the sample aims at ensuring the statistical representativeness of the survey results while reducing the number of units to be surveyed. In a first stage, the segmentation should be simple and rely on one or two characteristics. These criteria will depend on the nature of the register that can be used for constituting the sample frame and on the economic and geographic characteristics of the country. The most usual criteria for segmentation are the size of the enterprise, defined in terms of turnover or value added or exports, its main economic activity and the location of its main establishment.

As for the sampling ratio, it will much depend on the population of units included in each of the strata resulting from the segmentation strategy previously defined. If unit size is one of the chosen segmentation characteristics, a simple sampling strategy could be to divide the whole sample frame into three tiers, a census tier for the largest units, for which the sample ratio would hence be 100%, a sampling tier, with a sample ratio to be defined according to the number of units in this segment and the management capacities of the national institution in charge of implementing the survey, and an uncovered tier including small and very small businesses which could be left aside the regular implementation of the survey. This third segment should still be included in the first implementation of the survey and in possible future benchmark surveys, even if with a very low sampling ratio.

iii. Devising the questionnaire

Devising the questionnaire is a crucial step in the development of a survey. It should follow some fundamental principles and, in particular, be simple and easy to understand by the respondent. In addition, the questionnaire should be administered in a form that is as short as possible to secure a satisfactory response rate.

A model questionnaire was devised by UNCTAD based on these principles. It was used, in some cases with minor adjustments, in the three pilot surveys and was revised in accordance with observations made during the implementation. It is attached in Annex 1 of this report and it includes a one-page cover letter. Annex 2 can be used as an aid to the questionnaire as it provides a detailed list of services to be included in each response service category.

The questionnaire comprises three parts. Part A aims at collecting basic information about the enterprise. Part B identifies exports of services that were delivered by the enterprise remotely over ICT networks (so-called ICT-enabled services) during the reporting period. Part C allows detailing these ICT-enabled exports by type of service, mode of delivery and partner economy.

The adjustments introduced in the wake of the pilot surveys are:

- Exclusion of insurance and financial services from the survey. Indeed, the measurement of insurance and financial services implies to collect a wide range of accounting details that are specific to these activities. This means that they cannot be treated in a general survey and through a single questionnaire;
- Removal of references to the concepts of modes 1, 2, 3 and 4, while keeping the description of the different modes of supply defined as cross-border supply, consumption abroad, supply through a commercial presence and through the presence of natural persons. The terminology originally used was deemed confusing by many pilot survey respondents;
- Question A.7: the definition of employees was replaced by the definition of persons employed, to which the question refers;
- Questions A.9 and A.10 were inverted with the question on the principal activity coming first and then the question on the total turnover of the enterprise.

iv. The material form of the survey

Several methods for implementing the survey have been used in the frame of the pilot surveys, including face to face interviews, telephone interviews, sending of paper questionnaires by postal mail or the provision of an electronic questionnaire on a dedicated webpage.

All these methods are appropriate. The choice will depend on the national context and, in particular, on the number of enterprises to be surveyed and the existing relations between the institutional institution in charge of the survey and these enterprises. Methods can also be combined either by offering the possibility to the respondents to choose one method or the other or by using different forms of the questionnaire for different segments of the sample (paper, excel, online questionnaire).

In a pilot phase, the face to face interview has the advantage of enabling the implementing agency to collect and analyse possible questions raised by the respondents. This could allow for further finetuning of the questionnaire for a later implementation of the survey. On the other hand, the development and provision of an online version of the questionnaire could considerably lighten the burden on both the respondent and the compiler and, as a consequence, improve the response rate.

In any case, it appears necessary to provide some support to the respondents in the form of either a telephone platform, an email contact or a web forum. This helps to ensure a proper understanding of the questionnaire and high quality of the results. In addition, the provision of technical support to respondents is another way to improve the response rate.

v. Treatment of non-responses and extrapolation of survey results

The first objective regarding non-responses is to lower their incidence. As previously explained, three key tools can be used from this perspective: a) the cooperation with professional organisations; b) the development and provision of an electronic version of the questionnaire; and c) the provision of technical support to respondents. In addition, a system of reminders should also be devised.

Different statistical methods can then be applied to treat non-responses and to proceed with the grossing up of the survey results. As for the treatment of non-responses, two methods can be applied to straighten the sample, i.e. the replacement of the non-respondents and the post-stratification of the responding units. Both methods are relevant and the choice between them should depend on the characteristics of the sample and the distribution of the non-responses themselves. It is however legitimate to proceed with a simple random sampling without replacement, especially in the context of a pilot survey.

The extrapolation method should be defined in accordance with the stratification strategy adopted and with the treatment of non-responses applied. In the case of implementation of a simple random sampling without replacement, the extrapolation of the survey results should simply rely on the grossing up of the values obtained for each stratum of the sample, the grossing up ratio itself being defined, in this case, as the ratio between the number of units in each stratum of the sample frame and the number of units in the corresponding stratum of the sample.

Some of the characteristics collected through the survey could be used as proxies for the validation of its results, both in terms of internal and external consistency. In this respect, the traditional aggregation rules should be applied for checking the internal consistency of the results while some of the characteristics collected, such as the number of persons employed, the turnover or the total value of exports should be used to check external consistency with national accounts, business statistics and BOP data.

In order to make the most of the survey results, a tabulation plan should be conceived at an early stage of the project. This should help to shed light on the importance of international trade in ICT-enabled services and on its major characteristics. A minimal tabulation plan is proposed in Annex 3 of this report. This could be complemented by other tables according to specific stakes and challenges in each country implementing the survey. For example, India produced tables not only on the importance of ICT-enabled services transactions but also on the respective importance of all four modes of services supply.

The key information should ideally be made available not only in the form of tables and figures but also in the form of graphs and, possibly, infographics. It should be accompanied by an analysis of evolutions, challenges and perspectives, as detailed below.

Finally, the analysis should try to establish relations between the various characteristics measured such as, for example, the size of the company or the nature of its control (i.e. national vs foreign) and the share of exports delivered over ICT networks.

vi. Dissemination of the statistics produced

Statistics are produced to be used, in particular, by policy-makers and operators themselves as well as by others. This means that the statistics resulting from this survey should be widely disseminated. Both the platform on which the information is made available and the content of the information are relevant.

As for the content, it is important to disseminate information about the results of the survey, i.e. rough figures, as well as about the characteristics of the survey, its context, its objectives and the methodological and technical choices that have been made in its development and implementation. This information constitutes what is usually labelled as the metadata by statisticians and is key to ensure a correct understanding of the results by the user of the information.

Regarding the statistical results, it is important not only to provide figures but also understanding and perspectives. The statistics provided should therefore be accompanied by analysis that can help the users to understand trends and their driving forces. They should also allow users to understand perspectives and challenges that will enable policy-makers and operators to define strategies and make choices.

Finally, the platform or media chosen is key to ensure a successful dissemination. As the survey is about the development of digitally-enabled services, it seems natural to envisage a web-based dissemination of the information produced. Other platforms or media could also be considered, such as press conferences which could be critical to give the largest possible audience to the information produced and, finally, traditional press and paper media.

C. Main findings and lessons learnt from survey implementation in Costa Rica

i. Mains lessons learnt from the preparatory phase

The preparatory meeting for pilot surveying exports of ICT-enabled services in Costa Rica took place on 2 and 3 May 2017 at the premises of the Central Bank of Costa Rica (BCCR). An awareness-raising event was organized on 4 May 2017, targeting the enterprises chosen to participate in the survey. Both events were followed by an evaluation meeting with BCCR on 5 May 2017.

The main outcomes from the discussions held during this preparatory workshop are summarised below.

A main purpose of the training workshop was to familiarize the staff with the terminology of the survey to help them answer possible questions from the responding enterprises concerning definitions and concepts used. In total, 15 persons participated in the training, of which five persons external to the BCCR, from the Ministry for Foreign Trade and the national agency for the Promotion of Foreign Trade (PROCOMER) and Investment (CINDE) in Costa Rica.

Furthermore, as this was the first test of the questionnaire, it was important to identify and possibly implement changes due to mistakes in the questionnaire. It appeared, based on discussions with the responsible persons at BCCR, that the questionnaire had been well elaborated, and the training session also proved that the questionnaire was mature for survey purposes. The training session identified one problem with the sequence of the question on the main activity of the enterprise which was placed in between questions related to economic information (turnover and exports).

For the purpose of implementing the survey, the BCCR had developed an online questionnaire which was also presented. Due to the filter structure of the questionnaire, the online version was found to be less burdensome, only showing the responding enterprise the relevant questions to be filled in.

Finally, the sample was discussed. The sample was made up of 285 enterprises out of a sample frame of close to 1'300 services exporting enterprises. The sample selection was based on expert advice from the BCCR. 273 enterprises were in the services sector, especially within ICT services, and only 7 in manufacturing. The last category was added following discussions during the preparatory phase as it was considered important to learn to what extent manufacturing enterprises, affiliates of multinational enterprises might also be exporting services IT services or engineering services. 175 enterprises were large enterprises (classified as enterprises with 100 or more employees), 96 were small or medium sized (with 10 – 99 employees) and only 14 were micro enterprises.

The main take-aways from the preparatory phase were as follows:

- 1) It is necessary to organize a training session for the staff involved, even if the questionnaire seems to work well.
- 2) It is useful to invite staff from ministries, agencies and branch organizations that are expected to support the survey by contacting their members or contacts in the enterprises. This can be done as part of the training course or as a separate event.
- 3) A full day event for the responding enterprises should be considered by the national agency in charge of the survey depending on national practice.
- 4) An online version of the questionnaire is a powerful way to minimize the burden on respondents.
- 5) Field testing should be carried out prior to the actual survey itself to test the questionnaire in the national context including with regard to possible linguistic issues.
- 6) The issue of grossing up the results should be addressed separately with the methodological unit within the organization carrying out the survey.

ii. Main findings and lessons learnt from survey implementation

In the case of Costa Rica, data collection was performed for the reference year of 2016.

In a first phase, a pilot survey was conducted with ten companies. This activity took place between May 8th and 19th, 2017. Nine visits were made to companies and, in one case, the survey was completed through assistance via video calls. In a second phase, during the period from May 22nd to September 22nd, survey forms were sent to all companies. Close follow-up and support were offered to the respondents.

The third phase was that of data validation. It started on September 25th, including cross-checking with other administrative sources of information available at the BCCR and other institutions. The fourth phase was dedicated to the expansion of data and the analysis of information to ensure consistency with BOP data. Finally, the fifth phase was dedicated to drafting the results report.

A total of 285 companies were surveyed, of which 175 large, 57 medium, 39 small and 14 micro enterprises. The survey covered the nine categories of ICT-enabled services exports. The enterprises surveyed belonged to the following sectors: agriculture (2), commerce (13), manufacturing (27) and services (243). The lowest response rate was recorded for the services sector, with 147 answers received (response rate of 60.9%). Still, most ICT-enabled services exporters were found to belong to the services sector (82%). Ten companies in the commerce sector and three to the manufacturing sector also declared exporting ICT-enabled services. Most of the answers received were from large companies (61%). Large companies also contributed most to total ICT-enabled services exports (63%). It is worth underlining that, in the case of Costa Rica, all companies exporting services over ICT networks were under foreign control and, in 60% of the cases, the parent company was in the United States.

Exports of management, administration and back-office services represented 62% of ICT-enabled services exports. These were mostly call center services. The survey also found that 91% of the total exports of engineering, related technological services and research and development were delivered over ICT networks. As much as 98% of the value of ICT-enabled services exports were realized by large companies and 82% by companies in the services sector. About 68% of these exports were sold to the United States.

D. Main findings and lessons learnt from survey implementation in India

i. Mains lessons learnt from the preparatory phase

The preparatory meeting for pilot surveying exports of ICT-enabled services in India took place on 13 and 14 July 2017 at the premises of the Directorate General of Commercial Intelligence and Statistics (DGCIS) of the Ministry of Commerce and Industry in Kolkata. About 25 participants took part in this meeting, mostly from the DGCIS and from a private firm hired by DGCIS for handling telephone calls from the respondents.

The main outcomes from the discussions are summarised below.

Discussions during the first session helped to improve the understanding of the project. In particular, statistics on international trade in services (SITS) used to be produced by the Reserve Bank of India (RBI) based on an international transaction reporting system (or ITRS) and in accordance with the sixth edition of the Manual of Balance of Payments and International Investment Positions (or BPM6). These included data on the 12 main standard services categories of the extended BOP classification (EBOPS 2010) and on 63 EBOPS 2010 sub-categories. Available data did not include comprehensive information by partner country or by mode of supply, two types of information that are of key interest for this project.

Beyond standard BOP information, the RBI also produced statistics on *Computer Services and IT services Exports* based on an annual survey which had been conducted since the fiscal year 2002-2003. Four major categories of services had been distinguished in the frame of this survey: IT Services; IT-enabled Services or Business Process Outsourcing; Engineering services and Software products, but without direct correspondence to international classifications of services, such as EBOPS 2010 or CPC Ver.2.

The new ICT-enabled services survey set out to cover more comprehensively all types of services exports that can be ICT-enabled, and to collect information on groups of partner country and mode of supply, following the UNCTAD model questionnaire.

The second session of the meeting was dedicated to a general presentation of the project. Its background, motivation and expected results, as well as the process and the approach adopted were presented. Lessons learned from the implementation in Costa Rica, were also discussed.

The third session was dedicated to the detailed description of the survey approach and of the survey questionnaire. Comments from participants showed that the concepts of ICT-enabled services and modes of supply were clear and unambiguous. Still, some questions arose as to the treatment of specific cases, such as the secondment of an employee in a foreign affiliate of its company or the treatment of subsidiaries and branches in the population surveyed.

The fourth session was dedicated to the presentation of the Indian survey based on a paper and a Microsoft Excel version. Dr Amitava Saha presented the national version of the questionnaire and in particular:

- the survey population and the sectors covered;
- the data collection process, including data validation and the follow-up strategy in case of non-response;
- the indicative time-frame for implementing the survey; and
- the expected outputs of the survey, including data publication and report writing.

The customised excel questionnaire was discussed in detail and some adjustments regarding, in particular, the ordering of questions and full consistency in question formulation with the paper version, were proposed and accepted by DGCIS.

The excel questionnaire developed by DGCIS constituted a key asset in the implementation of the survey and in improving the response rate. Indeed, the electronic version allowed to make an automatic selection of the relevant questions for each respondent.

A major specificity of India with regard to the definition of the survey population and the selection of the sample was the lack of either a specific BOP register or a general business register. In these conditions, the DGCIS resorted to the use of specific registers, mostly managed by professional organisations, such as the National Association of Software and Services Companies (NASSCOM), and the Software Technology Parks of India (STPI), but also registers managed by sectoral regulatory bodies, in particular in the telecommunications and health sectors.

Both the insurance sector and the financial services sector were excluded. For insurance services, the trade in services questionnaire needed adjustment to request further information such as premiums written, premiums earned, claims paid, claims due to be able to calculate the value of the exported services, in accordance with the IMF BPM6 recommendations. It was suggested to develop a specific questionnaire for this sector at a later stage, in case the available BOP data would not be deemed fit to answer the objectives of this exercise. For the insurance sector it was recommended to use the existing RBS figures as most insurance services exports can only be delivered via mode 1 (with the exception of auxiliary insurance services such as insurance brokerage and agency services). For the financial services sector, the RBI is conducting a specific survey and it was considered more efficient to include the analysis of the modes of supply in the context of this existing RBI survey. Still, financial services provided by non-financial institutions, and IT providers in particular, will be covered by the ICT-enabled services survey.

As for the sampling strategy, a census approach was adopted for all units contributing to more than 90% of exports according to ITRS data. These units made up the so-called “census sector”. The “sample sector” comprised a sample of units outside the census sector. The sample was drawn based on a simple random sampling without replacement strategy with a sampling rate of 20%. This can be considered high. In total, around 2,600 units were surveyed in the frame of this exercise.

The survey data refer to the financial year 2016-2017 (1 April 2016 to 31 March of 2017).

The survey was conducted under the “Collection of Statistics Act” (CSA) of 2008 which makes it mandatory for the enterprises to reply. The CSA 2008 also guaranteed the confidentiality of the information provided and there were penalty provisions available to deal with non-compliance.

A one-month notice was given to the responding units to send back the questionnaire. A first reminder was then sent. If the observed unit still did not reply, a field investigator was sent to assist in fulfilling the questionnaire. If the observed unit still refused to respond, a formal prosecution procedure was opened. Some companies mentioned a confidentiality issue with the response to some questions.

One agency, which was represented during the meeting, had been hired to ensure telephone follow-up. DGCIS could still be contacted by the respondent for explanations and recommendations on how to fill in the questionnaire. Some 34 field personnel in 7 large cities were hired for the conduct of this survey.

A tabulation plan prepared by DGCIS and presented at the meeting was discussed and deemed to be very comprehensive and satisfactory. Still, some suggestions were made regarding refined or additional indicators. These included the calculation of export intensity (i.e. the value of exports as a share of turnover), the breakdown of exports by size-class, which could be defined in terms of turnover or in terms of employment of the responding unit, the concentration of exports in terms of exporting firms and export markets, or the weight of intra-group trade.

As for the survey characteristics, including the definition of the survey population and the selection of the sample, the strategy adopted by the DGCIS was fully approved. It was underlined that the DGCIS had made an excellent work in exploiting sectoral registers so as to compensate for the lack of any BOP or general business register. The sampling strategy was deemed to be very ambitious, with the adoption of a census approach covering a large part of the transactions under consideration.

ii. Main findings and lessons learnt from survey implementation

The UNCTAD classification of 9 categories of services was adopted in the survey implemented in India with minor deviations in financial services and exclusion of insurance services. The survey was to provide information on both country wise and mode wise exports for 8 remaining categories of the ICT-enabled services. Table 1 summarises the sampling approach adopted for each category of ICT-enabled services.

Table 1. Summary of the sampling approach in India

Category of service	Principle followed for dividing the population surveyed into census and sample segments
Telecommunications	Enterprises are ranked in descending order of value of exports (as provided by the RBI from ITRS database) and the enterprises (starting from the highest contributor) having a cumulative contribution of 90% to the total value of exports are regarded as 'census' units. The remaining enterprises are included in the 'sample' sector.
Engineering, related technical services and R&D	
Computer services (including computer software)	Top 100 enterprises from NASSCOM's member list having a cumulative contribution of 70% to the total value of exports are included in 'census' sector. Apart from this, STPI units which are not members of NASSCOM are also regarded as 'census' units. The remaining enterprises are included in the 'sample' sector.
Sales and marketing services, not including trade and leasing services	
Information services	
Management, administration and back office services	
Licensing services	

Source: DGCIS.

Out of the originally proposed 2,600 units, notices could be served to only 2,485 units belonging to 7 subsectors. At the end, the overall response was about 74%.

The main observations that could be drawn at the end of this pilot survey are the following:

- A survey on trade in services requires a pre-established business directory. The absence of a business directory for all the covered sectors is a major hindrance for conducting surveys. The Federation of Importers and Exporters Organisation (FIEO) and the Promotion Councils working under the Department of Commerce should be taken on board for updating sectoral frames.
- The non-availability of a proper frame severely affects the design of the survey, the issue of notices and the precision of the survey estimates.
- Several enterprises did not understand the concept of "mode of supply". Others did not collect detailed information on international trade by sub-sector or by mode of supply.

- Some respondents raised concerns about the sharing of financial information.
- All relevant stakeholders should be involved before launching of the pilot survey.
- Country ownership of the survey is vital and the motivation of the organisation conducting the survey is key to its success.
- Monitoring and evaluation of the survey should be an integral part of the project, in the absence of which the original survey timeline is not likely to be met.
- Limited technical expertise and available manpower resources for the field work made it more difficult to provide support to responding enterprises that required clarifications.
- The Collection of Statistics Act 2008 was persuasive, with rare instances of penalty imposed on non-respondents.

After the completion of the first phases of this pilot project, the Ministry of Commerce and Industry took some additional:

- The data collection capability of DGCIS through surveys was strengthened. As an interim measure, the Directorate General for Foreign Trade (DGFT)/ Department of Commerce (DoC) approved the employment of 34 field personnel from SSO and MoSPI in the major cities of Bengaluru, Mumbai, Chennai, Delhi, Kolkata, Hyderabad and Ahmadabad, where services trade is predominant. The process of employing field personnel to supervise the ICT-enabled services exports and other surveys has been initiated and deployment started in January 2018.
- At the request of the DoC, the NSO launched in September 2016 a nationwide survey on services trade in its 74th round to capture values of exports and imports by top 5 partner countries and top 5 types of services; the survey was completed in June 2017 and estimates are expected to be released by the end of August 2018.
- Quarterly data on exports of IT & IT enabled services based on data from STP units are expected to be compiled by DGCIS from the first quarter of 2017-18 for only Mode 1 delivery of services.
- Compilation of Export and Import of Services through the returns of GSTR 1 & GSTR 2¹⁰ is likely to bring uniformity in classification of services trade and reduce data gaps to a large extent in future. GSTR 1 provides details of outward supplies of goods and services while GSTR 2 provides the data on import of services.
- The general service tax (GST) network has provisions for registering all enterprises carrying out export and import of both goods and services. This will pave the way for developing a sector wise business directory and once this is done, GDCIS will launch a generic survey to estimate India's overall services exports by partner country and mode of supply annually.

E. Main findings and lessons learnt from survey implementation in Thailand

i. Main outcomes from the preparatory workshop

The preparatory workshop for Thailand took place on 1 and 2 November 2017 in Bangkok. Hosted by ETDA, the training was attended by some 25 participants from ETDA, the Bank of Thailand, the Thai National Statistics Office, the Ministry of Commerce (Trade Policy Department), the Digital Economy Promotion Agency and the Revenue Department. It covered four main sessions the outcome of which is described below.

¹⁰ All Indian exporting and importing companies have to register in the goods and services tax registers, GSTR-1 for exporting companies and GSTR-2 for importing companies. Every company in the register is attributed a single identification number. The system should be the basis for the development of a business directory.

During the first session, the background, motivation and expected results of the project, as well as the process and the approach adopted were presented. The lessons learned from the first implementation exercises, conducted in Costa Rica and in India, were also discussed. Comments from participants showed a wide understanding of the proposed approach and a general agreement with this.

The following session discussed major objectives of the training for ETDA and main steps that had previously been undertaken by ETDA in preparation for survey implementation in Thailand. The following elements were noted by ETDA:

- ICT-enabled services were a new concept for Thailand;
- several Thai public organisations were involved in collecting data relevant to the ICT-enabled services project but with different time frames and different data collection methods and little collaboration between these organisations;
- as a result, relevant data were scattered and did not have the sufficient detail to assess trade in ICT-enabled services; and
- ETDA confirmed an interest in collecting better data on cross-border e-commerce and ICT-enabled services. ICT-enabled services were of growing importance for the Thai economy and better data were needed to fine-tune related development policies. For example, Thai exports of business services nearly doubled between 2006 and 2016, to reach USD 8.6 billion, equivalent to 13% of total services exports from Thailand.

In this context, the main results expected from this project by ETDA were the following:

- improved understanding of the economic impact of ICT-enabled services exports;
- improved understanding of the concepts and methodologies to be adopted in order to measure ICT-enabled services trade (both exports and imports);
- enhanced collaboration between public and private sectors;
- collection of new information from the field survey;
- testing of the questionnaire and collecting comments on the feasibility to the private sector to respond to the questionnaire; and
- there was a clear interest in having further collaboration between ETDA and BOT as the first agency had more experience in measuring digital trade and e-commerce and the second agency had more expertise on measuring trade in services.

Since the first meeting that had been held in Geneva in the context of this project, 7-8 December 2016, four main activities had been implemented by ETDA:

- preparation of an action plan and analysis of the relevant information;
- translation of the questionnaire into Thai and preparation of the survey on a sectoral basis;
- meetings with relevant agencies such as the Bank of Thailand (BOT) and the National Statistical Office (NSO); and
- preparation of the information for the preparatory workshop.

More specifically, ETDA provided a detailed picture of the pre-project data availability for the nine categories of ICT-enabled services, elaborating in particular on the data sources and sampling frames, the frequency of data collection, the classification used in the data collection, the method applied (i.e. census, survey, ITRS). Thailand did not have a survey on which it could report data on exports of ICT-enabled services. Existing data referred to standard trade in services statistics as well as to data on services sales (both domestic and abroad). In addition, existing statistics did not include any information regarding the mode of supply and the geographical breakdown of the transactions, except in the case of telecommunications for the geographical breakdown. BOT trade in services statistics were mostly produced based on the ITRS. The threshold used in the ITRS system is high, at USD 50,000, which means that details

regarding transactions below that threshold might be missing. Besides, ITRS does not capture online payments while it is worth underlining that most categories of ICT-enabled services are subject to online payments. Another quality issue attached to the use of an ITRS is the lack of coverage of direct payments performed outside the Thai banking system. In addition to the ITRS system, BOT conducted two sectoral trade in services surveys on international transactions of telecommunication operators and hospitals. Eleven companies, covering approximately 80% of all transactions in telecommunication services, were surveyed in the first case, 47 hospitals, out of a total of 49, in the second.

The following session provided a detailed look at the questionnaire and the proposed methodological approach and was followed by a discussion on the next steps needed to ensure survey implementation. At the request of ETDA, the training included an additional section on the selection of the sample and sampling frame.

With a view to defining the scope of the pilot survey, ETDA examined the number of establishments in 2012 and 2017 belonging to an industry whose main activity corresponds to one of the nine categories of ICT-enabled services. This analysis was made at the ISIC Rev. 4 two-digit level and was based on the results of the 2017 industry census carried out by the National Statistical Office. The analysis could not however provide any information on the share of exporting firms, nor any data at the enterprise level.

In this context, the approach proposed was for ETDA and BOT to implement jointly the pilot survey, with the following elements:

- use of the BOT framework, and in particular the BOT settlements database, for the identification of services exporting enterprises;
- selection a sample for one or two priority sectors;
- implement the model questionnaire to measure the ICT-enabled services exports and the breakdown of this value by mode of supply; and
- analyse the comments received from respondents on the feasibility of answering to the questions of the model questionnaire.

It was proposed to implement the field survey in mid-November and to analyse its results before the 24th of November in order to present the lessons learnt from this exercise during the UNCTAD expert meeting due to take place on 28-29 November 2017. In this perspective, it was proposed to implement a census for the 11 large telecommunication operators, a 10% sampling for the medium-sized operators and a 1% sampling for the small operators, subject to the size of the total population of operators. Given the limited time and resources, the pilot survey was restricted to the main eleven exporters of telecommunication services and 5 other smaller providers. No adaptation of the model questionnaire was proposed by ETDA.

As for the administration of the questionnaire, ETDA favoured the parallel use of a face-to-face survey and a telephone survey.

ii. Main findings and lessons learnt from survey implementation

The Thai survey was implemented on 3-24 November 2017. Due to the time constraint, it focused on a single category of ICT-enabled services, namely telecommunication. The surveyed population comprised 11 major telecom companies established in Thailand and five telecom companies of a lesser importance, out of a total of about 200 Thai companies providing telecommunication services.

The 11 major companies are regularly contacted by BOT for the compilation of the BOP and these companies were contacted again by BOT in the frame of this survey. In this case, the questionnaire was administered by phone.

The other companies were identified through the directory managed by the Ministry of Commerce. These were contacted by ETDA and, in this case, the questionnaire was administered through face-to-face interviews.

The major findings of the pilot survey implementation in the case of Thailand are the following:

➤ *Regarding the questionnaire*

The model questionnaire was conceptually good but the great number of questions at the beginning of the questionnaire may dissuade respondents to look at the following parts. The questions were clear but some respondents had not understood the mode of supply concept despite the explanatory notes. It was necessary to explain the concepts or give some examples. The Explanatory notes and annex helped the surveyors to understand the content and the respondents to better understand the questions;

➤ *Response rate and results*

Thailand surveyed the telecommunications services sector and collected data mostly from the big players in this sector. All of them responded though not to all questions in the questionnaire. All telecommunication exports were deemed ICT-enabled by the respondents.

➤ *Major challenges faced*

The major challenge faced related to the cooperation between the various national agencies concerned. The two agencies could not agree on using the same approach. BOT administered a much-reduced version of the questionnaire. ETDA tested the questionnaire with small enterprises that were not exporting services and therefore could not report any useful data.

➤ *Next steps of the project*

ETDA planned to discuss with other agencies the extension of this survey to other categories of ICT-enabled services, notably the Thai export promotion agency. It also envisaged to study how the government was currently supporting and promoting the ICT-enabled services export sector. ETDA needs further technical assistance to extend the survey to other sectors and would like to benefit from the experience of other countries.

➤ *Related initiatives*

ETDA could add one or two questions to the e-commerce survey it is conducting on a regular basis. This survey covers eight sectors, most of them closely related to the nine categories of ICT-enabled services. These questions could allow in particular to draw a list of companies exporting services.

3. MAIN CONCLUSIONS AT THE UNCTAD EXPERT MEETING ON RESULTS FROM PILOT SURVEYS AND THE UNCTAD E-COMMERCE WEEK 2018

An expert meeting was organised on 28-29 November 2017 in Geneva to share the previous experiences in implementing a pilot survey on exports of ICT-enabled services. Beside the analysis of the results previously described, the meeting discussed several methodological issues and agreed on adjustments to the UNCTAD model questionnaire, as described below.

The comments made underlined the quality and the appropriateness of the UNCTAD model questionnaire, which had worked well, and the pilot surveys had demonstrated good response rates. Still, some adjustments were recommended:

- As seen in the context of the three pilot surveys, some respondents did not understand the concept of mode of supply. As a consequence, it was considered appropriate to review the wording of the definition which could also be moved to the explanatory notes at the end of the questionnaire. References to the concepts of modes 1, 2, 3 and 4 were removed, while keeping the description of the different modes of supply defined as cross-border supply, consumption abroad, supply through a commercial presence and through the presence of natural persons;
- Some respondents felt that part 1 of the questionnaire included too many questions. No specific adjustment to the model questionnaire was proposed but countries should feel free to drop some questions according to the national context. This could apply in particular to questions A12 to A14 regarding the provision of services through other modes of supply than mode 1.
- Insurance and financial services were excluded from the survey given that compiling data on exports and imports in this sector requires more detailed underlying information.
- Questions A.9 and A.10 were inverted with the question on the principal activity coming first and then the question on the total turnover of the enterprise.

With regard to the implementation of the survey, it was underlined, based in particular on the Costa Rica experience, that holding a sensitization workshop was key to a good response rate. The provision of assistance to respondents for filling the questionnaire was also deemed to be key in this respect.

The UNCTAD model questionnaire on exports of ICT-enabled services was revised based on the results of the three pilot surveys implemented. The revised questionnaire is attached in Annex 1.

At the UNCTAD E-commerce Week 2018, a dedicated session on measuring exports of ICT-enabled services reviewed available results from pilot survey implementation, as well as other related initiatives on how to better capture this sort of transactions. Based on existing trade in services data, the US Bureau of Economic Analysis had compiled statistics of United States exports and imports of services that can be ICT-enabled (potential ICT-enabled services). To be able to measure trade that is actually ICT-enabled, there was a need to adjust the questionnaire to ask how services were delivered. A new initiative was presented¹¹ to modify the existing Benchmark Survey of Transactions in Selected Services and Intellectual Property with Foreign Persons to ask enterprises who reported international trade in potential ICT-enabled services to provide an estimate of the percentage of those services that were performed remotely from the United States, using 6 percentage ranges. To make it easier to respond to the questionnaire, the diagram below was used.

¹¹ Measuring Digital Trade in the U.S, Jessica R. Nicholson, Senior Economist, Bureau of Economic Analysis, United States, 16 April 2018, http://unctad.org/meetings/en/Presentation/dtl_eWeek2018p05_JessicaNicholson_en.pdf and Grimm (2016).

Figure 1. Diagram for representing exports of ICT-enabled services that can be used in a model questionnaire



Source: Nicholson (2018).

In light of the shared experiences it was recommended to extend the survey to other developing countries and to complement this approach with other initiatives to measure digital trade. It was also acknowledged that very little data were available in developing countries on trade in ICT-enabled services. More and better data would help support trade negotiators and policy makers, especially in the context of multilateral and plurilateral negotiations on trade in the digital economy.

4. POSSIBLE FUTURE DEVELOPMENTS

ICT-enabled (or digitally delivered) services are not well captured by existing official statistics. They are of strong and growing interest for both developing and developed countries, as they represent a strategic component of the digital economy value chain. Producing data on international trade in digitally-delivered services is also of interest for trade in services negotiations, which typically differentiate by mode of supply.

Following the pilot surveys in Costa Rica, India and Thailand it is now important to scale the efforts to cover more countries to shed light on the proportion of services trade that is digitally delivered and thus on the impact of ICT on development. Interested countries could be invited to select the most relevant national agency for conducting a survey. The selected agency should build as closely as possible on any existing national experience with collecting international trade in services data. Collaboration with other public and private agencies interested in the survey results will be strongly encouraged.

Developing countries who express an interest in undertaking the survey could benefit from the following activities:

- The preparation of a national version of the questionnaire in the format(s) required depending on the method of data collection preferred.
- The organization of a preparatory training meeting to discuss the survey questionnaire and fine tune the survey implementation.
- An awareness raising event for the target responding enterprises to explain why the content and motivation of the survey and how the data can benefit the respondents.
- A meeting to discuss the main results of the survey and lessons learned.

Lessons learned from new surveys implemented and results could be presented annually at the UNCTAD Intergovernmental Group of Experts of E-commerce and the Digital Economy and/or the UNCTAD Working Group on Measuring the Digital Economy.

In order to implement this work, funding will be sought to cover the cost of hiring a staff member to oversee project implementation. In addition, resources are also needed for hiring consultants, organizing the awareness raising events, as well as the final meeting on available results. The cost of running the surveys should be mostly born by the implementing national agency. Project implementation in a given country should extend over approximately one year.

UNCTAD will be exploring various opportunities for undertaking this work with partners interested in fostering better access to statistics on trade in ICT-enabled services.

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Questionnaire on exports of services that can be delivered remotely over ICT networks

Period covered: YYYY

Reference number
Enterprise name
Address

Preliminary Information

Collection authority: The *Statistics Act of [...]* requires that a representative of the enterprise to which this form is addressed complete and return this form to [...].

Confidentiality: The *Statistics Act of [...]* also guarantees the confidentiality of the information provided via this form.

Purpose of collection: This form collects information that will be used in compiling balance of payment statistics and trade statistics, specifically on exports of services delivered remotely over ICT networks (so-called ICT-enabled services).

Due date: Please return the completed form by MM DD, YYYY.

How to file: Please submit the form by mail (address) or e-mail ([...]).

Estimates: Some of the data requested may not be readily available from your records. In these cases, **careful estimates** will suffice.

Assistance: For queries or assistance regarding this form, please call (XXX) XXX-XXXX or e-mail [...].

Thank you: Your cooperation is greatly appreciated. Accurate balance of payments and trade statistics research depend upon it.

After you complete this form, please retain a copy for your records.

Person who should be contacted if any queries arise regarding this form:

Name:

Title:

Telephone number: ()

Email address: ()

Instructions for completing the form

Reporting Instructions

This form should be completed for the enterprise listed on page 1 of the form—unless different arrangements have been made.

Definition of enterprise: use the definition of reporting unit currently in use by the statistical office implementing the survey. The preferred statistical unit is the enterprise.

Residents and Non-residents

A **non-resident** is any individual, enterprise, or other organization ordinarily domiciled in an economy other than [Country].

Subsidiaries of non-resident enterprises in [Country] are **residents** of [Country]. Similarly, foreign subsidiaries of [national] enterprises are non-residents.

Conversion to [National currency]

All values should be reported in thousands of [National currency]. Foreign currencies should be converted to [National currency] at the **midpoint** of the buy and sell rates applicable on the date of the transaction.

Partner economy

The partner economy is defined as the country where the non-resident importer resides.

Services included

The survey deals exclusively with **services that can be delivered remotely over ICT networks**, the so-called **ICT-enabled services**, which consist of the following nine categories:

1. Telecommunications;
2. Computer services (including computer software);
3. Sales and marketing services, not including trade and leasing services;
4. Information services (including audio-visual services and on-line content);
5. Management, administration and back office services;
6. Licensing services;
7. Engineering, related technical services and R&D;
8. Education and training services.

These categories of services are defined in detail in the annex to this questionnaire.

Exports of services

Exports of services are sales of services **provided to non-resident importers**. They correspond to services for which payment is made directly to your enterprise by a non-resident entity (including a foreign affiliate of your enterprise). Exports include services provided by your enterprise or its employees working abroad, or some other resident entity on whose behalf your enterprise receives payment. Exports exclude services that are provided to non-residents by your enterprise and paid for through other unrelated resident entities.

Modes of supply

Services can be exported in four different ways. First, your enterprise may remotely deliver services to a customer abroad through the Internet, phone, postal mail or email (this mode of supply is called cross-border supply). Second, you may deliver these services to a non-resident customer temporarily present in your country (this mode is called consumption abroad). Third, your enterprise may have

established a commercial presence in a foreign country to deliver services in the country of the consumer (this mode is called commercial presence). Finally, these services can be delivered by one of your employees temporarily working abroad (this mode is called presence of natural persons). Below are more detailed definitions and examples of these four possible modes of supply.

Cross-border supply, takes place when the service is remotely supplied to a customer abroad. This is similar to trade in goods where the product is delivered across international borders and the consumer and the supplier remain in their respective countries. For example, a law firm may deliver legal advice by phone to a foreign enterprise or individual, a physician may provide a medical diagnosis to a patient via e-mail or a financial services supplier may supply portfolio management or brokerage services across an international border via the Internet.

When identifying cross-border exports, please exclude sales to non-residents of the kind described below:

Consumption abroad, takes place when the service is provided to a non-resident customer travelling to [Country]. This also applies to services performed on the property of a non-resident customer. Tourist activities such as in-person visits to museums and theatres and travel abroad to receive medical treatment or attend language courses are typical examples. Services such as ship repair or aircraft refurbishment abroad, where only the property of the customer moves, or is situated abroad, are also covered.

Presence of natural persons, takes place when a person employed by your enterprise temporarily travels abroad to provide services to non-resident customers. Natural persons under consideration include:

- Contractual service suppliers, employed by your enterprise;
- Intra-corporate transferees and foreign employees directly recruited by your enterprise;
- Service sellers who travel abroad to establish contractual relationships for a service contract, or persons responsible for setting up commercial presence.

This survey deals only with resident/non-resident transactions and thus does not cover commercial presence-related transactions. Thus, please exclude services provided to non-residents by non-resident companies owned by your enterprise. Include services provided by your enterprise to related companies abroad (related party trade).

In addition, this survey also requires you to identify exports of services that specifically relate to cross-border supply.

Structure of the form

The form collects annual information on selected international service transactions of this enterprise.

Part A aims at collecting basic information about the enterprise.

Part B identifies exports of services that were delivered by the enterprise remotely over ICT networks (so-called ICT-enabled services) during the reporting period.

Part C allows detailing these ICT-enabled exports by type of service, mode of delivery and partner economy.

A. General information

A. 1. Name of the enterprise: _____

A. 2. Reference number: _____

A. 3. Address: _____

A. 4. Name of the person who fills out the questionnaire and contact details: _____

A. 5. Was your enterprise controlled by another enterprise at the end of YYYY?

An enterprise is controlled when a different unit owns directly or indirectly, more than 50 per cent of the equity or shareholders' voting rights.

Yes (please go to question 6)

No (please go to question 7)

A. 6. What was the location of the controlling unit of your enterprise at the end of YYYY?

[Name of country]

A. 7. How many persons were employed in your enterprise at the end of YYYY?

The number of persons employed includes all persons who are on the payroll of the enterprise, whether they are temporarily absent (excluding long-term absences), part-time, seasonal or home workers, apprentices, etc. The number of persons employed excludes manpower supplied to the unit by other enterprises and persons carrying out repair and maintenance work in the enquiry unit on behalf of other enterprises.

A.8. What proportion of persons employed by your enterprise at the end of YYYY were:

Male (%): _____

Female (%): _____

A.9. What was the principal activity of the enterprise at the end of YYYY?

[International Standard Industrial Classification of All Economic Activities, Rev.4, two digits]

A. 10. What was the total value of turnover made by your enterprise during YYYY?

This includes only turnover of your enterprise; do not include affiliates or other group-related enterprises.

Turnover comprises the totals invoiced by the enterprise during the reference period; this corresponds to market sales of goods or services supplied to third parties; include all duties and taxes on the goods or services invoiced by the unit with the exception of value-added tax invoiced by the unit to its customer and other similar deductible taxes directly linked to turnover; include all other charges (transport, packaging, etc.) passed on to the customer. Price reductions, rebates and discounts as well as the value of returned packing must be deducted. Exclude income classified as other operating income, financial income and extraordinary income in company accounts; as well as any operating subsidies received from public authorities.

	Value (in thousands national currency)
TOTAL turnover	
Of which turnover from services sold	

A. 11. What was the total value of exports of services of your enterprise at the end of YYYY?

Export of services is defined as the provision of services by your enterprise to a non-resident unit. Please exclude sales through a foreign subsidiary of your enterprise domiciled abroad.

	Value (in thousands national currency)
TOTAL exports of services	
Of which intra group trade	

A. 12. At the end of YYYY did your enterprise have a subsidiary or any other commercial presence in an overseas country?

- Yes
- No
- Do not know

A. 13. During YYYY did your enterprise deliver services abroad by one of its employees, temporarily working abroad?

- Yes
- No
- Do not know

A. 14. During YYYY did your enterprise deliver services to overseas customers, temporarily in [Country]?

- Yes
- No
- Do not know

B. Filter question on services exports to be included

For which of the following broad categories has your enterprise exported services during the reporting period (simply indicate yes or no)?

Export of services is defined as the provision of services by your enterprise to a non-resident unit. Please exclude sales through a foreign subsidiary of your enterprise domiciled abroad.

Category of service	Yes/ No	If yes, please complete the corresponding section in Part C
Telecommunications	Yes	1
Computer services (including computer software)		2
Sales and marketing services, not including trade and leasing services		3
Information services (includes among others telemedicine/health services, as well as audiovisual services, on-line content and recordings of live performance)		4
Management, administration and back office services (includes among others online reservation services for accommodation, online staffing services, telephone call centre services and other telephone-based support services)		5
Licensing services		6
Engineering, related technical services and R&D		7
Education and training services		8

Note:

In case of doubt about the content of these categories, please refer to the explanations given at the beginning of each corresponding section.

C. Details of services exports that can be delivered remotely over ICT networks

1. Telecommunications

Including:

- *Telephony and other telecommunications services;*
- *Internet telecommunications services;*
- *Broadcasting services.*

C.1.1. Total value of exports in thousands national currency

Please include services provided by your enterprise to non-resident units. Exclude services provided through a foreign subsidiary of your enterprise domiciled abroad.

	Exports
Telecommunications	

C.1.2. Exports delivered remotely from [Country] across international borders to customers overseas over ICT networks (%)

Include receipts from international telephone calls and any other telecommunications services delivered remotely across the border through ICT networks. Also include receipts from international roaming charges. Exclude on-site services delivered by employees travelling to clients' offices as well as services delivered in-person to a client travelling to meet the service supplier.

	Proportion of total telecommunications exports (%)
Exports delivered remotely, not on-site or in-person	

C.1.3. Exports by main trading partner country (%)

	Proportion of total telecommunications exports (%)	Proportion of cross-border telecommunications exports (%)
Major trading partner (1): please specify country		
Second major trading partner country: please specify		
Third major trading partner country: please specify		
Fourth major trading partner country: please specify		
Fifth major trading partner country: please specify		
Rest of the world		
Total		100%

(1) the major trading partner should be understood as the country to which the largest share of exports was bound.

2. Computer services (including computer software) (same questions as in C1)

Computer services (including computer software) include :

- *Licensing services for the right to use computer software ;*
 - *Software downloads ;*
 - *Software originals ;*
 - *On-line games ;*
 - *On-line software ;*
 - *IT consulting and support services ;*
 - *Hosting and information technology (IT) infrastructure provisioning services ;*
 - *IT infrastructure and network management services ;*
 - *Maintenance and repair services of computers and peripheral equipment ;*
 - *IT design and development services for applications ;*
 - *Other education and training services n.e.c.*
-

3. Sales and marketing services, not including trade and leasing services (same questions as in C1)

Sales and marketing services, not including trade and leasing services, include :

- *Advertising services and provision of advertising space or time;*
 - *Market research and public opinion polling services;*
 - *Advertising and related photography services;*
 - *Convention and trade show assistance and organisation services.*
-

4. Information services (same questions as in C1)

Information services include :

- *Audiovisual and related services;*
- *On-line audio content;*
- *On-line video content;*
- *Radio and television broadcast originals;*
- *Home programme distribution services, basic programming package;*
- *Home programme distribution services, discretionary programming package;*
- *Home programme distribution services, pay per view;*
- *Radio and television channel programmes;*
- *On-line books;*
- *Human health services;*
- *On-line gambling services;*
- *News agency services;*
- *Library and archive services;*
- *Original compilations of facts/information;*
- *On-line newspapers and originals;*
- *On-line directories and mailing lists;*

- On-line adult content;
 - Web search portal content;
 - Other on-line content n.e.c.;
 - All other professional, technical and business services n.e.c..
-

5. Management, administration and back office services (same questions as in C1)

Management, administration and back office services include :

- Legal services;
 - Accounting, auditing and bookkeeping services;
 - Tax consultancy and preparation services;
 - Insolvency and receivership services;
 - Management consulting and management services;
 - Business consulting services;
 - Other management services, except construction project management services;
 - Employment services;
 - Investigation and security services;
 - Travel arrangements, tour operator and related services;
 - Credit reporting services;
 - Collection agency services;
 - Telephone-based support services;
 - Combined office administrative services;
 - Specialized office support services;
 - Other information and support services n.e.c..
-

6. Licensing services (same questions as in C1)

Licensing services include :

- Licensing services for the right to use trademarks and franchises;
 - Licensing services for the right to use R&D products;
 - Licensing services for the right to use entertainment, literary or artistic originals;
 - Licensing services for the right to use mineral exploration and evaluation;
 - Licensing services for the right to use other intellectual property products;
 - Licensing services for the right to use databases.
-

7. Engineering, related technical services and R&D (same questions as in C1)

Engineering, related technical services and R&D include :

- Research and experimental development services in natural sciences and engineering
- Research and experimental development services in social sciences and humanities

- *Interdisciplinary research and experimental development services*
 - *Industrial design services*
 - *Research and development originals*
 - *Design originals*
 - *Technical testing and analysis services*
 - *Architectural services, urban and land planning and landscape architectural services*
 - *Engineering services*
 - *Surface surveying and map-making services*
 - *Weather forecasting and meteorological services*
 - *Scientific and technical consulting services n.e.c.*
 - *Publishing, printing and reproduction services*
 - *Photographic processing services*
 - *Translation and interpretation services*
 - *Restoration and retouching services of photography*
 - *Other photography services*
 - *Interior design services*
 - *Other specialty design services*
 - *Drafting services, n.e.c..*
-

8. Education and training services (same questions as in C1)

Education and training services include :

- *Pre-primary education services;*
 - *Primary education services;*
 - *Secondary education services;*
 - *Post-secondary non-tertiary education services;*
 - *Tertiary education services;*
 - *Educational support services;*
 - *Cultural education services;*
 - *Sports and recreation education services;*
 - *Other education and training services, n.e.c..*
-

Annex 2: Explanatory notes on the detailed content of service categories included in the questionnaire

Explanatory notes

Detailed content of services categories

1.1. ICT Services - Telecommunications

Telecommunication services include :

- Telephony and other telecommunications services (see 1.1.1.);
- Internet telecommunications services (see 1.1.2.);
- Broadcasting services (see 1.1.3.).

1.1.1. Telephony and other telecommunications services include :

- Carrier services;
- Fixed telephony services;
- Mobile voice services;
- Mobile text services;
- Mobile data services, except text services ;
- Private network services;
- Data transmission services;
- Other telecommunications services.

1.1.2. Internet telecommunications services

include:

- Internet backbone services;
- Narrowband Internet access services;
- Broadband Internet access services;
- Other Internet telecommunications

services. 1.1.3. Broadcasting services

include:

- Selection, scheduling and broadcasting of television and radio programmes
- Combined programme production and broadcasting services

1.2. Computer services (including computer software)

Computer services (including computer software) include :

- Licensing services for the right to use computer software (see 1.2.1.);
- Software downloads (see 1.2.2.);
- Software originals (see 1.2.3.);
- On-line games (see 1.2.4.);
- On-line software (see 1.2.5.);
- IT consulting and support services (see 1.2.6.);
- Hosting and information technology (IT) infrastructure provisioning services (see 1.2.7.);

- IT infrastructure and network management services (see 1.2.8.);
- Maintenance and repair services of computers and peripheral equipment (see 1.2.9.);
- IT design and development services for applications (see 1.2.10.);
- Specially tailored computer training services provided to an individual or a group (see 1.2.11.).

1.2.1. Licensing services for the right to use computer software include:

- Licensing services for the right to reproduce, distribute or incorporate computer programs, program descriptions and supporting materials for both systems and applications software. This applies to various levels of licensing rights:
 - rights to reproduce and distribute the software
 - rights to use software components for the creation of and inclusion in other software products.

1.2.2. Software downloads include:

- System software downloads;
- Application software

downloads. 1.2.3. Software

originals include:

- Software originals (i.e. a set of instructions that is to be used in a computing device in order to bring about a specific result), which can be protected and licensed as intellectual property.

1.2.4. On-line games include:

- Games that are intended to be played on the Internet such as:
 - role-playing games (RPGs)
 - strategy games
 - action games
 - card games
 - children's games.

1.2.5. On-line software include:

- Software that is intended to be executed on-line, except game software.

1.2.6. IT consulting and support services include:

- IT consulting services;
- IT support services.

1.2.7. Hosting and information technology (IT) infrastructure provisioning services include:

- Website hosting services;
- Application service provisioning;
- Other hosting and IT infrastructure provisioning services. 1.2.8.

IT infrastructure and network management services include:

- Network management services;

- Computer systems management services.

1.2.9. Maintenance and repair services of computers and peripheral equipment include:

- Maintenance and repair services of computers and computing machinery and peripheral equipment, such as:

- desktop computers
- laptop computers
- hand-held computers (PDA's)
- dedicated computer terminals
- computer servers
- magnetic disk drives, flash drives and other storage devices
- optical disk drives (CD-RW, CD-ROM, DVD-ROM, DVD-RW)
- printers
- monitors
- keyboards
- internal and external computer modems
- scanners, including bar code scanners
- smart card readers
- virtual reality helmets
- computer projectors
- computer terminals like automatic teller machines (ATM's); point-of-sale (POS) terminals, not mechanically operated.

1.2.10. IT design and development services for applications include:

- Services of designing the structure and/or writing the computer code necessary to create and/or implement a software application, such as:

- designing the structure and content of a web page and/or writing the computer code necessary to create and implement a web page;
- designing the structure and content of a database and/or writing the computer code necessary to create and implement a database;
- designing the structure and writing the computer code necessary to design and develop a custom software application;
- customization and integration, adapting (modifying, configuring, etc.) and installing an existing application so that it is functional within the clients' information system environment.

1.2.11. Specially tailored computer training services provided to an individual or a group include:

- Specially tailored computer training services provided to an individual or a group, including training provided as part of a consultancy.

1.3. Sales and marketing services, not including trade and leasing services

Sales and marketing services, not including trade and leasing services, include :

- Advertising services and provision of advertising space or time (see 1.3.1.);
- Market research and public opinion polling services (see 1.3.2.);
- Advertising and related photography services (see 1.3.3.);
- Convention and trade show assistance and organisation services (see 1.3.4.).

1.3.1. Advertising services and provision of advertising space or time include:

- Full service advertising;
- Direct marketing and direct mail services;
- Other advertising services;
- Purchase or sale of advertising space or time, on commission;
- Sale of advertising space in print media (except on commission);
- Sale of TV/radio advertising time (except on commission);
- Sale of Internet advertising space (except on commission);
- Sale of other advertising space or time (except on commission).

1.3.2. Market research and public opinion polling services

include:

- Market analysis, analysis of competition and the behaviour of consumers;
- Use of research monographs, statistics, econometric models, surveys, etc.;
- Investigation services designed to secure information on public opinions regarding social, economic, political and other issues.

1.3.3. Advertising and related photography services include:

- Services consisting of photographing:
 - merchandise, industrial products;
 - fashion clothes and other apparel;
 - machinery, buildings;
 - persons and other subjects for use in public relations.
- Photographic services for:
 - advertising displays, brochures, newspaper advertisements;
 - catalogues.

1.3.4. Convention and trade show assistance and organisation services include:

- Convention assistance and organization services;
- Trade show assistance and organization services.

1.4. Information services

Information services include :

- Audiovisual and related services (see 1.4.1.);
- On-line audio content (see 1.4.2.);
- On-line video content (see 1.4.3.);
- Radio and television broadcast originals (see 1.4.4.);
- Home programme distribution services, basic programming package (see 1.4.5.);
- Home programme distribution services, discretionary programming package (see 1.4.6.);
- Home programme distribution services, pay per view (see 1.4.7.);
- Radio and television channel programmes (see 1.4.8.);
- On-line books (see 1.4.9.);
- Human health services (see 1.4.10.);
- On-line gambling services (see 1.4.11.);
- News agency services (see 1.4.12.);
- Library and archive services (see 1.4.13.);
- Original compilations of facts/information (see 1.4.14.);
- On-line newspapers and originals (see 1.4.15.);

- On-line directories and mailing lists (see 1.4.16.);
- On-line adult content (see 1.4.17.);
- Web search portal content (see 1.4.18.);
- Other on-line content n.e.c. (see 1.4.19.);
- Compilation services of facts and information (i.e. databases), other than mailing lists (see 1.4.20.).

1.4.1. Audiovisual and related services include:

- Sound recording services, except live recording services;
- Live recording services;
- Sound recording originals.

1.4.2. On-line audio content include:

- Musical audio downloads;
- Streamed audio content.

1.4.3. On-line video content include:

- Films and other video downloads;
- Streamed video content.

1.4.4. Radio and television broadcast originals include:

- Radio broadcast originals;
- Television broadcast originals.

1.4.5. Home programme distribution services, basic programming package include:

- Providing subscriber access to a basic range of programming services generally for a monthly fee.

1.4.6. Home programme distribution services, discretionary programming package include:

- Providing subscriber programming services in addition to those included in the basic package for a fee separate from, and in addition to, the basic monthly fee.

1.4.7. Home programme distribution services, pay per view include:

- Providing subscribers the ability to view a specific programme (movie or event) from his home for a fee separate from, and in addition to, the monthly fee for basic or discretionary programming packages.

1.4.8. Radio and television channel programmes include:

- Radio channel programmes;
- Television channel

programmes. 1.4.9. On-line

books include:

- On-line books, including school textbooks, general reference books, such as atlases and other books of maps or charts, dictionaries and encyclopedias.

1.4.10. Human health services include:

- Surgical services for inpatients;
- Gynaecological and obstetrical services for inpatients;
- Psychiatric services for inpatients;
- Other services for inpatients;
- General medical services;
- Specialized medical services;
- Dental medical services;
- Childbirth and related services;
- Nursing services;
- Physiotherapeutic services;
- Ambulance services;
- Medical laboratory services;
- Diagnostic-imaging services;
- Blood, sperm and organ bank services;
- Other human health services n.e.c.

1.4.11. On-line gambling services

include:

- On-line gambling services.

1.4.12. News agency services include:

- News agency services to newspapers and periodicals;
- News agency services to audiovisual

media. 1.4.13. Library and archive services

include:

- Library services;
- Archive services.

1.4.14. Original compilations of facts/information include:

- Original compilations of facts or information (i.e. databases) organized for retrieval and consultation, including mailing lists.

1.4.15. On-line newspapers and originals include:

- Publications issued on the Internet where the main content is updated at fixed intervals, usually on a daily, weekly or monthly basis; whether on subscription or single copy sales;
- Portions of newspapers such as headlines e-mailed daily or more frequently;
- Periodic newsletters.

1.4.16. On-line directories and mailing lists include:

- On-line directories and mailing lists, including telephone books;
- Other on-line collections of facts/information

(databases). 1.4.17. On-line adult content include:

- Mature theme, sexually explicit content published or broadcast over the Internet including graphics, live feeds, interactive performances and virtual activities.

1.4.18. Web search portal content include:

- Content provided on web search portals, i.e. extensive databases of Internet addresses and content in an easily searchable format.

1.4.19. Other on-line content n.e.c. include:

- Statistics or other information, including streamed news;
- Other on-line content not included above such as greeting cards, jokes, cartoons, graphics, maps.

1.4.20. Compilation services of facts and information (i.e. databases), other than mailing lists include:

- Compilation services of facts and information (i.e. databases), other than mailing lists.

1.5. Management, administration and back office services

Management, administration and back office services include :

- Legal services (see 1.5.1.);
- Accounting, auditing and bookkeeping services (see 1.5.2.);
- Tax consultancy and preparation services (see 1.5.3.);
- Insolvency and receivership services (see 1.5.4.);
- Management consulting and management services (see 1.5.5.);
- Business consulting services (see 1.5.6.);
- Other management services, except construction project management services (see 1.5.7.);
- Employment services (see 1.5.8.);
- Investigation and security services (see 1.5.9.);
- Travel arrangements, tour operator and related services (see 1.5.10.);
- Credit reporting services (see 1.5.11.);
- Collection agency services (see 1.5.12.);
- Telephone-based support services (see 1.5.13.);
- Combined office administrative services (see 1.5.14.);
- Specialized office support services (see 1.5.15.);
- Other information and support services n.e.c. (see 1.5.16.)

1.5.1. Legal services include:

- Legal advisory and representation services concerning criminal law;
- Legal advisory and representation services concerning other fields of law;
- Legal documentation and certification services;
- Arbitration and conciliation services;
- Other legal services n.e.c..

1.5.2. Accounting, auditing and bookkeeping services include:

- Financial auditing services;
- Accounting services;
- Bookkeeping services;
- Payroll services.

1.5.3. Tax consultancy and preparation services include:

- Corporate tax consulting and preparation services;
- Individual tax preparation and planning services.

1.6.4. Insolvency and receivership services include:

- Providing advice and operational assistance to the management and/or creditors of insolvent businesses and/or acting as receiver or trustee in bankruptcy.

1.6.5. Management consulting and management services include:

- Strategic management consulting services;
- Financial management consulting services;
- Human resources management consulting services;
- Marketing management consulting services;
- Operations management consulting services;
- Supply chain and other management consulting services;
- Business process management services;
- Head office services.

1.6.6. Business consulting services include:

- Public relations services;
- Other business consulting services.

1.6.7. Other management services, except construction project management services include:

- Coordination and supervision of resources in preparing, running and completing a project on behalf of the client;
- Project management services, which can involve budgeting, accounting and cost control, procurement, planning of time scales and other operating conditions, coordination of subcontractors' work, inspection and quality control, etc.
- Project management services that include management and office management services, with or without the provision of their own staff.

1.6.8. Employment services include:

- Executive/retained search services;
- Permanent placement services, other than executive search services;
- Contract staffing services;
- Temporary staffing services;
- Long-term staffing (payrolling) services;
- Temporary staffing-to-permanent placement services;
- Co-employment staffing services.

1.6.9. Investigation and security services include:

- Investigation services;
- Security consulting services;
- Security systems services;
- Armoured car services;
- Guard services;
- Other security services.

1.6.10. Travel arrangements, tour operator and related services include:

- Reservation services for air transportation;
- Reservation services for rail transportation;
- Reservation services for bus transportation;
- Reservation services for vehicle rental;
- Other transportation arrangement and reservation services n.e.c.;
- Reservation services for accommodation;
- Time-share exchange services;
- Reservation services for cruises;
- Reservation services for package tours;
- Reservation services for convention centres, congress centres and exhibition halls;
- Reservation services for event tickets, entertainment and recreational services and other reservation services;
- Tour operator services;
- Tourist guide services;
- Tourism promotion services;
- Visitor information services.

1.6.11. Credit reporting services include:

- Services consisting of the reporting of credit ratings of persons and businesses;
- Evaluation of the financial status and credit experience of prospective customers, of loan applicants, etc.
- Credit investigation services.

1.6.12. Collection agency services include:

- Services consisting of the collecting of accounts, cheques, contracts or notes and of the remittance of the money to the client;
- Collection of regular accounts (e.g., utility bills) and the recovery of delinquent accounts;
- Outright purchase of delinquent accounts and debts and subsequent recovery.

1.6.13. Telephone-based support services include:

- Telephone call centre services;
- Other telephone-based support services.

1.6.14. Combined office administrative services include:

- Provision of a combination of day to day office administrative services, such as reception, financial planning, billing and record keeping, personnel and mail services etc. for others on a contract or fee basis.

1.6.15. Specialized office support services include:

- Duplicating services;
- Mailing list compilation services;
- Mailing services;
- Document preparation and other specialized office support services.

1.6.16. Other information and support services n.e.c. include:

- Other information services;
- Other support services n.e.c.

1.7. Licensing services

Licensing services include :

- Licensing services for the right to use trademarks and franchises (see 1.7.1.);
- Licensing services for the right to use R&D products (see 1.7.2.);
- Licensing services for the right to use entertainment, literary or artistic originals (see 1.7.3.);
- Licensing services for the right to use mineral exploration and evaluation (see 1.7.4.);
- Licensing services for the right to use other intellectual property products (see 1.7.5.);
- Licensing services for the right to use databases (see 1.7.6.).

1.7.1. Licensing services for the right to use trademarks and franchises include:

- Licensing services for the right to use trademarks and to operate franchises in respect of other nonproduced assets.

1.7.2. Licensing services for the right to use R&D products include:

- Licensing services for the right to use the outcome of research and development activities, i.e. inventions, such as constitutions of matter, processes, mechanisms, electrical and electronic circuits and devices, pharmaceutical formulations and new varieties of living things produced by artifice.

1.7.3. Licensing services for the right to use entertainment, literary or artistic originals include:

- Licensing services for the right to reproduce, distribute or incorporate entertainment, literary, musical or artistic originals such as:
 - broadcasting and showing of original films, sound recordings, radio and television programmes, prerecorded tapes and videos;
 - reproduction of original artworks;
 - reprinting and copying of manuscripts, books, journals and periodicals.

1.7.4. Licensing services for the right to use mineral exploration and evaluation include:

- Licensing services for the right to use mineral exploration and evaluation information, such as mineral exploration for petroleum, natural gas and non-petroleum deposits.

1.7.5. Licensing services for the right to use other intellectual property products include:

- Licensing services for the right to use other kinds of intellectual property products, such as architectural and engineering plans, industrial designs etc.

1.7.6. Licensing services for the right to use databases include:

- Licensing services for the right to reproduce, distribute or incorporate databases (i.e. compilations of facts/information) in other databases or applications. This applies to various levels of licensing rights:
 - rights to reproduce and distribute the database;
 - rights to use database components for the creation of and inclusion in other databases and applications.

1.8. Engineering, related technical services and R&D

Engineering, related technical services and R&D include :

- Research and experimental development services in natural sciences and engineering (see 1.8.1.);
- Research and experimental development services in social sciences and humanities (see 1.8.2.);
- Interdisciplinary research and experimental development services (see 1.8.3.);
- Industrial design services (see 1.8.4.);
- Research and development originals (see 1.8.5.);
- Design originals (see 1.8.6.);
- Technical testing and analysis services (see 1.8.7.);
- Architectural services, urban and land planning and landscape architectural services (see 1.8.8.);
- Engineering services (see 1.8.9.);
- Surface surveying and map-making services (see 1.8.10.);
- Weather forecasting and meteorological services (see 1.8.11.);
- Scientific and technical consulting services n.e.c. (see 1.8.12.);
- Publishing, printing and reproduction services (see 1.8.13.);
- Photographic processing services (see 1.8.14.);
- Translation and interpretation services (see 1.8.15.);
- Restoration and retouching services of photography (see 1.8.16.);
- Other photography services (see 1.8.17.);
- Interior design services (see 1.8.18.);
- Other specialty design services (see 1.8.19.);
- Drafting services, n.e.c. (see 1.8.20.).

1.8.1. Research and experimental development services in natural sciences and engineering include:

- Basic research services in physical sciences;
- Basic research services in chemistry and biology;
- Basic research services in biotechnology;
- Basic research services in engineering and technology;
- Basic research services in medical sciences and pharmacy;
- Basic research services in agricultural sciences;
- Basic research services in other natural sciences engineering;

- Applied research services in physical sciences;
- Applied research services in chemistry and biology;
- Applied research services in biotechnology;
- Applied research services in engineering and technology;
- Applied research services in medical sciences and pharmacy;
- Applied research services in agricultural sciences;
- Applied research services in other natural sciences and engineering;
- Experimental development services in physical sciences;
- Experimental development services in chemistry and biology;
- Experimental development services in biotechnology;
- Experimental development services in engineering and technology;
- Experimental development services in medical sciences and pharmacy;
- Experimental development services in agricultural sciences;
- Experimental development services in other natural sciences.

1.8.2. Research and experimental development services in social sciences and humanities include:

- Basic research services in psychology;
- Basic research services in economics;
- Basic research services in law;
- Basic research services in languages and literature;
- Basic research services in other social sciences and humanities;
- Applied research services in psychology;
- Applied research services in economics;
- Applied research services in law;
- Applied research services in language and literature;
- Applied research services on other social sciences and humanities;
- Experimental development services in psychology;
- Experimental development services in economics;
- Experimental development services in law;
- Experimental development services in languages and literature;
- Experimental development services in other social sciences and humanities.

1.8.3. Interdisciplinary research and experimental development services include:

- Interdisciplinary basic research services;
- Interdisciplinary applied research services;
- Interdisciplinary experimental development services.

1.8.4. Industrial design services include:

- Design services for industrial products, i.e. creating and developing designs and specifications that optimize the use, value and appearance of products, including the determination of the materials, construction, mechanism, shape, colour and surface finishes of the product, taking into consideration human characteristics and needs, safety, market appeal and efficiency in production, distribution, use and maintenance.

1.8.5. Research and development originals include:

- Scientific originals, i.e. ideas, plans, blueprints, formulas for inventions, products and processes, which can be protected and licensed as industrial property, trade secrets, patents, etc.

1.8.6. Design originals include:

- Original design concepts, produced on own account:
 - industrial product designs
 - aesthetic designs
 - graphic designs

1.8.7. Technical testing and analysis services include:

- Composition and purity testing and analysis services;
- Testing and analysis services of physical properties;
- Testing and analysis services of integrated mechanical and electrical systems;
- Technical inspection services of road transport vehicles;
- Other technical testing and analysis services.

1.8.8. Architectural services, urban and land planning and landscape architectural services include:

- Architectural advisory services;
- Architectural services for residential building projects;
- Architectural services for non-residential building projects;
- Historical restoration architectural services;
- Urban planning services;
- Rural land planning services;
- Project site master planning services services;
- Landscape architectural advisory services;
- Landscape architectural services.

1.8.9. Engineering services include:

- Engineering advisory services;
- Engineering services for building projects;
- Engineering services for industrial and manufacturing projects;
- Engineering services for transportation projects;
- Engineering services for power projects;
- Engineering services for telecommunications and broadcasting projects;
- Engineering services for waste management projects (hazardous and non-hazardous);
- Engineering services for water, sewerage and drainage projects;
- Engineering services for other projects;
- Project management services for construction projects.

1.8.10. Surface surveying and map-making services include:

- Surface surveying services;
- Map-making services.

1.8.11. Weather forecasting and meteorological services include:

- Providing meteorological analysis of the atmosphere and predicting weather processes and weather conditions.

1.8.12. Scientific and technical consulting services n.e.c. include:

- Environmental consulting services;

- Other scientific and technical consulting services n.e.c.

1.8.13. Publishing, printing and reproduction services include:

- Publishing, on a fee or contract basis and media, on a fee or contract basis;
- Printing services;
- Services related to printing;
- Reproduction services of recorded media, on a fee or contract basis.

1.8.14. Photographic processing services include:

- Sale or leasing of advertising time or space, on commission;
- Services of media buying agencies, which buy media space or time on behalf of advertisers or advertising agencies.

1.8.15. Translation and interpretation services include:

- Services generally related to the translation of texts from one language to another, resulting in a written document;
- Interpretation services are generally concerned with stating orally in one language what has been stated orally in another language.

1.8.16. Restoration and retouching services of photography include:

- Services consisting of old photograph restoration;
- Retouching and other special photographic effects.

1.8.17. Other photography services include:

- Microfilming services.

1.8.18. Interior design services include:

- Planning and designing of interior spaces to meet the physical, aesthetic and functional needs of people;
- Drawing up of designs for interior decorating;
- Interior decorating, including dressing of windows and stalls.

1.8.19. Other specialty design services include:

- Creating designs and preparing patterns for a variety of products by harmonizing aesthetic considerations with technical and other requirements, such as:
 - furniture designs;
 - aesthetic design for various other customer products.
- Package design services;
- Production of three-dimensional models;
- Graphic design services, including graphic design for advertising purposes.

1.8.20. Drafting services, n.e.c. include:

- Drafting services (detailed layouts, drawings, plans and illustrations of buildings, structures,

systems or components from engineering and architectural specifications, done by architectural draftsmen or engineering technicians).

1.9. Education and training services

Education and training services include :

- Pre-primary education services (see 1.9.1.);
- Primary education services (see 1.9.2.);
- Secondary education services (see 1.9.3.);
- Post-secondary non-tertiary education services (see 1.9.4.);
- Tertiary education services (see 1.9.5.);
- Educational support services (see 1.9.6.);
- Cultural education services (see 1.9.7.);
- Sports and recreation education services (see 1.9.8.);
- Other education and training services, n.e.c. (see 1.9.9.).

1.9.1. Pre-primary education services include:

- Education services usually provided by nursery schools, kindergartens, pre-schools, centres for early childhood education, centres for infant education or special sections attached to primary schools. Pre-primary education (ISCED Level 0) is defined as the initial stage of organized instruction designed primarily to introduce very young children to a school-type environment, that is, to provide a bridge between the home and a school-based atmosphere;

- Services related to the provision of special education programmes at this educational level.

1.9.2. Primary education services include:

- Educational services provided at ISCED Level 1, which includes programmes designed to provide students with an initial basic education in reading, writing and mathematics along with an elementary understanding of other subjects such as history, geography, natural science, social science, art and music;
- Services related to the provision of special education programmes at this educational level;
- services related to the provision of literacy programmes for adults at this educational level.

1.9.3. Secondary education services include:

- Lower secondary education services, general;
- Lower secondary education services, technical and vocational;
- Upper secondary education services, general;
- Upper secondary education services, technical and vocational.

1.9.4. Post-secondary non-tertiary education services include:

- Post-secondary non-tertiary education services, general;
- Post-secondary non-tertiary education services, technical and vocational.

1.9.5. Tertiary education services include:

- First stage tertiary education services;
- Second stage tertiary education services.

1.9.6. Educational support services

include:

- Non-instructional services that support educational processes or systems, such as:
 - educational consulting;
 - educational guidance counselling services;
 - educational testing evaluation services;
 - educational testing services;
 - organization of student exchange programmes.

1.9.7. Cultural education services include:

- Piano and other music instruction;
- Art instruction;
- Dance instruction and dance studios;
- Art instruction except academic;
- Photography instruction.

1.9.8. Sports and recreation education services include:

- Sports instruction (baseball, basketball, cricket, football, hockey, tennis, figure skating, etc.);
- Camps, sports instruction;
- Gymnastics instruction;
- Riding instruction;
- Swimming instruction;
- Martial arts instruction;
- Card game instruction (such as bridge);
- Yoga instruction.

1.9.9. Other education and training services, n.e.c. include:

- Training for car, bus, lorry and motorcycle driving licences;
- Training for flying certificates and ship licences;
- Management training services;
- Services provided by music camps, science camps, computer camps and other instructional camps, except for sports;
- Education services not definable by level.

Minimal Tabulation Plan

Table 1 – Key characteristics of enterprises exporting ICT-enabled services

	Number of persons employed	Turnover	Total services turnover	Total services exports	Intra-Group services exports
National control					
Foreign control					

Table 2 – Proportion of companies having exported services through modes 1, 2, 3 and 4

	Mode 1	Mode 2	Mode 3	Mode 4
National control				
Foreign control				

Table 3 – Total exports of Computer services and exports of computer services delivered remotely over ICT networks¹²

	Total exports of <i>computer services</i>	exports of <i>computer services</i> delivered remotely over ICT networks
National control		
Foreign control		

Table 4 – Major markets for exports of Computer services

Five major markets for total exports of <i>computer services</i>	Individual market share	Five major markets for exports of <i>computer services</i> delivered remotely over ICT networks	Individual market share

¹² In this table and the following, “Computer services” is taken as an example. The same tables should be produced for each category of ICT-enabled services.



UNCTAD Technical Notes on ICT for Development

1. Implications of Applying the New Definition of «ICT Goods», May 2011
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9. UNCTAD B2C E-commerce Index 2017, October 2017
10. Updating the Partnership Definition of ICT Goods From HS 2012 to HS 2017, February 2018

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