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FINAL ASSESSMENT REPORT

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ASSESSMENT OF DEVELOPMENT ACCOUNT PROJECT 16/17 Y

Big data for measuring and fostering the digital economy in Latin America and the Caribbean

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This report was prepared by Bernardita Cardenas Arancibia, an external consultant, who led the evaluation. Ms. Cardenas worked under the overall guidance of Raúl García-Buchaca, Deputy Executive Secretary for Management and Programme Analysis of the Economic Commission for Latin America and the Caribbean (ECLAC), and Sandra Manuelito, Chief of the Programme Planning and Evaluation Unit of ECLAC; and under the direct supervision of Anne-Sophie Samjee, Programme Management Officer of the same Unit, who provided strategic and technical guidance, coordination, and methodological and logistical support. Assistance was also provided by Paula Muñoz Gilloux, Programme Management Assistant of the same Unit.

The support provided by the project partners at ECLAC, all of whom were represented in the Evaluation Reference Group, is gratefully acknowledged. Warm thanks go to the programme managers and technical advisers of ECLAC for their cooperation throughout the evaluation process and their assistance in the review of the report.

All comments on the evaluation report by the Evaluation Reference Group and the evaluation team of the Programme Planning and Evaluation Unit were considered by the evaluator and duly addressed, where appropriate, in the final text of the report. The views expressed in this report are those of the author and do not necessarily reflect the views of the Organization or the countries it represents.

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ACRONYMS

ACRONYM	DEFINITION
AI	Artificial intelligence
CGI.br	Brazilian Internet Steering Committee
DANE	National Administrative Department of Statistics
DESA	Department of Economic and Social Affairs
ECLAC	Economic Commission for Latin America and the Caribbean
eLAC 2018	Plan of Action for the Information Society in Latin America and the Caribbean
GDP	Gross Domestic Product
IBGE	Brazilian Institute of Geography and Statistics
ICT	Information and communications technology
INE	National Institute of Statistics of Chile
INEGI	National Institute of Statistics and Geography
ITU	International Telecommunication Union (specialized agency of the UN responsible for all matters related to information and communication technologies)
MEPyD	Ministry of Economy, Planning and Development
NSOs	National statistical offices
ONE	National Bureau of Statistics of the Dominican Republic
OSILAC	Observatory for the Information Society in Latin America and the Caribbean
PPBME	Programme Planning, Budget, Monitoring and Evaluation
PPEU	Programme Planning and Evaluation Unit
PPOD	Programme Planning and Operations Division
SDGs	Sustainable Development Goals
SII	Internal Revenue Service of Chile
TOR	Terms of reference
UNCTAD	United Nations Conference on Trade and Development
UNEG	United Nations Evaluation Group

EXECUTIVE SUMMARY

1. This document sets out the evaluation report for the final evaluation of the Development Account Project 1617Y: Big data for measuring and fostering the digital Economy in Latin America and the Caribbean. The evaluation was conducted between March and June 2021. The project was implemented by the Economic Commission for Latin America and the Caribbean (ECLAC).

EVALUATION PROFILE AND PROJECT OVERVIEW

Project Overview

2. Project 1617Y is a capacity development project that aimed to "improve national capacities in the Latin American and the Caribbean region, in particular in selected countries, to measure the digital economy using big data and traditional statistical techniques to support evidence-based policies to foster digital development", thus raising awareness among high-level decision makers on the usefulness of data analysis for the design, implementation and evaluation of digital polices. More specifically, it aimed to strengthen the capacity of countries to use big data and innovative digital technology to collect and analyse data in order to support the formulation and implementation of digital strategies, policies and measures that promote the digital economy. The project design comprises two expected accomplishments - EA1 and EA2 (i) EA1: increased capacity of Latin American and Caribbean countries to develop and include the use of big data techniques in combination with traditional data to measure the digital economy; and (ii) EA2: enhanced capacity of selected Latin American countries to strengthen their digital economy through evidence-based policies and plans at the regional and/or national level. The project activities began on 31 May 2016 and ended in December 2020.

3. The strategy to achieve the overall project goal was based on establishing an ongoing capacity building process over the project lifetime in cooperation with national authorities by carrying out sequential activities that built upon each other at both the national and sub-regional levels. The project was expected to actively engage national statistical offices in the target countries in a sequence of activities starting with diagnosis and baseline scenarios to assess the need for new variables to measure the digital economy and culminating in the dissemination of that information in regional meetings. Supporting the strategy was a cause-and-effect analysis in the project document; its design at first review appears to be logical and credible.

Evaluation Profile

4. This evaluation is a discretionary internal evaluation managed by the Programme Planning and Evaluation Unit (PPEU) of the ECLAC Programme Planning and Operations division (PPOD). Its objectives were to review the relevance, efficiency, effectiveness and sustainability of the project's implementation, and to document the results achieved in relation to the overall objectives and expected results, as defined in the project document. Furthermore, the evaluation seeks to identify lessons learned and good practices derived from the project implementation experience, the prospects for sustainability and the potential for replication in other countries. The evaluation has also taken into account both anticipated and unanticipated key results.

5. In line with its objectives, the evaluation covered all the activities conducted under the project. The evaluation was designed to be consultative in approach, with the work programme comprising a document review phase, a number of video conference-based interviews and a stakeholder survey·

6. Despite some challenges and limitations, the primary and secondary data gathered has allowed the triangulation and validation of information among project beneficiaries and participants, and ultimately the accurate assessment of contributions to the goals and objectives of most of the project activities.

CONCLUSION

7. The following are the key conclusions of the evaluation, which summarised the findings identified per the evaluation criteria mentioned above.

Relevance

8. Development Account Project 1617Y was highly relevant to the project countries' needs and the wider needs of ECLAC member States across the region.

9. For example, the training and capacity-building efforts under the project were highly relevant to the needs of the beneficiaries. It has also helped underline the scale of the need for capacity development and skills and competencies transfer across national government and digital economy actors, and the importance of creating a comprehensive strategy and framework in that area.

Effectiveness

10. All of the designed activities were completed by adapting them to the existing capacities and technical context of each project country as well as by incorporating the needs of Governments of the region regarding issues with and constraints on big data measurement.

11. The project recorded a high level of achievement of its targeted outcomes. The two expected accomplishments EA1 and EA2 were achieved.

12. Moreover, the scale of the capacity development delivered by the project through the training interventions delivered and the number of persons receiving training has been impressive, and the support provided to the national statistical offices (NSOs) by the external experts and technical ECLAC unit has built capacity levels (skills and knowledge) around the use of big data technologies to measure the digital economy and carry out data analysis across economic sectors.

13. Similarly, an impressive number of project publications and knowledge outputs, spanning technical reports, training materials, policy papers and other event and workshop technical inputs, have contributed to making this big data project, although a pilot project, more effective, by providing a strong resource base of content and knowledge to take forward and leverage in the post-project period.

14. As a pilot project, it has also been effective in generating useful lessons learned that can bring value to the design of follow-up initiatives seeking to build on this pilot experience.

Efficiency

15. On the whole, the project was efficiently implemented given the level of expertise regarding big data existing in the region at the time of its launch.

16. From an efficiency standpoint, the project performed well in terms of the amount of capacity development work carried out and number of people trained. Similarly, the relatively high level of knowledge creation, training material, technical reports and publications generated, when set against the relatively modest project budget, has been another result of the efficient performance and has meant that the project has provided value for money.

17. Another strength of the project's implementation was the additional financing resources mobilised beyond the core Development Account Project budget, mostly in-kind funding for event-related costs. Overall, the project has secured relatively good value for money.

Sustainability

18. The big data project shows good prospects for sustainability, in particular in the short-term, with key national target institutions incorporating project-delivered tools in their work plans and making institutional and work practice changes to adopt new digital technologies in relevant units.

19. The project has also had some success in building a collaborative environment across the four target project countries (Brazil, Chile, Colombia and Mexico), while the technical exploratory exercises using big data can also be replicated across other Latin American and Caribbean countries and organizations.

20. The project therefore shows good prospects for meeting the ECLAC Development Account criteria that Development Account-funded interventions should lead to durable, self-sustaining initiatives to develop national capacities. Furthermore, sustainability prospects have been bolstered by results secured at the policy level, in particular the agreement on goal 29 of the Digital Agenda for Latin America and the Caribbean (eLAC2020), as well as by the national strategies, plans and initiatives under EA2 in Brazil, Chile and Colombia.

21. This project has also helped to show that new technologies and data innovation require institutional adjustments and new capacities. The economic landscape is changing and organizations must transform at a rapid pace to meet the demands of the digital economy if they want to benefit from it.

Cross-cutting issues

22. The primary cross-cutting issue addressed by the project has been gender equality. One of its strengths was the partnership with the Regional Alliance for the Digitalization of Women in Latin America and the Caribbean, which promotes the participation of women in science, technology and innovation. The project has raised awareness of the low level of women's involvement in science, technology, knowledge and innovation.[1]

23. Given the project's focus, there has - not surprisingly - been a strong technology focus. That said, there may be more scope to leverage technology, in particular online learning, to further increase the post-project rationale and impact of training material developed.

LESSONS LEARNED

24. The project, the first of its kind implemented in Latin America and the Caribbean, has been a valuable source of learning in a number of respects as expressed by both the beneficiaries and the ECLAC team. The following are the most relevant lessons learned from the project.

25. ***Lesson Learned 1:*** Technical capacity building is a long-term and ongoing process.

26. ***Lesson Learned 2:*** Developing collaboration between units/departments and other institutions requires time, understanding and trust.

27. ***Lesson Learned 3:*** The project activities have emphasised the importance of taking into account differing situations and needs from one country to another.

[1] 2020 Gender Equality in Science, Technology, Knowledge and Innovation Report, 28% of people engaged in careers related to science and engineering were women, while women's participation in Information and communications technology (ICT) is only 5% according to the Chilean Association of Information Technology Companies.

28. ***Lesson Learned 4:*** Accordingly, the structure, competence and remit of national statistical institutes varies across countries, which has been a factor influencing the variations in the level of progress and achievement from one country to another.

29. ***Lesson Learned 5:*** The effectiveness of the professional training workshops has varied somewhat, depending on the structure, mandate, collaboration practices and network, and capacities and access to resources of national statistical institutes, emphasising the importance of a tailored adaptation to each country's NSO and wider national context.

30. ***Lesson Learned 6:*** The big data pilot exercise has shown potential to be an important catalyst for innovation, including technological, process-related and organizational innovation.

31. ***Lesson Learned 7:*** The project has shown good potential for creating multiplier impacts.

32. ***Lesson Learned 8:*** The holistic/systemic approach, a strength of the project, is important in looking at the institutional capacities and policy, legal and regulatory levels.

33. ***Lesson Learned 9:*** The COVID-19 challenge, and the resulting emergencies both in the region and globally, has highlighted the potential for big data management to emerge as a crucial, even life-saving, capability for many countries.

RECOMMENDATIONS

34. The following recommendations have emerged from the evaluation findings and conclusions. As this is a pilot project evaluation, there is a particular emphasis on how to optimize sustainability of the project's results and expand its benefits and learning to all ECLAC member countries.

Recommendations to ECLAC

35. ***Recommendation 1:*** The activities around technical capacity development and training in the use of new digital technologies carried out in Brazil, Chile, Colombia and Mexico should be continued in order to further develop the expertise in the relevant stakeholders to standardise models using big data to carry out an effective monitoring of the results of policies.

36. ***Recommendation 2:*** ECLAC should consider whether there is scope and value in creating an online learning and/or blended learning version of the training materials generated during the project to allow i) greater scope for national actors to have access to some of this learning remotely, or with remote or in-class facilitation; and (ii) increasing the reach and impact of these training content assets in other countries.

37. ***Recommendation 3:*** A comprehensive and dynamic mapping of the digital economy structure, remits, needs, challenges, strengths and weaknesses of ECLAC member countries should be developed.

38. ***Recommendation 4:*** A medium-term sustainability strategy to allow ECLAC to optimize prospects for accelerated and sustained support and impact to member countries in the area of big data should be developed.

39. ***Recommendation 5:*** A short-to-medium-term financing strategy and plan to allow ECLAC to optimize prospects for accelerated and sustained support and impact to member countries in the area of big data and to secure a quantum leap in financing in the area of big data and the digital economy should be developed.

Recommendations to ECLAC member countries

40. ***Recommendation 6:*** ECLAC member countries must ensure that polices and laws exist to promote big data and reenforce data sharing between agencies and departments, in order to strengthen sustainability and accelerated the development of big data use.

41. ***Recommendation 7:*** In line with the previous recommendation, ECLAC member countries also must provide adequate budgets for their respective NSOs and other stakeholders in order to ensure that they have access to the requisite training and equipment to make good use of big data in their day-to-day work.

FINAL REMARKS

42. The opinions, views, insights and thoughts of the target beneficiaries and implementing partners during the evaluation interview programme and survey have been gathered in this report. The findings and conclusions are expected to stimulate further discussions and in-depth analysis on the digital technologies that can be incorporated in the monitoring and data analysis of the digital economy, and in particular the potential for big data to grow the various local markets.

1. INTRODUCTION

1. This document provides the final evaluation report for the Development Account project 1617Y: "Big data for measuring and fostering the digital economy in Latin America and the Caribbean". Funded under the Development Account's tenth tranche, the big data project was implemented by the Production, Productivity and Management Division of ECLAC. The project aimed at improving national capabilities in the Latin American and Caribbean region, in particular in selected countries, to measure the digital economy using big data and traditional statistical techniques to support evidence-based policies to foster digital development.

2. The draft of the final evaluation report has been reviewed and commented on by the Programme Planning and Operation Division (PPOD) of ECLAC and the Evaluation Reference Group (ERG), which includes representatives of the implementing substantive division/office. This report includes the results, findings and conclusions of the evaluation, lessons learned and recommendations derived from it. It also addresses project sustainability and potential improvements in project management and coordination of similar Development Account projects.

3. Funded under the Development Account's tenth tranche, the big data project was implemented by the Production, Productivity and Management Division of ECLAC. The project aimed at improving national capabilities in the Latin American and Caribbean region, in particular in selected countries, to measure the digital economy using big data and traditional statistical techniques to support evidence-based policies to foster digital development.

4. This evaluation was mandated under the Development Account's requirements, and constitutes an end of-cycle review of this project, representing a *discretionary internal evaluation* managed by the ECLAC Programme Planning and Evaluation Unit. The evaluation was also conducted pursuant to General Assembly resolutions 54/236 and 54/474, in which the Assembly endorsed the Regulations and Rules Governing Programme Planning, the Programme Aspects of the Budget, the Monitoring of Implementation and the Methods of Evaluation. In this context, the Assembly requested that programmes be evaluated on a regular basis covering all areas of work under their responsibility.[2]

[2] See ST/SGB/2000/8, articles II, IV and VII. Within this context, and the wider strengthening of the evaluation function to support and inform the decision-making cycle in ECLAC, (and more widely across the UN Secretariat), the Executive Secretary of ECLAC has been implementing an evaluation strategy that includes periodic evaluations of different areas of ECLAC work.

2. PROFILE OF THE EVALUATION

5. The assessment is an end-of-cycle review of ***the big data for measuring and fostering the digital economy in Latin America and the Caribbean*** project and it is part of the internal assessment by ECLAC in accordance with the Development Account requirements. The evaluation of the big data project is intended to contribute to the improvement of the programme planning, design and implementation of other similar programmes. It acts as an important accountability mechanism and ensures a result orientation in the activities undertaken. This evaluation, as all evaluations requested by ECLAC, is an important driver of institutional learning to replicate best practices and apply innovative approaches.

6. It should be noted that this evaluation is a *discretionary internal evaluation* managed by the Programme Planning and Evaluation Unit (PPEU) of the ECLAC Programme Planning and Operations division (PPOD).[3]

2.1 EVALUATION OBJECTIVES AND SCOPE

7. The objective of this evaluation is to assess the relevance, efficiency, effectiveness and sustainability of the implementation of Development Account 1617Y big data project, and more specifically, to document the actual results and impact attained vis-à-vis the overall objectives and expected results as defined in the project document.

8. In line with the evaluation objectives, the scope of the evaluation covers all of the activities implemented under the project, as well as the benefits identified by the key stakeholders in the target countries and the region and the sustainability of the different project interventions. The assessment also considered the interaction and coordination modalities used during the project's implementation within ECLAC, and between/among other cooperating agencies participating in the implementation of the project.

2.2 EVALUATION METHODOLOGY

9. It should be noted that this evaluation is a *discretionary internal* ***end-of-cycle*** *evaluation* managed by the Programme Planning and Evaluation Unit (PPEU) of the ECLAC Programme Planning and Operations division (PPOD).[4] These internal evaluations represent brief end-of-project evaluation exercises aimed at assessing the relevance, efficiency, effectiveness and sustainability of project activities, and are undertaken as desk studies and consist of a document review, stakeholder survey, and a number of video conference-based interviews"[5].

10. An evaluation matrix was developed, containing the evaluation criteria addressed as well as the performance indicators, the sources of information and the methods of information collection to be used (see annex 1). The evaluation matrix was the basis from which the evaluator developed the interview guide and survey questionnaire, tailored to the type of stakeholders interviewed or surveyed.

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[3] As per ECLAC General Assembly resolutions 54/236 of December 1999 and 54/474 of April 2000, the General Assembly requested that programmes be evaluated on a regular, periodic basis, covering all areas of work under their responsibility. As part of the general strengthening of the evaluation function to support and inform the decision-making cycle in the UN Secretariat in general and ECLAC in particular and within the normative recommendations made by different oversight bodies endorsed by the General Assembly, the ECLAC Executive Secretary is implementing an evaluation strategy that includes periodic evaluations of different areas of ECLAC work.

[4] As per ECLAC General Assembly resolutions 54/236 of December 1999 and 54/474 of April 2000, the General Assembly requested that programmes be evaluated on a regular, periodic basis, covering all areas of work under their responsibility. As part of the general strengthening of the evaluation function to support and inform the decision-making cycle in the UN Secretariat in general and ECLAC in particular and within the normative recommendations made by different oversight bodies endorsed by the General Assembly, ECLAC's Executive Secretary is implementing an evaluation strategy that includes periodic evaluations of different areas of ECLAC's work.

[5] Terms of Reference – Evaluation 1617Y Big Data_2020_final, end paragraph number 10.

The evaluation was conducted between March and October 2021, with the stakeholder consultation work (field phase) carried out during May-June 2021. As per the evaluation terms of reference, the evaluation approach has involved (i) reviewing the efficiency, effectiveness, relevance and sustainability of the project implementation; (ii) documenting the results attained in relation to its overall objectives and expected results according to the project document; (iii) identifying lessons learned and good practices derived from the project implementation, and the sustainability and replication potential of same; and (iv) taking due account both anticipated and unanticipated key results.

11. The evaluation approach was consultative in nature and solicited the participation of a broad range of stakeholders; it has been conducted in line with the norms, standards and ethical principles of the United Nations Evaluation Group (UNEG)[6] ethical principles and aligned with "Ethical Guidelines for Evaluation"[7]: (i) integrity, (ii) accountability, (iii) respect and (iv) beneficence. The documentation review work included a review of more than 500 documents received. The stakeholder consultation programme included 15 online interviews and an online survey completed by 46 informants. Regarding gender breakdown, 65.2% of stakeholders consulted were male, 32.6% female and 2.2 % other (including survey respondents only).

12. The evaluation has also sought to assess the extent to which ECLAC activities and products respected and promoted human rights. This included a consideration of whether ECLAC interventions treated beneficiaries as equals, safeguarded and promoted the rights of minorities, and helped to empower civil society. Moreover, the evaluation process itself, including the design, data collection, and dissemination of the evaluation report, were carried out in alignment with these principles.

13. Moreover, the evaluation has placed emphasis on assessing the project's adherence to a number of key DA 10 principles[8]; (i) adapt to the needs of the countries and the evolving agenda; (ii) build on comparative advantages of the Development Account implementing entities; (iii) build on existing initiatives and programmes (coordination); and (iv) encourage external participation and funding (partnership).

14. Following the terms of reference (TOR) requirement, the evaluation examined the extent to which gender concerns had been incorporated into the project design and implementation, such as needs and priorities of women, whether women had been treated as equal players and whether it had served to promote women's empowerment. Also, the data gathered, wherever possible, was disaggregated by gender. The evaluation assessed, where possible, the project's contribution to the achievement of the Sustainable Development Goals (SDGs).

2.3 EVALUATION LIMITATIONS AND CHALLENGES

15. Overall, a few challenges and limitations were experienced in conducting the evaluation, but these have been mitigated by extending the information collection period; the primary and secondary data thus collected and analysed allowed the triangulation and validation of the information among project beneficiaries and participants, providing a reliable assessment of the achieved results and contribution to the expected objectives of main key activities and services.

16. Key challenges faced by the evaluator were the limited time and resources available to reorganize the data provided and verify that the documentation was complete (missing annexes and deliverables of the material developed and used for the trainings during the project), and to develop the expected deliverables in a timely manner. The evaluator thus initiated the desk research

[6] See United Nations Evaluation Group (UNEG) Norms and Standards for Evaluation New York, 2016, 2020 UNEG Ethical Guidelines for Evaluation, New York, 2020.

[7] See United Nations Evaluation Group (UNEG) 2020 UNEG Ethical Guidelines for Evaluation, New York, 2020.

[8] 8b. Tenth Tranche Development Account Programme on Statistics and Data (DA10) which main objective is to strengthen the statistical capacity of developing countries to measure, monitor and report on the sustainable development goals in an accurate, reliable and timely manner for evidence-based policymaking.

phase in parallel with the inception report phase in order to conduct the tasks in a more effective way. The data collection phase consisted of designing and gathering information from a target survey and stakeholders' interviews.

17. Overall, the mitigating actions taken during the evaluation process made it possible to gather sufficient and reliable data to conduct the assessment of the four criteria requested in the evaluation TOR.

18. The evaluation terms of reference included a provision for possible field mission visits to 1-2 of the project beneficiary countries in the Latin American and Caribbean region with a view to gauge the opinion of high-level officials, authorities and other stakeholders regarding the project's implementation and results. This provision was subject to the availability of funds, and the continued high incidence of the coronavirus disease (COVID-19) in the region led to the decision to carry out all stakeholder consultation remotely. In this regard, the evaluation was carried out in full compliance with ECLAC and wider United Nations guidance on implementing evaluations in a COVID-19 context. It should also be pointed out that the project's focus (big data) also meant that in-country fieldwork was not as crucial as for some other projects, for example projects where physical infrastructure has been created.

3. THE DEVELOPMENT ACCOUNT PROJECT

19. The project was part of the projects financed under the tenth tranche (2016-2019) and was implemented by the Production, Productivity and Management Division of ECLAC. The project had a total implementing period of four and half years. The activities began on 31 May 2016 and ended in December 2020.

20. The project was carried out by ECLAC (ECLAC headquarters in Santiago, Chile), which has been responsible for the overall project coordination and implementation in collaboration with International Telecommunication Union (ITU) and the United Nations Conference on Trade Development (UNCTAD) as strategic partners participating in the capacity building activities of the project.

3.1 PROJECT BUDGET

21. The project budget allocated was US$682,000 for the two Outcomes, as follows:

- Outcome EA1–US$ 442,730, comprised 8 activities, with each activity including staff costs, consultants and experts, travel, contractual services, operating expenses, equipment, grants and contributions.
- Outcome EA2–US$ 219,270 consisted of 4 activities, with each one similarly including staff costs, consultants and experts, travel, contractual services, operating expenses, equipment, grants and contributions.

3.2 PROJECT RATIONALE, OBJECTIVES AND EXPECTED RESULTS

22. The **Big Data for measuring and fostering the digital economy in Latin America and the Caribbean** project objective, as established in the original project document of June 2016, was to improve national capabilities in the Latin American and Caribbean region, in particular in selected countries, to measure the digital economy using big data and traditional statistical techniques to support evidence-based policies to foster digital development.

23. The following were the expected accomplishments of the programme:

- EA1: Increased capacity of Latin American and Caribbean countries to develop and include the use of big data techniques in combination with traditional data to measure the digital economy.
- EA2: Enhanced capacity of selected Latin American countries to strengthen their digital economy through evidence-based policies and plans at the regional and/or national level.

24. Regarding EA1, this expected accomplishment was built upon the following activities:

A1.1 Prepare a technical report that will identify key experiences in the region and abroad on the use of big data analytics for policy design and assessment of the digital economy;

A1.2 Participate in partnership engagement meetings in order to discuss big data techniques, case studies, analytical software tools and exchange experiences;

A1.3 Organization of one expert meeting with national statistical offices (NSOs) and technical experts to discuss experiences for measuring the digital economy using big data techniques;

A1.4 Organization of one kick-off regional workshop to discuss the needs of new variables to assess the digital economy and adequate techniques for using big data (web scraping, content analysis, big data architecture);

A1.5 Organization of bilateral technical advisory services meetings with NSOs and the 4 project beneficiary countries (Brazil, Chile, Colombia and Mexico) to better understand their measurement needs to assess their digital economy;

A1.6 Develop a technical solution (prototype) for measuring digital economy with big data in at least 2 countries;

A1.7 Four national workshops to provide capacity building and training assistance to the 4 beneficiary countries on data analytics, including conceptual knowledge and the use of practical tools, standards metrics and big data;

A1.8 Organization of one regional seminar to disseminate the experiences of measuring the digital economy using big data techniques with participation of Latin American and Caribbean countries.

25. Regarding EA2, the following activities were foreseen:

A2.1 Elaborate an analytical report on the evolution of the digital economy, its main components in the region and policy recommendations;

A2.2 Organization of one workshop on digital economy impact on development with special focus on productivity, employment, poverty and gender inclusion among other socioeconomic variables to provide expert advice to Latin American and Caribbean countries on the importance of digital economy policies;

A2.3 Technical assistance missions to support the beneficiary countries (with a special focus on Brazil, Chile, Colombia and Mexico) in the design of policies and instruments to foster the digital economy;

A2.4 Organisation of a regional seminar to promote and raise awareness among stakeholders on the need for digital economy policies and action plans in Latin American and Caribbean countries.

3.3 KEY PROJECT STAKEHOLDERS

26. The project included 12 implementing partners:

- UN Global Pulse Initiative (United Nations System):[9] UN Global Pulse Initiative is the Secretary-General's initiative on big data and artificial intelligence for development, humanitarian action and peace. It works through a network of innovation labs which operate in Finland, Indonesia, Uganda, and in New York at United Nations Headquarters. UN Global Pulse is based on the recognition that digital data offer opportunities to gain better understanding of changes in human wellbeing, and to get real-time feedback on how well policy responses are working.
- **National Institute of Statistics and Geography of Mexico** (INEGI):[10] INEGI is an autonomous public body responsible for regulating and coordinating the national system of statistical and geographical information, as well as for collecting and disseminating information about Mexico in terms of territory, resources, population and economy, which makes it possible to know the characteristics of the country and help in the decision-making process. It integrates into its structure the General Directorate of Statistics, the General Directorate of Geography, the General Directorate of Computing Policy, and the General Directorate of Information Integration and Analysis.
- **Brazilian Institute of Geography and Statistics** (IBGE):[11] IBGE is the Brazilian government agency responsible for official collection of statistical, geographic, cartographic, geodetic and environmental information in Brazil, under the Ministry of Economy.

[9] See https://www.unglobalpulse.org.
[10] See https://en.www.inegi.org.mx/.
[11] See https://www.ibge.gov.br.

- **Regional Centre of Studies for the Development of the Information Society** of Brazilian Network Information Centre (NIC) (Cetic.br):[12] Its mission is to monitor the adoption of information and communication technologies in Brazil. It is a department of the Brazilian Network Information Centre (NIC),[13] linked to the Brazilian Internet Steering Committee (CGI.br).[14]
- **National Administrative Department of Statistics of Colombia** (DANE):[15] DANE is the Colombian Administrative Department of Statistics responsible for the planning, compilation, analysis and dissemination of the official statistics of Colombia. DANE is directly dependent on the Presidency of the Republic. Its mission is to plan, implement and evaluate rigorous processes of production and communication of statistical information at the national level, that comply with international standards and make use of innovation and technology to support the understanding and solution of the country's social, economic and environmental problems, serve as a basis for public and private decision-making and contribute to the consolidation of an equitable, productive and legal social state governed by the rule of law.
- **National Institute of Statistics of Chile** (INE): INE is a State-run organization of the Government of Chile, tasked to perform a general census of population and housing, collecting, producing and publishing official demographic statistics of in the population of Chile, as well as other tasks entrusted to it by law.
- **Data Pop Alliance:**[16] Data Pop Alliance is a collaborative laboratory created by the Harvard Humanitarian Initiative, MIT Connection Science, Overseas Development Institute and the Flowminder Foundation, bringing together researchers, experts, practitioners and activists to change the world with data by diagnosing local realities and human problems with data and artificial intelligence,
- **Massachusetts Institute of Technology** (MIT), with the MIT Sloan School of Management.[17]
- **NIC Chile:**[18] NIC Chile is a centre belonging to the Faculty of Physical and Mathematical Sciences of the University of Chile, in charge of the administration of the .CL domain name registry, which identifies Chile on the Internet.
- **NIC Mexico:**[19] it is a non-profit organization in charge of the registry for the .mx country code top level domain. NIC Mexico is also responsible for the National Internet Registry which manages the allocation of IP address space to Mexican internet service providers.
- **German Agency for International Cooperation** (GIZ):[20] GIZ is the German Agency for International Cooperation, owned by the German Federal Government. GIZ Data Lab platform brings together thinkers and practitioners to promote the effective, fair and responsible use of digital data for sustainable development.

[12] See https://cetic.br.
[13] The Brazilian Network Information Centre is a non-profit civil entity that implements, since 2005, the decisions and projects designed by the Brazilian Internet Steering Committee. The NIC is the executive arm of the CGI.br.
[14] The Brazilian Internet Steering Committee was created by Inter-ministerial Ordinance No. 147 and amended by Presidential Decree No. 4829, with the purpose of coordinating and integrating all internet services initiatives in Brazil as well as promoting technical quality, innovation and the dissemination of eservices available. CGI.br is composed by members of the government, the corporate sector, the civil society and the academic community. It constitutes a unique internet governance model for the effective participation of society in decisions involving network implementation, management and use.
[15] See https://www.dane.gov.co.
[16] See https://datapopalliance.org.
[17] See https://mitsloan.mit.edu/.
[18] See https://www.nic.cl.
[19] See https://nicmexico.mx.
[20] See https://www.giz.de/expertise/html/61847.html.

- **European Commission**:[21] The digital economy and society is now firmly part of the agenda for the European Commission's relations with the Americas. A number of projects on digital cooperation with Latin America were launched under the partnership instrument. These projects include:
  - Cooperation on personal data protection while promoting free flow of data across international borders (Argentina, Brazil, Chile, Colombia, Costa Rica, Mexico and Uruguay with bilateral activities and regional activities).
  - Cooperation in the field of standardisation and interoperability in ICT services across international borders (Brazil).
  - International efforts to build trust and security in cyberspace (Brazil).

27. The key stakeholders in the project, which were also direct beneficiaries for the pilot exercises launched in Brazil, Chile, Colombia and Mexico, were the following:

- Brazilian Institute of Geography and Statistics (IBGE, Brazil)
- Regional Centre of Studies for the Development of the Information Society of NIC Brazil (Cetic.br)
- National Institute of Statistics of Chile (INE)
- National Administrative Department of Statistics of Colombia (DANE)
- National Institute of Statistics and Geography of Mexico (INEGI)

3.4 RECONSTRUCTED THEORY OF CHANGE

28. A theory of change was reconstructed for the big data for measuring and fostering the digital economy in Latin America and the Caribbean project, based on the theory of change literature in support to the DA 10, eLAC2018 and the original project document and the extension request for tenth tranche projects initially for one year (June 2019 to June 2020) and the 6-month extension due to the COVID-19 restrictions (30 June 2020 to 31 December 2020).

29. The following macro-level concerns were identified for the project:

- Different economic structures and digital policies across the region and different productive activities and access to resources in each Latin American and Caribbean country,
- Insufficient mechanisms at all levels to promote the use of big data technology and analysis of the digital economy in each target country,
- Different levels of decision-making at all relevant levels in the target countries.

30. The analysis of the project framework revealed that the various implementation challenges and modifications of the project design were mostly at the activity level, in particular regarding activity A.1.6 "Develop a technical solution (prototype) for measuring digital economy with big data in at least two countries".

31. The following diagram (Table 1) provides the reconstructed theory of change for the big data project which aims to give an overview of the different elements identified in the elaboration of the theory of change reconstruction. The elements were: Goal, Outcomes, Activities, Risk and Barriers, and Preconditions. The design of the project did not provide specific outputs upon which the outcomes were to be achieved but these were suggested and sometimes outlined in the description of the activities themselves, as well as the indicators.

[21] See https://digital-strategy.ec.europa.eu/en/policies/americas.

Table 1
Theory of Change Reconstruction for the Big Data Project

<table>
<tr><td>Goal</td><td colspan="5">Improve national capabilities in the Latin American and Caribbean region (Brazil, Chile, Colombia & Mexico) to measure the digital economy using big data and traditional statistical techniques to support evidence-based policies to foster digital development.</td></tr>
<tr><td>Outcomes</td><td colspan="3">Outcome EA1: Increase capacity of Latin American and Caribbean countries to develop and include the use of big data techniques in combination with traditional data to measure the digital economy.</td><td colspan="2">Outcome EA2: Enhance capacity of selected Latin American countries to strengthen their digital economy through evidence- based policies and plans at national level.</td></tr>
<tr><td rowspan="3">Activities</td><td>A1.1: Technical report identifying key experiences in the region and abroad on the use of big data analytics for policy design and assessment of the digital economy.</td><td>A1.2: Participate in partnership engagement meetings to discuss big data techniques, case studies, analytical software tools and exchange experiences.</td><td>A1.3: Organization of one expert meeting with NSO and technical experts.</td><td>A2.1: Elaborate an analytical report on the evolution of the digital economy.</td><td rowspan="2">A2.3: Technical assistance mission to support the beneficiaries' countries in the design of policies and instruments to foster the digital economy.</td></tr>
<tr><td>A1.4: Organization of one kick- off regional workshop.</td><td>A1.5: Organization of bilateral technical advisory services meetings.</td><td>A1.6: Develop a technical solution (prototype) for measuring digital economy with big data in at least 2 countries.</td><td>A2.2: Organization of a workshop on digital economy impact on development.</td></tr>
<tr><td>A1.7: 4 national workshops to provide capacity building and training assistance to the 4 beneficiary countries</td><td colspan="2">A1.8: Organization of regional seminar to disseminate the experiences of measuring the digital economy using big data techniques with participation of LAC countries.</td><td colspan="2">A2.4: Seminar to promote and raise awareness among stakeholders on the need for digital economy policies and actions plans in Latin American and Caribbean countries.</td></tr>
<tr><td>Risks & Barriers</td><td colspan="5">R1. Political instability. R2. Private stakeholders failed to support the project. R3. Stakeholders' inaccurate expectations. R4. Unforeseen budgetary constraints due to cost increases. R5. Technological development problems.</td></tr>
<tr><td>Preconditions</td><td colspan="5">(i) Alignment with national governmental digital policies. (ii) Positive market and trade context (nationally and internationally). (iii) Willingness of NSO to engage in capacity-building. (iv) Receptiveness of Latin American and Caribbean enterprises to facilitate data. (v) Strong management capability of the coordinator (ECLAC). (vi) Target groups experienced in digital policy willing to network with and share experience in peer-guided mentoring towards countries in early stages of digitalization. (vii) Qualified human resources and funding are available. (viii) Well-established partnership in previous cooperation continues.</td></tr>
</table>

Source: Prepared by the evaluator, on the basis of the project's final report and the summary of activities and publications document.

4. EVALUATION FINDINGS

4.1 FINDINGS-RELEVANCE

FINDING 1: The project showed strong relevance through its planned activities and outputs with stakeholders in the region as well as relevance to the mandate of ECLAC and relevance to the SDGs.

32. The desk review and analysis of the project documentation as well as the baseline analysis of the targeted countries show a clear alignment between the project's planned activities and outputs with the direct beneficiaries and stakeholders in the region. The project is built upon the recognition that the digital economy is an important tool for changing production patterns, generating quality employment, creating local added value and enhancing the region's competitiveness and integration into global markets, as per eLAC2018. The project is aligned with the needs of Latin American and Caribbean countries, in particular their need for further policies on structural changes that foster more knowledge-intensive and innovation-intensive production and promote sustainable growth with social equality, in line with the SGDs.

33. This project is consistent with the role of ECLAC to assist its member States through the production of technical studies, statistics and relevant information to support the design of national policies in digital matters, as well as facilitating regional collaboration through capacity building and exchange of best practices. This project is an integral part of the next step that builds on the Observatory for the Information Society in Latin America and the Caribbean (OSILAC) and the Digital Agenda for Latin America and the Caribbean (eLAC).

34. The project is clearly aligned to the ECLAC objectives of Subprogramme 2: production and innovation of the programme of work of the programme budget for the biennium 2016-2017, section 21 - Economic and Social Development in Latin America and the Caribbean[22], as well as to the UNCTAD Subprogramme 4: technology and logistics of the programme budget for the biennium 2016-2017, section 12-Trade and Development.[23] Also, the project is aligned to ITU objective 4 of the ITU Telecommunication Development Sector (ITU-D) which aims to create and maintain an enabling policy and regulatory environment, including the establishment and implementation of sustainable national policies, strategies and plans, through the sharing of best practices and collecting and disseminating statistical information on telecommunications/ICT development.

35. The project activities and outputs are in line with SDG 8[24]: *promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all*, in particular the targets 8.2 and 8.3; together with SDG 9; *build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation,* especially with targets 9.5, 9.a, 9.b, and 9.c; and with SDG 17: *strengthen the means of implementation and revitalize the global partnership for sustainable development,* mainly to targets 17.6, 17.7, 17.8, 17.18, and 17.19.

[22] Subprogramme 2 has the objective to foster structural change, productivity growth and innovation in the Latin American and Caribbean region, taking into consideration new technological paradigms, sustainable development, gender equality and linkages to the global economy.

[23] Subprogramme 4 has the objective to strengthen science, technology and innovation, including information and communication technologies for inclusive development; to support inclusive growth and development through efficient, resilient and sustainable trade logistic services and transit transport systems; and to promote training and capacity building programmes for local institutions with a view to enhance the economic development and competitiveness of both developing countries and countries with economies in transition.

[24] See United Nations, "The 17 Goals:" https://sdgs.un.org/goals.

36. The formulation of the project facilitated the flexibility to align with the target countries and between the pilot exercises and the mandates of the biennium requirements and the mandates of the subprogrammes and divisions tasked with their implementation. The continuity in some of the activities that the project developed, such as the Regional Alliance for the Digitalization of Women in Latin America and the Caribbean, should be noted, with an impact on Chile launching its small and medium-sized enterprises (SMEs) digitalization programme. (Please see section on good practices).

FINDING 2: There is strong alignment/relevance between the project's planned activities/ outputs and the needs and priorities of the target countries and the needs of the beneficiary countries at the regional level.

37. The project activities were aligned with the governments' needs and interests in developing the digital economy with relevant policies in the target countries. The strong interest of these four countries, which had formally expressed their interest in working with ECLAC on the digital economy, is based on the fact that there was no real use of big data for policy analysis and statistical purposes.

38. At the beginning of the project official ICT statistics were generated through the national statistical offices, which focused mainly on access and use of ICT by individuals, households and business through surveys and administrative data. For example, in Brazil, IBGE produced statistics on access and use of ICT by household and businesses through the National Household Sample Survey (PNAD) and the Survey on the Use of Information and Communications Technologies in Enterprises, while Cetic.br monitored the adoption of ICT in particular computers, internet and mobile devices, and was producing ICT statistics for household and business, the health and education sectors, kids-online and the e-government. In Chile, INE produced the official statistics on access and use of ICT and adoption by households and business through a number of surveys. In the case of DANE in Colombia, for the access and use of ICT in households the "National Quality of Life Survey"; in the case of enterprises, there are three surveys: the Annual Manufacturing Survey, the Annual Trade Survey and Annual Service Survey. In Mexico, INEGI gathered the data by the Module on Availability and Use of Information Technologies in Households (MODUTIH), which was included in the National Survey of Occupation and Employment (ENOE), while the information on access and use of ICT by business is produced by the Survey on Information and Communication Technologies (ENTIC).

39. The project's activities/outputs addressed the identified needs of the direct beneficiaries (IBGE, Cetic.br, INE, DANE and INEGI) by i) identifying case studies that will serve as proof of concept at national level; (ii) raising awareness of the potential of using big data to produce comprehensive, detailed and timely information for the design of digital policies; (iii) encouraging the target NSOs to address big data issues in their regular work plans; (iv) promoting institutional coordination among relevant stakeholders related to the policy-making process and digital economy measurement, (v) fostering synergies between the statistical community and the private sector for sharing technological capabilities and access to private source data; and (vi) developing the necessary internal analytical capabilities through specialised training.

FINDING 3: While the project activities were generally aligned with the needs of the target countries and the Latin American and Caribbean region, there needs to be greater consideration going forward of the country-level variations in the real needs and capacities of NSOs.

40. The evaluation has found that the real needs and capacities of NSOs were not the same across the four project countries. Thus, project activities such as technical workshops and bilateral technical advisory services needed to be adapted to suit the technical needs and available resources of each NSO. This finding was also shaped by their legal mandate, level of autonomy and operating context in each country, which influenced the actual scope of project implementation and the corresponding results attained by each institution.

41. In Brazil, for example, IBGE as an institution houses under the same roof all of the relevant departments, such as the Department of Budget and Finance, Department of Planning and Supervision, Department of Human Resources, Department of Material Resources and Directorate of Surveys. The Directorate of Surveys is responsible for the coordination of the national statistical system and for establishing partnerships for statistical cooperation, and is structured into the following departments: Department of Agriculture, National Accounts, Price Indexes, Industry, Methods and Quality, Population and Social Indicators, Services and Commerce, Labour and Income, and Directorate of Geosciences.

42. In Chile, in contrast, the National Statistical System (NSS) is decentralised in the area of statistics generation, with the INE being a technical and autonomous public agency that is part of the Ministry of Economy. INE, at the time the project implementation began, was in charge of the population census and employment indicators and the consumer price index, among other tasks, but it was not the lead body for the wider NSS and did not have the power to request administrative records. A process to change this situation was initiated in 2019, with a bill that would create a new institutional framework for NSS and modernise INE by strengthening the statistical institutional framework and initiating a new NSS[25] based on the principles recognised by the United Nations and the Organisation for Economic Co-operation and Development (OECD). This lack of coordination and collaboration between the SII[26] and the INE was clearly reflected. SII was invited to participate in the pilot exercise with the aim of providing access to economic data; however, during the different meetings held with both institutions, it was clear that legal and technical issues did not allow for collaboration with the quality of data required for the pilot exercise carried out by INE. This was also corroborated by the information gathered during the interview phase of the evaluation from stakeholders concerned, with stakeholders emphasizing that both institutions needed more than a memorandum of understanding to have achieved their collaboration.

43. In the case of Mexico, the National Institute of Statistics and Geography (INEGI) is not only responsible for the population census but also for the economic, agricultural, livestock and forestry censuses, together with the gross domestic product, consumer trust surveys and commercial, employment and occupation statistics, and domestic and couple violence. INEGI possesses relatively similar capacities to IBGE, while the National Administrative Department of Statistics (DANE) in Colombia is rather similar to INE in Chile. DANE is part of the SEN[27] (National Statistic System) and is the administrative department responsible for the planning, compilation, analysis and dissemination of official national statistics.

FINDING 4: The quality of the project design was enhanced by a proactive and effective interrelation among the different activities and expected results.

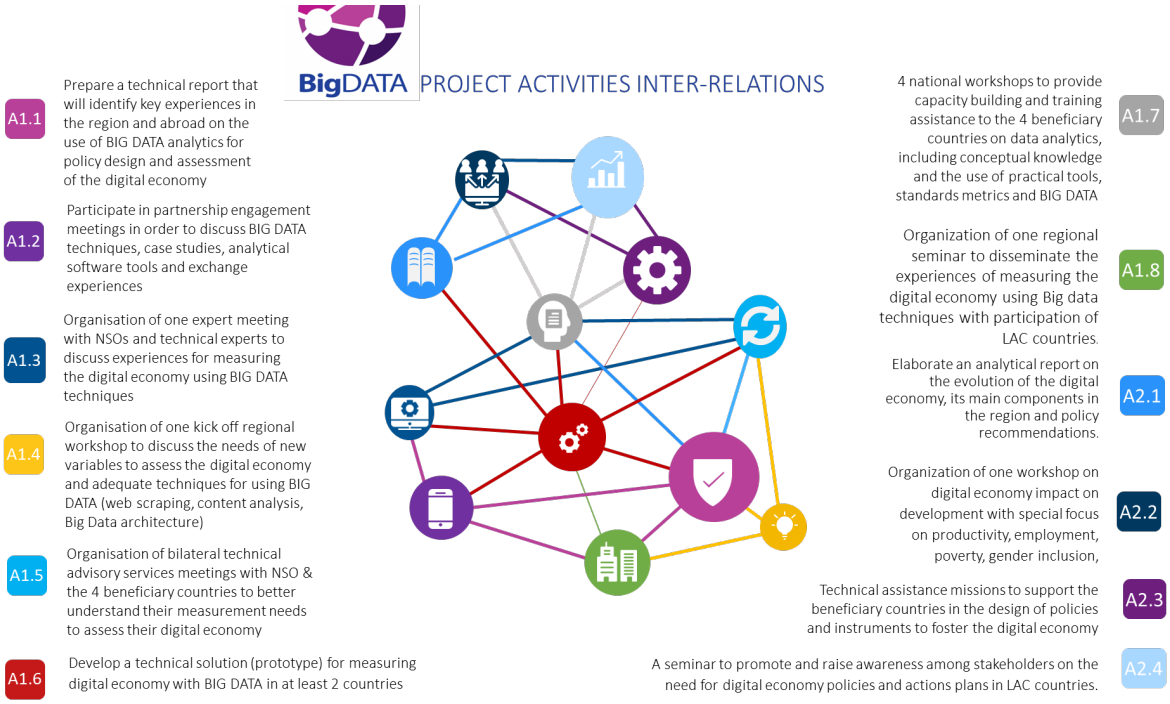
44. The activities designed for the project have the particularity to build upon each other as reflected in the figure 1 below. The logical framework (logframe) mentions some of the main interrelations within ER1 such as A1.1, with A1.2, A1.6 and A1.8, while there are also interrelations across ER1 and ER2 activities, as between A1.3 and A2.1. Other activities such as A1.1 and A2.1 were built upon A1.6, A1.7 and A2.2. The overall design of the project showed logical building blocks, in parallel and interrelated, that facilitated its flexible and reactive implementation.

[25] Information provided in Bulletin No. 10372-03, entered the National Congress on November 2015 and in its second constitutional process in the Finance Committee of the Senate as of 26 May 2021. See htpps://www.camara.cl/pley/pley_detalle.aspx?prmID=10795&prmBoletin=10372-03.

[26] See Internal Revenue Service of Chile (SII) https://homer.sii.cl/.

[27] Sistema Estadístico Nacional – Colombia.

Figure 1
Overview Interrelationships/Linkages between Big Data Project Activities



Source: Prepared by the evaluator, on the basis of the project's final report and the summary of activities and publications document.

4.2 FINDINGS-EFFICIENCY

FINDING 5: The project implementation has been flexible and reactive to the needs of the project countries and the eLAC countries in general, while creating an effective use of the deliverables and the costs of implementation

45. The implementation of the project used different approaches to maximize and attain the expected results. A clear example of this is the activities developed to achieve the indicator IA 1.1. such as the Sixth Ministerial Conference on the Information Society in Latin America and the Caribbean[28] organized jointly by ECLAC and the Government of Colombia, which gathered 23 member countries[29] and led to optimized resources and partially attained the expected result to have a signed agreement of the 23 participating countries of the eLAC process on the importance of measuring the digital economy using big data.

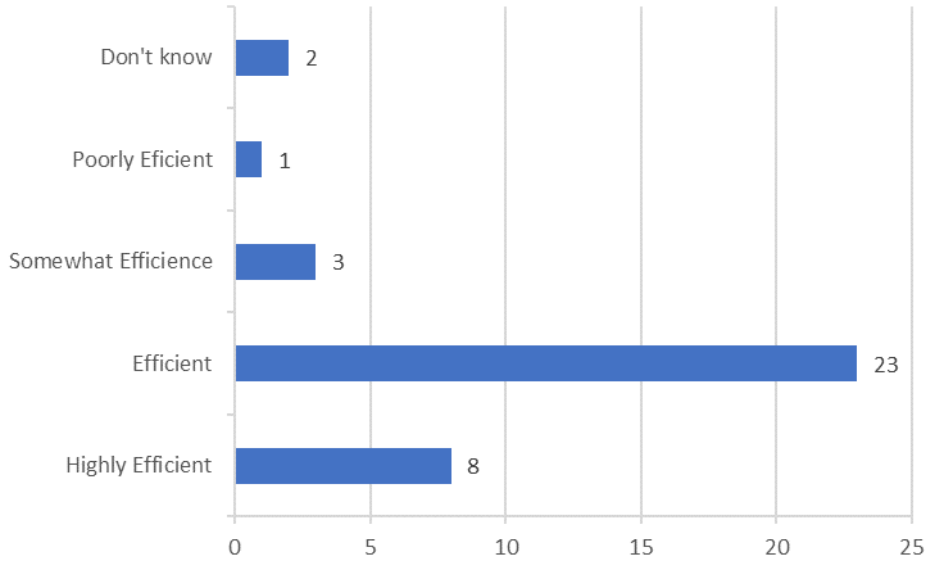
46. The implementation of the project gives credit to the project coordinator and technical support team that have shown great flexibility and commitment to support the project countries in every possible way. An example of their commitment has been the constant support to the different challenges encountered in accessing the data on the internet. The project countries requested assistance in generating indicators on the internet economy, as digital transformation of the production sector is a key topic in their national digital policies, which led to reorientation of some actives, such as A1.6, towards measuring the internet economy by combining big data techniques (web crawling) with administrative records available to the NSOs.

[28] Cartagena de Indias, 18-20 April 2018.
[29] Argentina, Bahamas, Barbados, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, EL Salvador, Guatemala, Guyana, Honduras, Mexico, Panama, Paraguay, Peru, Saint Kitts and Nevis, Saint Lucia, Trinidad and Tobago, and Uruguay.

47. Another example of this flexibility and commitment is the availability of the ECLAC technical team to reply to their queries even on Sundays and/or late hours due to the time difference between countries, as mentioned by different interviewees from the project countries who had directly participated in the training and implementation of the project.

48. When triangulating the responses gathered in the survey, in general the stakeholders considered that the project was effectively implemented, with 86.2% of respondents regarding the project as either efficient (63.8%) or highly efficient (22.2%). A further 8.3% of respondents regarded the project as somewhat efficient and only 2.7% of respondents regarded the project as poorly efficient; 5.5% of respondents answered that they did not know.

Figure 2
Overview Interrelationships/Linkages between Big Data Project Activities



Source: Prepared by the evaluator, on the basis of the project's final report and the summary of activities and publications document.

49. At the financial level the project was efficient in raising/securing additional funds, both financial and in-kind, for a number of project activities. An example is activity A1.7 *organization of the workshops aiming to provide capacity building in the beneficiary countries* in 2017 that was supported Cetic.br and the Government of Mexico by providing the rental of the venue, coffee breaks, equipment and refreshments for an estimated total of $US 10,000 with each donor contributing in-kind approximately $US 5,000.

FINDING 6: Results-based management principles were exploited by the project and made good use of the commitments.

50. The project management performance from ECLAC was satisfactory, which also contributed to the project's progress and overall effectiveness. In particular, the project management was both proactive in trying to get things done, as well as quickly reacting to challenges or new situations, providing support to the project countries, or in adapting to better meet the challenge posed by the COVID-19 pandemic.

51. The project showed good collaboration mechanisms and commitment of the project countries; nevertheless, respect for the timetable and progress indicators to effectively monitor achievement of intermediate and final results for the different project stages were not strong. The delays in delivery which were documented in the progress reports, as well as through the interviews with the project coordinator, did not ultimately compromise the overall outcomes of the project.

52. Among the additional factors contributing to the initial delays were the time required to identify the experts to work in each country and the time for consolidating the partnerships with the different data suppliers in each country.

53. In addition, the COVID-19 pandemic raised technical issues and reorganization of the activities due to the lockdown period.

54. Aside from the delays, the evaluator noted that none of the achievement indicators had been formulated in a way that allowed for continuous monitoring through the project cycle. The project lacked a comprehensive framework of indicators of achievement per activity that would have permitted ongoing monitoring of intermediate outcomes measured, in addition to the monitoring of whether activities had been implemented according to planned schedule. If there were any such indicators, the progress reports did not show any tangible evidence of them. This raises concern about the usefulness of the project logframe formulation.

55. Though the project has achieved the specific indicators per outcome, these indicators are built from the different outputs delivered from the activities.

Table 2
Activities and results implemented by the Big Data Project

Expected results	Indicators	Activities
EA 1 ⇒ Increased capacities of Latin American and Caribbean countries to develop and include the use of big data techniques in combination with traditional data to measure the digital economy.	**IA 1.1** All participating countries of the eLAC process (Plan of Action for the Information Society in Latin America and the Caribbean) sign an agreement on the importance of measuring the digital economy using Big data.	Activities directly linked to fulfilling indicator IA1.1 were: A1.1, A1.2, A1.4 and A1.8 Indirectly linked with the A1.1 are A1.6 and A1.7
	IA1.2 At least two out of four project countries use big data techniques, in combination with traditional data, for measuring the size of the digital economy.	Activities directly linked to fulfilling indicator IA1.2 were: A1.3, A1.5, A1.6 and A1.7
EA2 ⇒ Enhanced capacity of selected Latin American countries to strengthen their digital economy through evidence based polices and plans at national level.	**IA2.1:** 3 out of 4 project countries develop a "measurement instrument" to monitor and follow up their digital economy policies. This includes performance targets, indicators, baselines, data sources and reporting mechanisms.	Activities directly linked to fulfilling indicator IA2.1 were: A2.1, A2.2, and A2.3 Indirectly linked to A1.6 and A1.7
	IA 2.2: 3 out of 4 project countries have developed policies or modified their ICT strategies or action plans to improve the digital economy.	Activities directly linked to fulfilling indicator IA2.2 were: A2.1, A2.2, A2.3 and A2.4 Indirectly building on A1.1, A1.2, A1.6, A1.7 and A1.8

Source: Prepared by the evaluator, on the basis of the project's final report and the summary of activities and publications document.

FINDING 7: Development Account Project 1617Y provided good value for money.

56. Regarding **capacity development**, the project has delivered a significant effort and result in that area, with 15 training workshops and interventions held in eight locations across five countries[30]. A list of the training workshops organized and delivered by the project is set out in annex 4. These events have reached more than 500 people across the project target groups, in particular national statistics and data organizations and national government staff. There were 564 training participations, which benefited 538 persons[31] and 214 organizations. This effort takes on added significance given the size of the project budget; the limited expertise in the region to deliver this training, and distances and distribution of training workshops.

57. Furthermore, notwithstanding the relatively modest budget, the project has managed to develop a significant range of training materials, knowledge products and reports under the project activities and outputs, including research and publications and training and events. Annex 3 sets out a list of all the documents and training materials, including technical research and publications produced for the different professional trainings and capacity building and pilot exercise experiences carried in the four target countries. Annex 4 contains the list of all the different activities designed and implemented during the project period, such as events, trainings and workshops.

58. Importantly, regarding the **quality of the capacity development effort**, the evaluation surveys of training participants showed that the professional training workshops have been rated highly by target groups in terms of their quality, pedagogic delivery and pertinence to participants' needs. For example, regarding the training delivered in Brazil, an impressive 91.6% of survey respondents considered the training to have been either good (33.3%) or excellent (58.3%), while 100% of respondents considered that the workshop had met or exceeded their initial expectations (with 41.7% of participants considering that their expectations were met and 58.3% considering that their expectations had been exceeded).

59. Overall, the efficient implementation of the project, given the constraints encountered, has been in no small part due to the experienced ECLAC coordination and the committed implementing partners and direct beneficiaries. As reported above, the overall project cost of US$ 682,000 was also quite low considering the scope of the project, the amount of people trained and knowledge created, and the number of countries ultimately benefiting from the project, compared with what the cost would have been had the exercise been implemented through teams of consultants and without the participation of implementing partners. In this sense, the project created considerable efficiency gains and provided good value for money. Those efficiency gains were due as well to collaboration of the direct beneficiaries to support the implementation of the workshops by facilitating the venue, equipment and catering, together with the areas of synergy created and joint implementation of the events that benefited the target countries, as more was delivered with the same resources. Contracting out the same expertise (via consultants rather than via a partner institution for joint implementation) would have been much more costly for the project implementation.

4.3 FINDINGS-EFFECTIVENESS

FINDING 8: The projects activities and outputs have contributed to developing the capacity of the NSOs and other relevant institutions to identify indicators, analyse and measure the internet economy using web scrapping.

60 The evaluation findings on the effectiveness of the project were based on how the various activities implemented during the project were achieving its objectives. It should be mentioned that the lack of specific outputs made it necessary to assess the results of each activity and in turn the results chain generated from them.

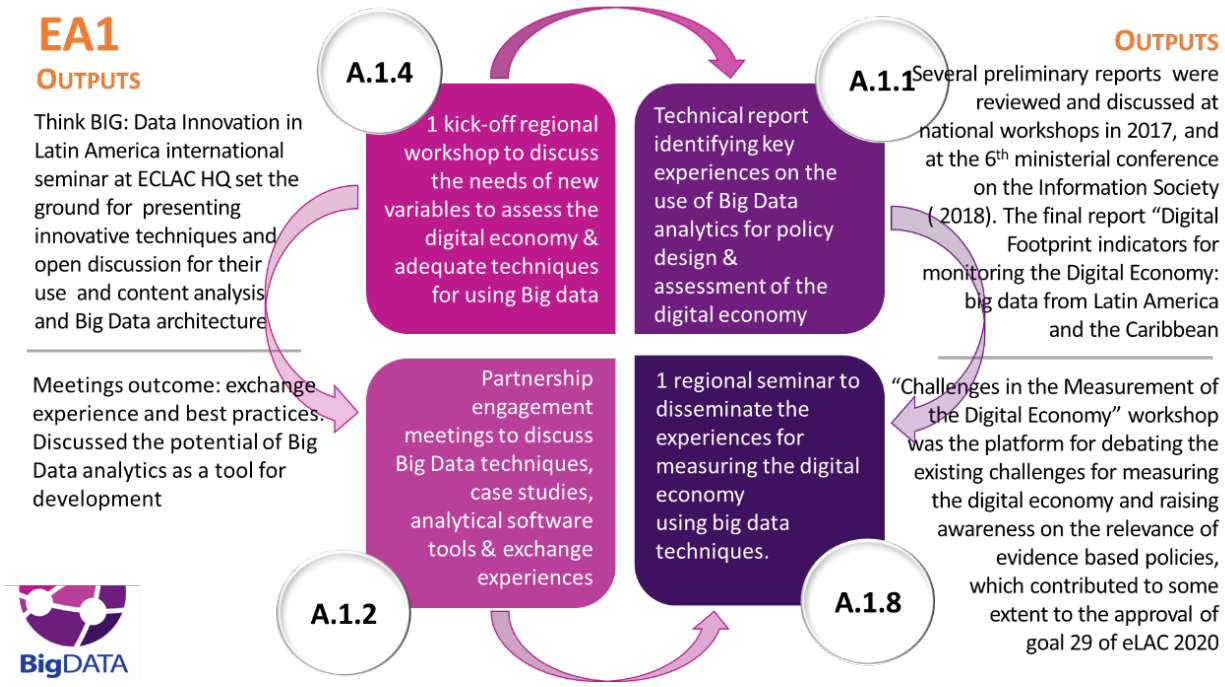
[30] Brazil, Chile, Colombia, Mexico and Dominican Republic.

[31] Participations refer to the total number of attendances, participants refer to the actual number of persons that received training, the number of the participants is lower than participations as some people attended more than one training event.

61. For expected achievement 1 (EA1), the set of eight activities implemented led to the use of big data techniques being successfully deployed in combination with traditional data to measure the internet economy, and increased capacity in the Latin American and Caribbean region and in particular in the four countries (Mexico, Colombia, Brazil and Chile) where the pilot exercise was implemented. The following three images show the interrelation and the achievement of the activities in terms of outputs generated in respect to *EA1: Increased capacity of Latin American and Caribbean countries to develop and include the use of big data techniques in combination with traditional data to measure the digital economy*. Figure 3 groups the activities that, to some extent, have led to the achievement of the indicator of achievement (IA) 1.1: All participating countries of the eLAC process (Action Plan for the Information Society in Latin America and the Caribbean) sign an agreement on the importance of measuring the digital economy using big data. This indicator was fully achieved:

- The agreement on the importance of measuring the digital economy using big data is reflected in eLAC2020: goal 29 of the Digital Agenda for Latin America and the Caribbean signed at the 6th Ministerial Conference on the Information Society in Latin America and the Caribbean held in Cartagena de Indias, Colombia from 18 to 20 April 2018 (the document was approved by 23 member States from Latin America and the Caribbean).
- The agreement on the importance of measuring the digital economy using big data was further confirmed in eLAC2022: goal 32 of the Digital Agenda for Latin America and the Caribbean, which was approved at the 7th Ministerial Conference on the Information Society in Latin America and the Caribbean, held virtually from 23-26 November 2020 (the agenda had the support of 21 member States from the region).

Figure 3
Outputs achieved by the big data project activities under EA1 related to IA 1.1



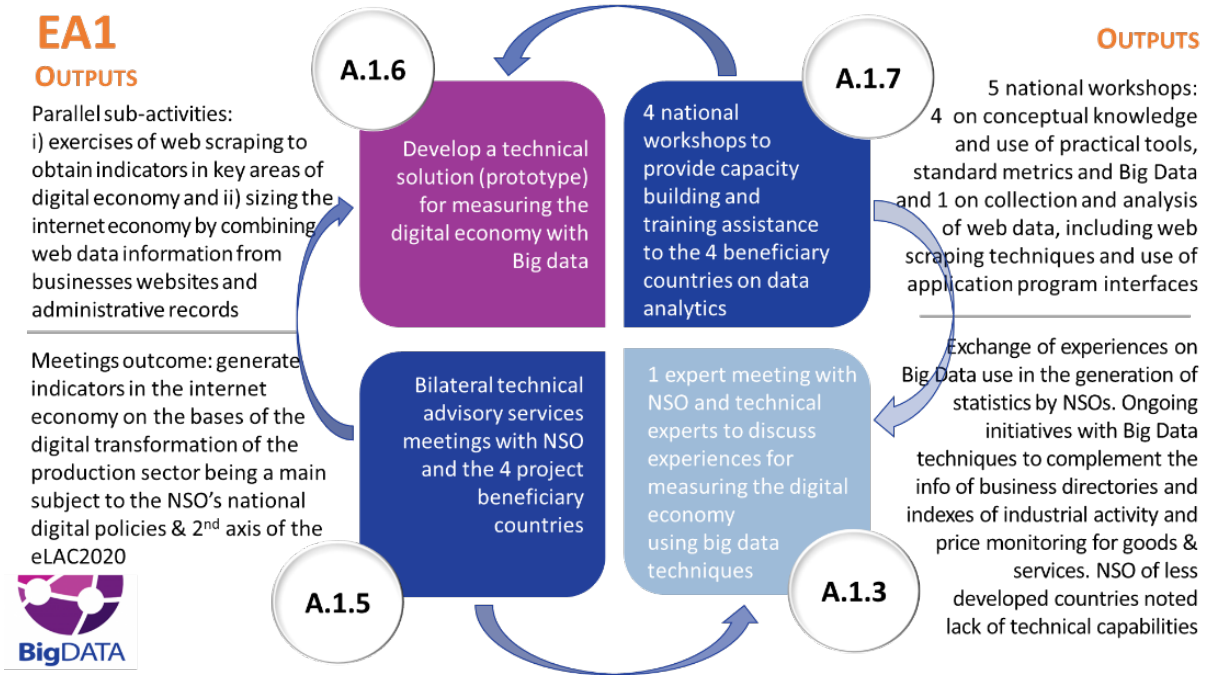
Source: Prepared by the evaluator, on the basis of the project's final report and the summary of activities and publications document.

62. Figure 4 below groups the activities that have led to the achievement of the indicator of achievement (IA) 1.2: At least two out of four project countries use big data techniques, in combination with traditional data, for measuring the size of the digital economy. This indicator was narrowed own to measuring the size of the internet economy by combining big data techniques with administrative records to measure the business presence and activity on the Web. The indicator requested two out of four project countries to use big data techniques in combination with traditional data; all four project countries completed the pilot exercise which merged business administrative records with web data to identify business dynamics in the Web.

63. The chronological implementation of the activities was not always followed, as in the case of Activity 1.3 that was implemented later than expected. Nevertheless, this delay actually benefited the countries of the region that were not participating in the pilot exercise. In other cases, there was a replication of the activities due either to direct requests from project countries or to the fact that it was deemed necessary to complement the capacity building given the asymmetries across the different Latin American and Caribbean countries regarding technical capacities. The effectiveness of the implementation of these activities is demonstrated in the identified adaptability and versatility, as well as the inclusiveness of design and implementation, with a strong consultative process. This is clearly reflected in the choice to include the generation of specific indicators for the key areas of the digital economy.

64. These four activities are strongly interrelated and thus some of their outputs have influenced the outputs of other activities. A case in point is activity A.1.3 which influenced activity A.1.5 which in turn influenced the output of A.1.6, which benefited from the inclusion of the national digital policies, and which also has had some impact on IA 1.1.

Figure 4
Outputs achieved by the big data project's activities EA1 related to IA 1.2

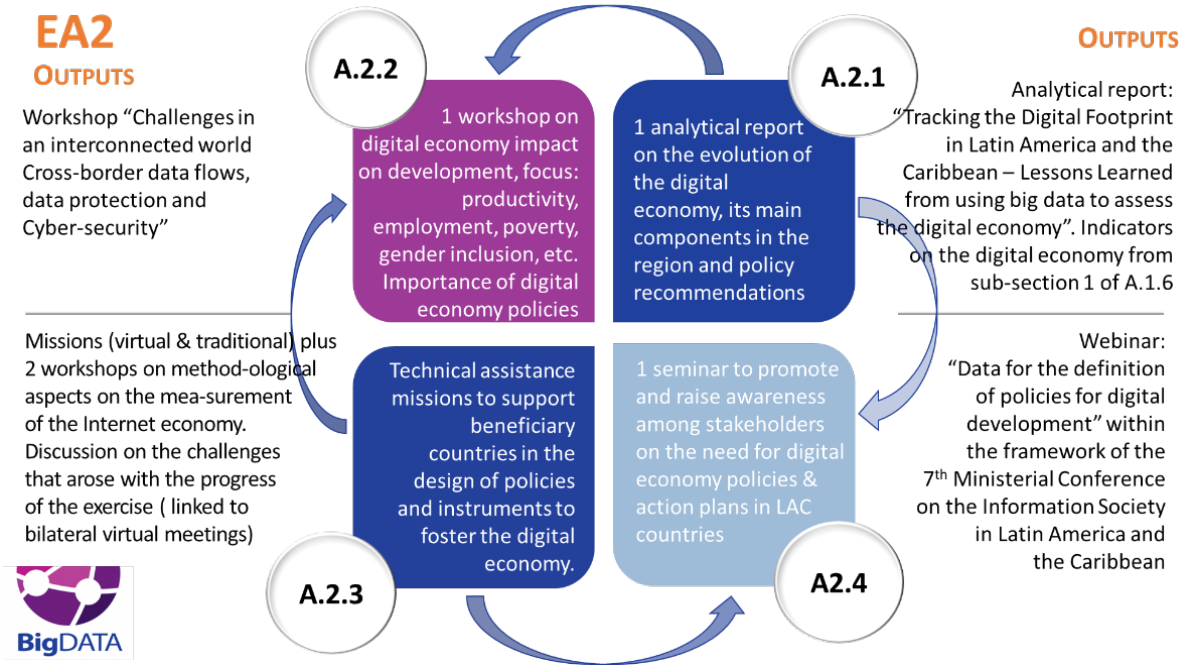


Source: Prepared by the evaluator, on the basis of the project's final report and the summary of activities and publications document.

65. Regarding expected achievement 2 (EA2), the set of four activities and their successful implementation led to some extent to enhanced capacity in Mexico, Colombia, Brazil and Chile through the strengthening of their digital economies through evidence-based policies and plans at the regional and /or national level. Figure 5 shows the interrelation of activities and extent of achievement in terms of outputs generated with respect to EA2: *Enhanced capacity of selected Latin American countries to strengthen their digital economy through evidence-based policies and plans at the regional and/or national level.*

66. Activity A.2.1, which includes the indicators developed in the first sub-activity of A.1.6 and in the workshop of A.2.2. where the impact of the digital economy on development with particular focus on productivity, employment, poverty and gender inclusion, among other socio-economic variables, were presented and discussed and provided evidence-based and expert advice to Latin American and Caribbean countries on the importance of digital economy policies. A.2.2 also built upon the outcome of activity A.2.3. that supported Brazil, Chile, Colombia and Mexico in designing policies and instruments to foster the digital economy through technical missions and two workshops. Activity A.2.2 also was 'retro-fed' by the outputs of activity A.1.5 on bilateral virtual meetings. Thus, A.2.1, A.2.2 and A.2.3 contributed to activity A.2.4, whose output "Data for the definition of policies for digital development" webinar has generated the plans at the regional and national level to strengthen the capacity of the pilot countries to supply information on the Internet economy that together with traditional statistics would complement the analysis and help to develop and update evidence-based policies.

Figure 5
Outputs achieved by the big data project's activities under EA2 related to IA 2.1and 2.2



Source: Prepared by the evaluator, on the basis of the project's final report and the summary of activities and publications document.

67. The effectiveness of the implementation is shown in the achievement of the indicators for the two main results.

68. Regarding Indicator of Achievement (IA) 1.1: *All participating countries of the eLAC process (Plan of Action for the Information Society in Latin America and the Caribbean) sign an agreement on the importance of measuring the digital economy using big data*: This IA was achieved with the adoption of goal 29 of the Digital Agenda for Latin America and the Caribbean, eLAC2020 and the approval of goal 32 of eLAC2022.

69. Regarding Indicator of Achievement (IA) 1.2: *At least two out of four project countries use big data techniques, in combination with traditional data, for measuring the size of the digital economy*: IA1.2 was exceeded, with four out of four pilot countries completing the exercise of merging business administrative records with web data to identify business dynamics in the Web.

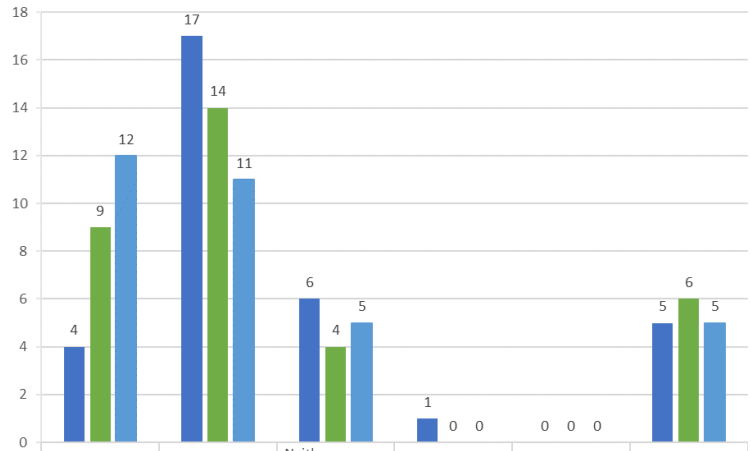
70. Regarding Indicator of Achievement (IA) 2.1: 3 *out of 4 project countries develop a "measurement instrument" to monitor and follow up their digital economy policies*: This includes performance targets, indicators, baselines, data sources and reporting mechanisms. IA 2.1 was exceeded, with four out of four pilot countries having developed algorithms and methodological definitions. The generated indicators generated made it possible to identify the type of the companies online and provided unprecedented information and trends. The policy brief "Universalizing access to digital technologies to address the consequences of COVID-19" and "Digital technologies for a new future", Santiago 2021, is the result of this measurement exercise.

71. Regarding Indicator of Achievement (IA) 2.2: *3 out of 4 project countries have developed policies or modified their ICT strategies or action plans to improve the digital economy*: IA 2.2 could be considered as a work in progress, with already significant progress made, as the digital agenda eLAC2022 (which includes the four pilot countries as signatories) includes the digital transformation of the production models (second axis) and development of digital economy (ninth axis). At the national level, Colombia approved its digital strategy "Plan TIC 2018-2022: El Futuro Digital es de Todos", Brazil defined its National Internet of Things Plan in June 2019 as well as the ICT Law in January 2021 that promotes the development and innovation of ICT business, while Chile launched the programme "Digitize your SME" in 2020. The Ministers of Women committed to promoting full digital inclusion of women during the 60th Meeting of the Presiding Officers of the Regional Conference on Women in Latin America and the Caribbean.

72. The effectiveness of the implementation is also corroborated by both the big data survey carried out of stakeholders and direct beneficiaries, as well as in the stakeholder interview programme. Thus, regarding the questions addressing effectiveness, the survey findings revealed the following:

- Overall, nearly two-thirds (63.6%) of respondents agree or strongly agree that the project has provided a comprehensive analysis for measuring the digital economy and use of big data was provided to national policy makers, 18.2% of respondents neither agree or disagree, and 3% disagree with the statement, with 15.25% of respondents answering that they did not know.
- Regarding the enhancement of the technical capacities of Latin American countries to design and apply policies for measuring digital policies and use of the digital economy, 69.7% of respondents agree (42.4%) or strongly agree (27.3%) with the statement, followed by 12.1% of respondents that neither agree or disagree, while 18.2% of respondents answered that they did not know.
- Regarding the project's contribution to promote standard digital indicators and support the Digital Agenda for Latin America and the Caribbean eLAC2018, 69.7% of respondents either agree (33.3%) or strongly agree (36.4%) with the statement, followed by 15.2% of respondents that neither agree or disagree with the statement, while 15.2% of respondents answered that they did not know (see figure 6 below).

Figure 6
Survey respondents' views-selected project results



	Strongly agree	Agree	Neither agree or disagree	Disagree	Strongly disagree	Don't know
Comprehensive analysis for measuring digital economy and use of big data was provided to national policy makers	4	17	6	1	0	5
The project has enhanced the technical capacities of LA countries to design and apply policies for measuring digital policies and use digital economy	9	14	4	0	0	6
The project implementation has contributed to promote standard digital indicators and support the digital agenda eLAC2018	12	11	5	0	0	5

Source: Prepared by the evaluator, on the basis of the project's final report and the summary of activities and publications document.

FINDING 6: A satisfactory level of change in the institutional structure of the NSOs and enhanced technical skills and capacities were achieved through the project activities

73. Despite the different needs of the four project countries, the capacities of the NSOs and policy analysts at national level were enhanced through the successful completion of professional training workshops and the development of relevant training materials and tools. The project fulfilled its first objective of encouraging the use of big data techniques in such key areas as digital skills and marketplace platforms in combination with traditional tools to quantify the business activities on the internet (internet economy),[32] as well as its second objective to enhance capacity of project countries to strengthen their digital economy through evidence-based policies at national level.

74. The success of its first project objective is reflected by the 564 participations in the different implemented events, as well as the project countries' request for further technical support from ECLAC to continue the updating of the new relevant indicators and digital techniques to measure the internet economy.

[32] Originally the objective was to measure the digital economy, but given the breadth of the concept and vastness of sectors and areas that involves, the measurement has been narrowed to the internet economy that seems more accessible and reachable for a first project on the measurement of the digital economy.

75. Clear examples of an initial achievement of the second objective are Colombia's approval of the digital strategy "Plan TIC 2018-22: EL Futuro Digital es de Todos"[33], while Brazil defined its National Internet of Things Plan,[34] complemented by a new law encouraging the development of innovation in ICT businesses[35]. In the same way, Chile launched its "Digitize your SME" programme, and has driven the Regional Alliance for the Digitalization of Women to evaluate the implementation of a basic digital basket[36].

76. Changing skills and behaviour can be understood as a sequence in which one change leads to the next action. Evidence from the interviews and survey conducted during this evaluation among professional and technical staff of direct beneficiary institutions suggest the existence of such a sequence. Interviewed beneficiaries responded in all cases (100%) that the knowledge created could be ranked as excellent and overall, 80% gave the highest ranking to capacity development. The skill and capacities created under the project generated statistical results. In many instances, these results are illustrative of a change in the collaboration within the beneficiary and across national institutions, raising government awareness of the value of using big data techniques. The intervention logic was confirmed by this evaluation, specifically that capacity first needs to be created in order to be put to use and produce changes in attitude and behaviour that will have an ultimate outcome when the data analysed would help with policy design and corroborate its effectiveness.

FINDING 7: The project's activities were successfully achieved overall, with the collaboration of the four project countries' NSOs and the support of implementing partners ITU and UNCTAD, as well as other strategic partnerships developed during the project's implementation, despite the numerous constraints and delays encountered.

77. Overall, the project's implementation followed its original design and sequencing, with some adaptations. The training material and activities focused on four specific countries (Brazil, Chile, Colombia and Mexico) that were considered to have a more mature level in their respective digital economy policies, in particular regarding diffusion levels of ICTs, as well as having shown a greater interest in developing the digital economy with ad hoc policies. The results achieved with these four projects were disseminated as planned, and there is still the intention to scale up these results at the regional level.

78. The adaptations to the project activities were due to several elements and factors that had not been considered beforehand in the problem analysis of the project design.[37] One of these factors is the expected "realistic outcomes" presented in the section "Country level problem analysis", that have the same outcomes for the four countries[38] without taking into consideration their specific national institutional structure, relationships/linkages to other agencies and departments required to collaborate in the framework of this project, and their in-house technological capacity and resources.

79. Another critical challenge was the extremely high initial expectations of the target NSOs and the regional participants regarding the beneficial and innovative aspects of big data and measurement of the national digital economy in the region. The various beneficiary groups that participated in the trainings/workshops/events corroborated that though digitalization had brought many opportunities, it also raised many challenges, as high-quality results required significant effort, while stakeholders expected fast output. These high expectations were also generated by the wide and ambitious objective of the project to "improve national capabilities in the Latin American and

[33] See Ministry of Information Technologies and Communications, PLAN TIC 2018-2022: El Futuro Digital est de Todos, Bogota, 2019 https://mintic.gov.co/portal/715/articles-101922_Plan_TIC.pdf.

[34] See Government of Brazil, Decreto No. 9.854 of 25 de junho de 2019, Brasilia, 2019http://www.planalto.gov.br/ccivil_03/_Ato2019-2022/2019/Decreto/D9854.htm.

[35] See Ministry of Science, Technology and Innovation, "Lei de TICs: decreto presidencial facilita o incentive a pesquisa, desenvolvimento e invaao, Brasilia, 18 June 2021 https://www.gov.br/mcti/pt-br/acompanhe-o-mcti/noticias/2021/01/lei-de-tics-decreto-presidencial-pretende-facilitar-o-incentivo-a-pesquisa-desenvolvimento-e-inovacao).

[36] See Economic Commission for Latin America and the Caribbean (ECLAC), "Women's Affairs Ministers Commit to Furthering a Care Society and Full Digital Inclusion of Women for a Transformative Recovery with Gender Equality in Latin America and the Caribbean," , Santiago , 28 February 2021 https://www.cepal.org/es/comunicados/ministras-la-mujer-se-comprometen-impulsar-sociedad-cuidado-la-plena-inclusion-digital.

[37] Project Document tenth tranche of the development account: 1617Y Big data for measuring and fostering the digital economy in Latin America and the Caribbean.

[38] Brazil, Chile, Colombia and Mexico.

Caribbean region, in particular in the selected countries, to measure the digital economy using big data and traditional statistical techniques, to support evidence-based policies to foster digital development". There are major gaps in the current measurement framework as expressed in the publication "Measuring the Digital Transformation, A Roadmap for the Future"[39] that provides insights into the measuring process of the digital transformation by mapping indicators across a range of areas such as education, innovation, trade and economic and social outcomes against current digital policy issues.

80. Thus, the project scope of developing a technical solution for measuring the digital economy was limited to assessing the current state of the art of the digital economy in Latin America and the Caribbean, mainly in the labour market and digital skills, technology prices, the presence of micro- and small and medium-sized enterprises in marketplaces, broadband, cryptocurrency, social media and businesses presence on the internet.

81. The national statistical offices participating to the project - INEGI of Mexico, IBGE and Cetic.br of Brazil, INE of Chile and DANE of Colombia- have developed measurement instruments with big data techniques to analyse how businesses use the Internet. Additionally, web data on businesses has proven to be useful for updating the business directories of the NSOs.

4.4 FINDINGS-SUSTAINABILITY

FINDING 8: Capacities to continue and sustain the use of big data techniques in the measurement of the internet economy have been established but need to be reinforced and extended to other countries.

81. This finding is substantiated by the data presented below, and the fact that all the project reports were completed satisfactorily and that four countries (Brazil, Chile, Colombia and Mexico) have already started using web scraping and web crawling to complement traditional statistical methods.

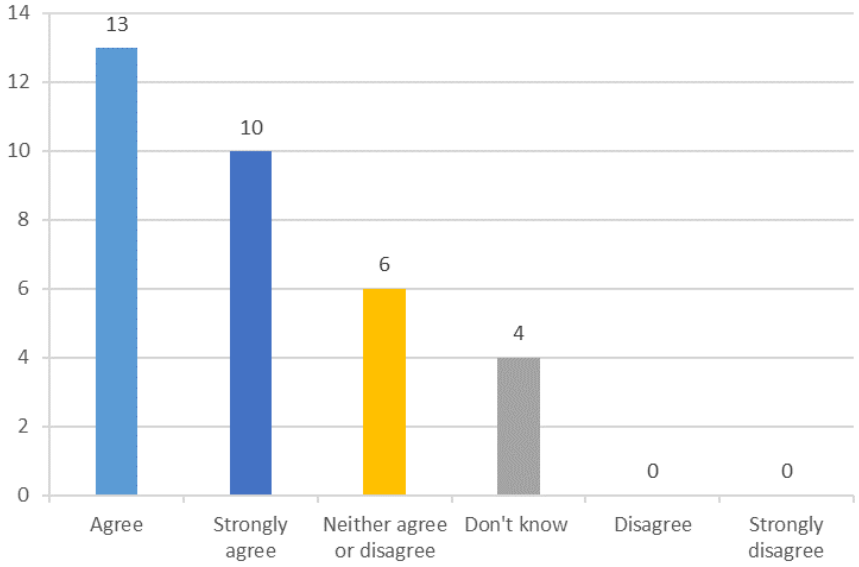
82. The trainings delivered and the support provided to the NSOs by the external experts and the technical ECLAC unit have built capacity levels (skills and knowledge) around the use of big data technologies to measure the digital economy and carry out data analysis in all economic sectors. This is corroborated by both the big data survey carried out of stakeholders and direct beneficiaries, as well as in the stakeholder interview programme. Thus, on the questions addressing sustainability:

- With regard to the sustainability of the project's outputs enhancing national capacity in big data techniques, analysis and use of standard indicators to measure the digital economy after the project completion, 69.7% of respondents either agree (39.4%) or strongly agree (30.3%) with the statement, followed by 18.2% of respondents that neither agree or disagree with the statement, while 12.1% of respondents answered that they did not know (see figure 7 below).

83. The targeted institutions (IBGE, INE, INEGI and DANE) have already incorporated the tools in their work plans and generated the needed institutional changes to adopt the new digital technologies in the statistical units and other relevant units.

[39] OECD (2019), Measuring the Digital Transformation: A Roadmap for the Future, OECD Publishing, Paris, https://doi.org/10.1787/9789264311992-en.

Figure 7
Survey respondents' view – National capacity in big data techniques, analysis and use of standard indicators to measure digital economy[40]



Source: Prepared by the evaluator, on the basis of the project's final report and the summary of activities and publications document.

84. The project has been able to build a collaborative environment across the four target countries and the different reports and technical exploratory exercises using big data are replicable in other Latin American and Caribbean countries and organizations and can be used as benchmarks in the measurement of the digital economy. The two main reports are *Digital Footprint Indicators for Monitoring the Digital Economy: Big Data from Latin America and the Caribbean* and *Measuring the internet Economy in Latin America: A Big Data Analysis for Colombia Mexico, Brazil and Chile*. Both reports provide demonstrated methodological alternatives in the measurement of the digital economy with the use of big data.

85. The Digital Agenda for Latin America and the Caribbean is also an element supporting the sustainability of the tools and knowledge developed by the project as it promotes policy debate and looks for consensus on the importance of the use of new measurement tools for the digital economy in Latin American and Caribbean countries.

86. Regarding the ECLAC Development Account criteria that DA-funded interventions should "result in durable, self-sustaining initiatives to develop national capacities, with measurable impact at field level, ideally having multiplier effects", this has at least partly been achieved. Stakeholder feedback from interviews show a perception that the capacity development effort would at least in part be sustained, while the awareness generated has also led to increased awareness and understanding of the relevance and importance of big data for the development of the digital economy in the region. Moreover, the survey findings have shown, as mentioned above, that stakeholders have generated sustained impact —as seen for example in respondents' perception (almost 70% of respondents) that the project has enhanced national capacities in big data techniques, analysis and use of standard indicators to measure the digital economy.

[40] Question 7 on Big Data Survey evaluation.

87. Furthermore, sustainability prospects have been bolstered by results secured at the policy level, in particular the agreement on goal 29 of the Digital Agenda for Latin America and the Caribbean (eLAC2020). As stated earlier, this specifically calls for strengthened data collection processes for official statistics in order to improve the measurement of the digital transformation and the digital economy. This includes the use of advanced technologies and the strengthening and harmonization of common indicator frameworks and their monitoring through information society observatories. Similarly, the national strategies, plans and initiatives launched during the project implementation under EA2 - in Brazil, Chile and Colombia —have helped anchor sustainability at the national policy and regulatory level.

FINDING 9: The project promoted partnerships through the assistance provided by ECLAC and the hiring of local consultants, although a greater effort to promote partnership between project country teams and the creation of a virtual community would have been desirable.

88. The fact that an institution based in the southern hemisphere (ECLAC) offered technical expertise and support to beneficiaries in the same region (public sector institutions) and created partnerships with international partners to develop and use big data techniques with potential for cross-fertilizing each other's experience should be seen as a means for promoting real and effective partnership. According to this assessment, results in this area would have been even greater if a strategy for synergies had been developed by the project between the beneficiary institutions or through a virtual community of practice.

4.5 FINDINGS-CROSS-CUTTING ISSUES

FINDING 10: The project's results have supported with data that gender inequality is exacerbated in the digital economy, especially due to COVID-19

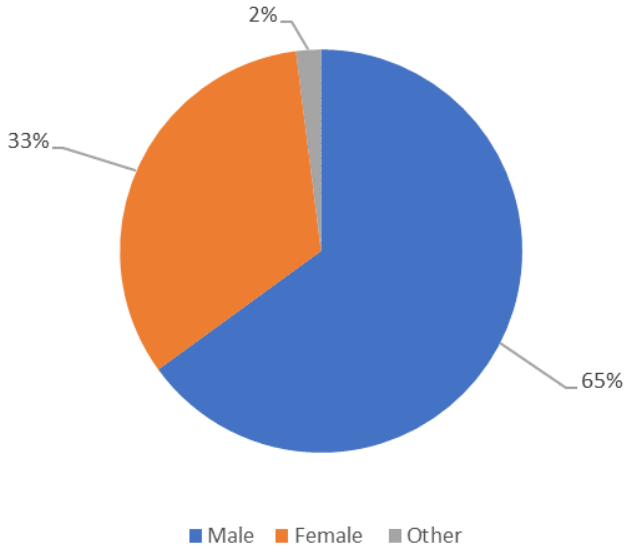
89. Gender equality is a key cross-cutting issue addressed by the project, which has been developed in collaboration with the Regional Alliance for the Digitalization of Women in Latin America and the Caribbean, which promotes the participation of women in science, technology and innovation. The project has raised awareness of the low level of women's involvement in science, technology, knowledge and innovation.[41]

90. In this respect the Big Data Survey shows a significant majority of respondents were male (65%) while 33% of respondents were female, with 2% responding "Other" (see figure 8 below).

91. Cross-analysis of responses to two of the survey questions on respondents' sex and position shows that only 25% of professional staff positions were held by women, compared to 70.8% by men and 4.2% other; 61.2% of respondents in a technical position were men and 38.8% were women. Regarding the role/position of Government Decision Maker, the two respondents were women, while in the case of the position of Sector Economist the two respondents were men (see figure 9 below).

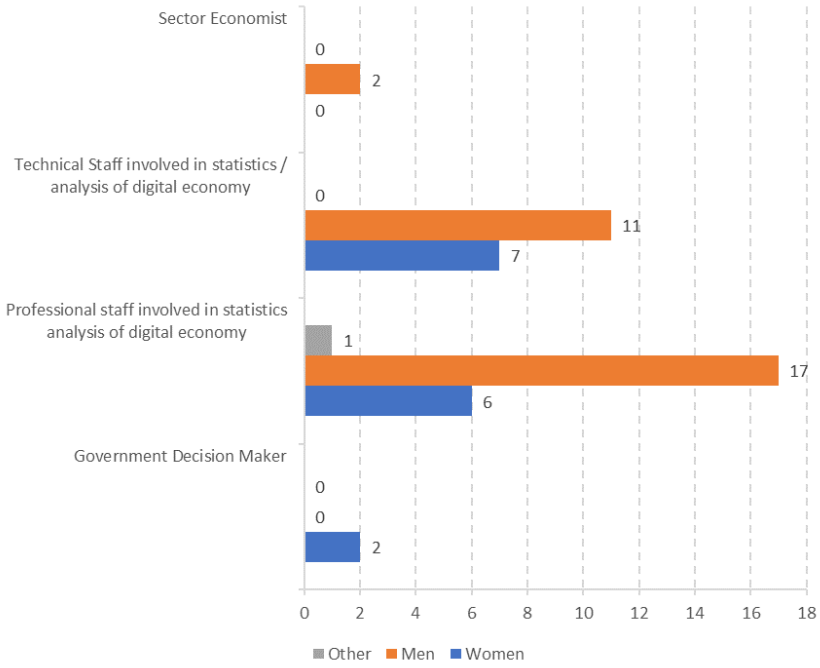
[41] 2020 Gender Equality in Science, Technology, Knowledge and Innovation Report, 28% of people engaged in careers related to science and engineering were women. While women's participation in the Information and Communications Technology (ICT) is only 5% according the Chilean Association of Information Technology Companies.

Figure 8
Survey respondents-gender breakdown



Source: Evaluator, based on the project's final report and the summary of activities and publications document.

Figure 9
Survey Respondents' Work Position / Role–Gender Breakdown



Source: Prepared by the evaluator, on the basis of the project's final report and the summary of activities and publications document.

92. The Big Data Survey, consistent with other statistics available on the technology sector, reflects the limited number of women involved, accentuating the digital gap existing between men and women.

93. Given the project's focus, there has, not surprisingly, been a strong technology focus. However, looking to the future, it is worth reflecting on whether there is scope to further leverage technology, in particular online learning, to further increase the post-project rationale and impact of training material developed, with a view to creating increased self-learning options, and increased impact and sustainability prospects.

FINDING 11: Big data techniques have become a reliable tool to measure socio-economic issues, when used in the combination with traditional statistics to measure SDGs.

94. With regard to whether the project managers had effectively taken into consideration human rights in the design and implementation of the big data project and its activities, it is necessary to consider the statement that **digital technologies facilitate economic growth, social inclusion and the sustainable use of natural resources,** while big data and artificial intelligence contribute to the monitoring of the SDGs. The first step is the possibility of measuring the existing situation. Measuring is a powerful tool to generate change, in this case economic change. Throughout the different workshops and seminars, presentations showed how big data techniques are being used to monitor and support evidence-based policies. A practical example presented in one of the seminars was monitoring of SDG 1: Poverty Eradication, including the monitoring of poverty, price indexes and social-economic indicators, which is important in the development of relevant and evidence-driven policies. Thus, the open algorithms have become a new paradigm for using private data for social good.

95. While the project's main concern has been data collection and methodology of data extraction and analysis, it should be borne in mind that the analysis carried out included labour markets and digital skills, prices of technical products, connectivity, and social media in relation to demographic aspects and link to the Sustainable Development Goals.

FINDING 12: Adjustment of activities and modality due to COVID-19 enhanced the urgency to incorporate big data techniques in the measurement of an Internet economy that has seen exponential growth during the pandemic.

96. In spite of all of the loss of life, suffering and socio-economic damage generated by the COVID-19 pandemic, in the particular case of the big data project it has helped to bring a greater sense of urgency by showing openly the existing digital divide across the populations in the Latin American and Caribbean countries and across the world. What is more, COVID-19 has directly targeted the most economically fragile sectors. This has also shown the flexibility and creativity of the informal economy and how technologies have been used in unexpected ways, with, for example, social media, such as Facebook, Twitter and WhatsApp used as marketing tools to reach new clients.

97. The big data project has adjusted some implementation modalities, including moving planned face-to-face meetings online and substituting webinars for the original classroom training workshops foreseen. The technical support provided had already created a solid network benefiting from accessibility and timely delivery of advice. Overall, the project has adjusted well, and the increased online collaboration has generated increased online content and resources and shown that technology can also allow faster and more cost-efficient and lower-carbon collaboration, as well as building skills among project target groups in such online collaboration. Technical material that before was a constraint (laptops and PCs, access to fast broadband) became a basic need to continue working, and while the different NSOs had some initial challenges, these were for the most part quickly solved.

98. At the wider level, COVID-19 has shown the urgency and importance of investing more in building the capabilities and providing the necessary equipment to work in the digital economy and in leveraging the potential of big data; otherwise. the Latin American and Caribbean region risks being further left behind.

5. CONCLUSIONS

99. The principal conclusions of the evaluation are set out below.

5.1 RELEVANCE

CONCLUSION 1: The Development Account Project 1617Y was highly relevant to the project countries' needs and the wider needs of ECLAC member States across the region.

100. The project design was extremely relevant to the project countries and to the wider needs of ECLAC member States, as has been presented in Findings 3 and 4.

101. The project's training and capacity-building effort was highly relevant to the needs of the beneficiaries. It has also helped underline the scale of the need for capacity development and skills and competencies transfer across national government and digital economy actors, and the importance of creating a comprehensive strategy and framework.

5.2 EFFECTIVENESS

CONCLUSION 2: The project completed all the designed activities by adapting them to the existing capacities and technical context of each project country as well as by incorporating the governments' needs of the region in relation to the big data measurement issues and constraints.

102. The project has achieved a rather impressive scale of capacity development delivery, in terms of training interventions delivered and number of persons receiving training. These trainings, and the support provided to the NSOs by the external experts and technical ECLAC unit, have built capacity levels (skills and knowledge) around the use of big data technologies to measure the digital economy and carry out data analysis across economic sectors.

103. Similarly, the level of project publications and knowledge outputs, spanning technical reports, training materials, policy papers and other event and workshop technical inputs, has been impressive, and has contributed to making the pilot nature of this big data project more effective by providing a strong resource base of content and knowledge to take forward and leverage in the post-project period.

104. The project recorded a high level of achievement of its targeted outcomes. The two expected indicators EA1 and EA2 were achieved.

105. As a project with a strong pilot dimension, the project has provided useful learning/lessons learned, discussed in Section 6 below, that can bring value to the design of follow-up initiatives.

5.3 EFFICIENCY

CONCLUSION 3: Overall the project was efficiently implemented given the state of the art regarding big data existing in the region at the time of the project's launch, while the scale of some activities, such as the capacity development work and knowledge creation and technical reports and publications, when set against the project budget size, has meant that the project has provided value for money.

106. From an efficiency standpoint, the project scored relatively high in terms of the scale of the capacity development work, in terms of numbers reached. Similarly, the relatively high level of knowledge creation, training material, technical reports and publications generated, when set against the relatively modest size of the project budget, has been another area of efficient performance and has meant that the project has provided value for money.

107. Another strength of the project's implementation was the additional financing resources mobilised beyond the core Development Account project budget, mostly in-kind funding for event-related costs. Overall, the project has secured relatively good value for money.

108. The project management performance from ECLAC also contributed positively to the efficiency of the project implementation effort. Project management was proactive in trying to get things done, as well as reacting quickly to challenges or new situations, or in providing support to the project countries. This reactivity was also in evidence as the project adapted to better meet the challenge posed by the COVID-19 pandemic.

5.4 SUSTAINABILITY

CONCLUSION 4: The project shows good sustainability prospects, with capacities created being sustained and policy and strategy-level gains, as well as changes in national statistical institute practices and improved statistics co-ordination.

109. There are good prospects for sustainability, in particular in the short-term, with key national target institutions incorporating project-delivered tools in their work plans and institutional and work practice changes to adopt the new digital technologies in the relevant units. The project has also had some success in building a collaborative environment across the four target countries, while the technical exploratory exercises using big data can also be replicable across other Latin American and Caribbean countries and organizations.

110. Thus, the project results show good prospects for meeting the ECLAC Development Account criteria that DA-funded interventions should lead to durable, self-sustaining initiatives to develop national capacities. Furthermore, sustainability prospects have been bolstered by results secured at the policy level, in particular the agreement on goal 29 of the Digital Agenda for Latin America and the Caribbean (eLAC2020), as well as by the national strategies, plans and initiatives developed under EA2 in Brazil, Chile and Colombia.

111. This project has also helped to identify that new technologies and data innovation requires institutional adjustments and new capacities. The economic landscape is changing and organizations must transform at a rapid pace to meet the demands of digital if they want to benefit from the digital economy.

112. In order to increase the project's sustained impact, ECLAC member countries will also need to ensure existing policies and laws to promote big data are enforced (e.g. on data sharing between agencies and departments), and that budgets are allocated for national statistical institutes and others to ensure that they have access to the requisite training and equipment.

5.5 CROSS-CUTTING ISSUES

CONCLUSION 5: The project has shown relatively good consideration of cross-cutting issues, in particular gender equality, as well as the efficient use of technology to monitor the SDGs.

113. The primary cross-cutting issue addressed by the project has been gender equality. One of its strengths was the partnership with the Regional Alliance for the Digitalization of Women in Latin America and the Caribbean, which promotes the participation of women in science, technology and innovation. The project has raised awareness of the low level of women's involvement in those fields.[42] Big data techniques are becoming a reliable tool to measure and monitor indicators related to the SDGs and support evidence-based decision making and policies

114. Given the project's focus, there has — not surprisingly— been a strong technology focus. That said, there may be scope to further leverage technology, in particular online learning, to further increase the post-project rationale and impact of training material developed.

[42] 2020 Gender Equality in Science, Technology, Knowledge and Innovation Report, 28% of people engaged in careers related to science and engineering were women. While women's participation in the Information and Communications Technology (ICT) is only 5% according to the Chilean Association of Information Technology Companies.

6. LESSONS LEARNED

6.1 LESSONS LEARNED

115. The project, the first of its kind implemented in Latin America and the Caribbean, has been a valuable source of learning in a number of respects as expressed by both the beneficiaries and the ECLAC team. The following are the most relevant lessons learned from the project.

116. **Lesson Learned 1 - Technical capacity building is a long-term and ongoing process:** As the extension on the implementation period has demonstrated, there is a need to provide sufficient time and resources for the pilot exercise to be implemented and adopted.

117. **Lesson Learned 2 - Developing collaboration between units/departments and other institutions requires time, understanding and trust:** Time was needed to also develop the trust and establish the basis for collaboration with other units /departments and/or institutions / organizations during the implementation of the project, for example, to develop a memorandum of understanding between the NSO and the data providers. In the case of Brazil, even when the units/departments were under the umbrella of the same institute, it took some time to achieve a direct and responsive collaboration between the units of the IBGE. This collaboration has continued after the project implementation, strengthening the team and allowing a more efficient use of internal resources.

118. **Lesson Learned 3 - Differing country data access and remit situations:** The project activities have emphasized the importance of taking into account the differing situation and needs from one country to another. In Colombia, for example, one issue is the lack of information for micro- and mini-enterprises, which effectively restricts the work of the national agency DANE to medium and large enterprises. Another issue is access to data, even when it exists. In Colombia for example, DANE has not been able to link tax data and enterprises, as this requires data transmission from the Directorate of National Taxes and Customs (DIAN), which reserves the right to provide the information or not; even though the law requires the data to be shared; it was still not possible. The same issue of transmission of data was faced in Chile, between the INE and the SII. This highlights the importance of carrying out a comprehensive mapping of stakeholder' remits and capabilities, as well as an ecosystem-level analysis of the big data 'landscape in each country, in a manner that it can be used as a strategy setting, planning and management tool.

119. **Lesson Learned 4 - Differing national statistical institute structures, co-ordination and remits:** Closely linked to the above is the issue that the structure, competence and remit of national statistical institutes varies across countries. In Chile, for example, the national statistical institute (INE) does not have total access to data on tax contributions, while in Brazil and Mexico the counterpart agencies (IBGE and INEGI) have access to financial data through other units of the same institution. This factor also partly explains why both Brazil and Mexico have achieved somewhat more under the project than Colombia.

120. **Lesson Learned 5 - The effectiveness of the professional training workshops has varied somewhat, depending on national statistical institutes' structure, mandate, collaboration practices and network, and capacities and access to resources**. Project implementation required a tailored adaptation to each country NSO according to their legal mandate and institutional structure as mentioned in the previous lessons learned. In Mexico and Brazil, for example, the existing collaboration between the units and departments and/or different institutions was reinforced with implementation of the project, resulting in better and long-term collaborations, such as developing new projects with other ministries.

121. **Lesson Learned 6 – This kind of project can be an important catalyst for innovation, including technological, process-related and organizational innovation:** Related to the above lesson learned and the following one, the project has been a catalyst for innovation in terms of new or adapted co-ordination and work process among national statistics actors, both inside national statistical institutes and between national statistical institutes and other actors in the national statistics system. Furthermore, as mentioned above, the project has also fostered innovation through some of the project tools that have been appropriated by national statistical institutes and other national agencies.

122. **Lesson Learned 7 – Potential for creating multiplier impacts:** This pilot exercise has also shown the potential for interventions supporting bid data and the digital economy to foster innovative practices and approaches, as well generate new collaborative and network-based initiatives. Not only has this been seen in the national statistical institutes appropriation of new and innovative work tools and competencies into their institutional workings, but also in fostering new inter-agency and inter-departmental co-ordination and collaborative efforts. This can be seen in the project's support to INE to develop a memorandum of understanding (MoU) with SII, and the project's potential for generating multiplier impacts. Though the MoU was not successful, it created impetus for a re-organization of the national statistical system.

123. **Lesson Learned 8 - Importance of holistic/systemic approaches:** Closely related to the above lesson learned, this project has also shown the importance of taking a holistic and comprehensive approach, which looks at institutional capacities and policy, legal and regulatory levels. This has been a strength of the project, and its importance can also be seen in the multi-faceted nature of some of the challenges to be addressed. However, this has also demonstrated the potential for the project to create impetus for a re-organization of the national statistics system.

124. **Lesson Learned 9 - Impact of COVID-19:** The COVID-19 challenge, and the emergencies it has generated both in the region and globally, has seen the potential for big data management to emerge as a crucial, even life-saving, capability for many countries. COVID-19 has accelerated trends that were already underway, opening access to scientific publications, increasing the use of digital tools, enhancing international science, technology and innovation (STI) collaboration and fostering a variety of public-private partnerships. However, with people forced to work from home, digital services such as Facebook and Amazon became "quasi-public".

125. COVID-19 has also led to massive investments in research on vaccines and treatments, but also produced innovations to deal with the impacts of "social distancing" measures, such as improvements in digital tools to work remotely. In the case of big data management and measuring, governments need to evaluate and address the socio-economic costs of the crisis.

126. Many companies in the digital sector – already leading sources of research and development investment prior to the crisis – grew as the COVID-19 crisis hit, as digital tools proved essential to limiting the costs of social distancing measures. The pandemic has also led to increased demands on science, technology and innovation (STI) actors to provide solutions which also have created crucial challenges for STI systems, generating uncertainty around its near-term and long-term impacts, particular regarding the STI policy responses to COVID-19.

6.2 GOOD PRACTICES

127. This section presents the different good practices identified throughout the process of evaluation by the evaluator and also mentioned by the different interviewees and provided in the Big Data Survey.

128. **Leveraging ECLAC comparative advantages:** The project has generated a number of good practices, which can be further leveraged in larger follow-up projects with a replication and/or scaling dimension. A first good practice is the comparative advantage that ECLAC can bring to this

work, through its **close knowledge of, and access to**, key big data actors across the governments of Latin American and Caribbean member States and its **convening capacity and role** with regard to policy discussion and development. This has been an important asset in this project, as seen in the implementation and lessons learned, where this convening power was important in helping to achieve specific policy and national outcomes under EA1and EA2.

129. **Innovative inter-agency working arrangements:** The encouraging of new inter-agency or departmental co-ordination between national agencies or departments that hitherto were not co-ordinating or collaborating, but where an effective big-data ecosystem required such co-ordination, has been another good practice of this project. This is also an example of where ECLAC corporate assets have been leveraged to facilitate such results, where other parties (for instance an external technical assistance provider or consultancy) would likely not have been able to achieve such a result, or at least would have taken longer because they did not possess the same authority and historical relationships with Latin American and Caribbean member government agencies and actors.

7. RECOMMENDATIONS

130. This chapter provides the recommendations that aimed to address the main challenges identified and outlined in the findings and conclusions in order to strengthen future activities in the sector.

7.1 RECOMMENDATIONS-SUMMARY

131. The table below sets out a summary of the recommendations.

Table 3
Overview of Evaluation Recommendations

No.	Recommendation	Area	Linkage to Evaluation Conclusion
	Recommendations to ECLAC		
R1	The activities around technical capacity development and training in the use of new digital technologies carried out in Brazil, Chile, Colombia and Mexico should be continued to further develop the expertise in the relevant stakeholders to standardise models using big data to carry out a real monitoring of the results of policies.	Effectiveness Sustainability	Conclusion 2 Conclusion 4
R2	ECLAC should consider whether there is scope and value in taking the training material assets generated during the project, and creating an online learning version and/or blended learning version to allow i) greater scope for national actors to take some of this learning remotely, or with remote or in-class facilitation; and (ii) increasing the reach and impact of these training content assets in other countries.	Cross-Cutting Issues Sustainability	Conclusion 5
R3	Develop a comprehensive and dynamic mapping of ECLAC member countries' digital economy structure, remits, needs, challenges, strengths and weaknesses.	Effectiveness Sustainability	Conclusion 2 Conclusion 4
R4	Develop a medium-term sustainability strategy to allow ECLAC to optimize prospects for accelerated and sustained support and impact to member countries in the area of big data.	Sustainability	Conclusion 4
R5	Develop a short-to-medium-term financing strategy and plan to allow ECLAC to optimize prospects for accelerated and sustained support and impact to member countries in the area of big data and to secure a quantum leap in financing in the area of big data and the digital economy.	Relevance Effectiveness Sustainability	Conclusion 1 Conclusion 2 Conclusion 4
	Recommendations to ECLAC Member Countries		
R6	ECLAC member countries need to ensure existing policies and laws to promote big data are enforced (e.g. on sharing of data), and that budgets are allocated for national statistical institutes and others to ensure that they have access to the requisite training and equipment.	Sustainability	Conclusion 4
R7	Develop a short-to-medium term financing strategy and plan to secure institutional financing in the area of big data and the digital economy.	Sustainability	Conclusion 4

Source: Prepared by the evaluator, on the basis of the project's final report and the summary of activities and publications document.

7.2 RECOMMENDATIONS FOR ECLAC

Area: *Effectiveness and sustainability linked to Conclusions 2,4.*
RECOMMENDATION 1: *The activities around technical capacity development and training in the use of new digital technologies carried out in Brazil, Chile, Colombia and Mexico should be continued in order to further develop the expertise in the relevant stakeholders to standardise models using big data to carry out an effective monitoring of the results of policies.*

132. Only four out of the 33 Latin American and the Caribbean countries that are members of ECLAC received specific tailored technical support, thus further development is needed for the other countries of the region to achieve concrete results on the measurement of the digital economy to analyse the socio-economic development of the region and develop relevant and accurate polices that are monitored on its results and successes. Particular attention should be paid to those countries that need to strengthen their NSO and access to pertinent technology.

Area: *Cross-Cutting Issues (and Sustainability) linked to Conclusion 5.*
RECOMMENDATION 2: *ECLAC should consider whether there is scope and value in creating an online learning and/or blended learning version of the training materials generated during the project to allow i) greater scope for national actors to have access to some of this learning remotely, or with remote or in-class facilitation; and (ii) increasing the reach and impact of these training content assets in other countries.*

133. Given the project's focus, there has not surprisingly been a strong technology focus. However, looking to the future, it is worth reflecting on whether there is scope to further leverage technology, in particular online learning, to further increase the post-project rationale and impact of training material developed, with a view to creating increased self-learning options, and increased impact and sustainability prospects.

134. A number of sub-options could be explored, for example considering the potential for online learning versions and/or blended learning versions. If deemed feasible and of value, this would allow increased scope for national actors to take some of this learning remotely, or with remote or in-class facilitation; and would also allow ECLAC and its member countries to increase the reach and impact of these training content assets in other Latin American and Caribbean countries.

Area: *Effectiveness and Sustainability linked to Conclusions 2,4.*
RECOMMENDATION 3: *A comprehensive and dynamic mapping of the digital economy structure, remits, needs, challenges, strengths and weaknesses of ECLAC member countries should be developed.*

135. This knowledge to some extent exists[43] but does not seem to be structured as a resource which can optimally facilitate its use for further needs analysis, planning and strategy setting. Similarly, if this information is collated into a user-friendly tool/interface (e.g. a monitoring dashboard), it can facilitate not only planning and strategy-setting but also the detailed design of new interventions to address key obstacles, challenges and opportunities. It will also support increased exchange of experience and collaborative work/networking, as it will allow each country to compare its national ecosystem.

136. While this could be done in at least a first iteration by ECLAC, another implementation option would be for ECLAC to co-ordinate this in a decentralised manner, with national statistical institutes doing this using a structure, template and process created by ECLAC. (For this reason, it appears here under 'recommendations for stakeholders'). This action would help to further structure and distil some of the existing learning from the four project countries, which could then be used as an example for the ECLAC member countries across the Latin American and Caribbean region. It could provide additional support to national self-assessment and needs identification, and to increased take-up from the existing project, thereby increasing the big data project's sustained impact.

[43] For example, highly relevant elements are contained in the needs analysis in table 1 of the project document.

Area: *Sustainability linked to Conclusions 4.*
RECOMMENDATION 4: *A medium-term sustainability strategy to allow ECLAC to optimize prospects for accelerated and sustained support and impact to member countries in the area of big data should be developed.*

137. ECLAC should develop a medium-term sustainability strategy to optimize prospects for accelerated and sustained support and impact to member countries in the area of big data, including:

(a) assessing how support to ECLAC member countries can be strengthened, including greater on-call support and mentoring
(b) exploring how some key areas of expertise and competencies can be internalized, either in ECLAC itself (e.g. ECLAC technical unit) or in a separate unit.

Area: *Relevance, Effectiveness, Sustainability linked to Conclusions 1, 2, and 4.*
RECOMMENDATION 5: *A short-to-medium-term financing strategy and plan to allow ECLAC to optimize prospects for accelerated and sustained support and impact to member countries in the area of big data and to secure a quantum leap in financing in the area of big data and the digital economy should be developed.*

138. With a view to maintaining momentum, ECLAC should develop a specific follow-on project concept to the Development Account big data project, building on some of the key strengths and lessons learned of the current project.

139. To fully leverage and add value to efforts to maximise project sustainability, it is recommended that ECLAC develop a short-to-medium term financing strategy and plan to secure a quantum leap in financing in the area of big data and the digital economy. The pandemic has accelerated the rate of growth of parts of the digital economy[44], and this trend will most likely continue. For the Latin American and Caribbean region, as growth in the digital economy proceeds apace, there is a risk that that the digital gap will widen rather than narrow. Moreover, in the wider scenario, it is likely that the Latin American and Caribbean countries will need to rapidly strengthen their big data and digital economy skills if they want to optimally position themselves for new investment opportunities as the USA seeks to near-shore supply chains back from China. The ECLAC big data project has contributed to catalysing the increase in awareness of big data, and the wider digital economy, and identifying market and funding opportunities to secure a quantum leap in financing and new interventions will be an important challenge in operationalising the ambitions set out in regional and national strategies and programmes. This would allow ECLAC to also increase its catalytic role and influence on the development of the sector in the region, complementing any specific plans for a follow-up project or projects to this big data project.

140. This work could include:

- Carrying out a market research/scan to identify the range of possible financing sources and types, such as grant funding, private finance, blended finance and shared-cost funding. Regarding finance providers, this could include United Nations system sources, providers of classic development financing (bilateral and multilateral) or research programmes such as the EU Horizon Europe.
- Linked to the market study findings, considering what types of interventions and models could be developed, adapted to different types of funding and the requirements of specific programmes.
- Looking at which funding sources and programmes would be relevant for specific Latin American and Caribbean big data stakeholders, including national statistics organizations, other government bodies, private companies and civil society.

[44] Already, prior to the pandemic in 2018, some e-commerce experts were predicting that by 2024 the turnover generated by e-commerce in the USA would equal offline retail, before then overtaking it.

- Looking at how ECLAC and member countries could create increased emphasis on models that can be scaled or replicated, with a view to exploring blended financing solutions (such as the EU Latin America Investment Facility (LAIF).

7.3 RECOMMENDATIONS FOR ECLAC MEMBER COUNTRIES

Area: *Sustainability linked to Conclusion 4.*
RECOMMENDATION 6: *ECLAC member countries must ensure that polices and laws exist to promote big data and reenforce data sharing between agencies and departments, in order to strengthen sustainability and accelerated the development of big data use.*

141. While progress has been made on the enabling environment for big data, through new policies and laws, a lack of enforcement is currently constraining the sector from developing more rapidly. The project implementation experience has shown numerous cases where effective development of big data development was being constrained by a lack of enforcement of existing laws and policy regarding areas such as sharing of data between agencies and departments, even where this was foreseen under existing legislation.

142. ECLAC member countries must therefore ensure existing policies and laws to promote big data are enforced (e.g. on data sharing between agencies and departments) in order to strengthen sustainability and accelerate the development of big data.

Area: *Sustainability linked to Conclusion 4.*
RECOMMENDATION 7: *In line with the previous recommendation, ECLAC member countries also must provide adequate budgets for their respective NSOs and other stakeholders in order to ensure that they have access to the requisite training and equipment to make good use of big data in their day-to-day work.*

143. In line with the previous recommendation, ECLAC member countries must also provide adequate budgets for their respective NSOs and other stakeholders in order to ensure that they have access to the requisite training and equipment to make good use of big data in their day-to-day work.

8. FINAL REMARKS

144. The implementation of the big data for measuring and fostering the digital economy in Latin America and the Caribbean project had helped to underline and improve the understanding of some of the challenges around big data analytics, the ethical responsibility that its use demands and the existing problems of access to data. In this regard, the project's implementation underlined the need to establish multi-sectoral partnerships and strengthen public-private cooperation to succeed in the measuring of the digital economy.

ANNEXES

ANNEX 1	METHODOLOGY OF THE EVALUATION
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ANNEX 1

METHODOLOGY OF THE EVALUATION

Evaluation Methodology

1.1 OVERALL APPROACH

This document describes the evaluation methodology for the project ***'Big data for measuring and fostering the digital economy in Latin America and the Caribbean'.*** The methodology developed for this evaluation followed the requirements set out by ECLAC in the evaluation ToR.

The evaluation methodology comprised primarily of an outcomes-based approach, which aimed to measure the achievement of the project's expected indicators and examine broader impacts, as well as investigating what greater good was served as a result of the project implementation. At the same time, the evaluation also looked for insights into the project's effectiveness and efficiency and potential improvements for subsequent projects and interventions in the area of the digital economy through a summative evaluation, and a cost-benefit analysis.

This evaluation also sought to assess how much the project has affected the target beneficiaries (Mexico, Colombia, Chile and Brazil) and tried to establish the degree of benefit provided by the programme to all LAC countries with the completed activities. Although not required in the ToR, a minor assessment of the impact was also carried to quantify whether or not it has been successful and if the changes generated were sustained as they were linked to support decision making in policy changes.

The design of this summative evaluation was based on the evaluability assessment of the project in order to meet evaluation objectives, identification of the most relevant stakeholders to be involved in the assessment, as well as the level of effective management of time and resources. The evaluability assessment focused on the quality of the intervention design, the availability and quality of the information delivered (in particular key documentation) and the context of the evaluation, including COVID-19 restrictions and was carried during the inception report.

This evaluation was initially a theory-based evaluation. The conceptual part that reconstructed the theory of change was carried out during the inception phase to guide the evaluation (see figure 1 - Reconstructed Theory of Change overleaf). The second part involved the collection of evidence to establish whether and how the project produced the desired changes. However, the project's original chain of results from inputs, activities and outputs through outcomes and impact were adapted to accommodate the available big data techniques to the main beneficiaries' capacities in the four pilot countries. The modifications, which allowed the project to continue working and supporting the NSO, changed the linkages between causes and effects.

1.2 EVALUATION OBJECTIVES AND SCOPE

1.2.1 Evaluation Objectives

(a) Review the efficiency, effectiveness, relevance and sustainability of the project implementation,

(b) Document the results attained by the project concerning its overall objectives and expected results according to the project document,

(c) Identify lessons learned and good practices derived from the project implementation, their sustainability, and the potential to be replicated in other countries.

Figure 1
Theory of Change Reconstruction for the Big Data project

<table>
<tr><td>Goal</td><td colspan="5">Improve national capabilities in the LAC region (Brazil, Chile, Colombia & Mexico) to measure the digital economy using big data and traditional statistical techniques to support evidence-based policies to foster the digital development</td></tr>
<tr><td>Outcomes</td><td colspan="3">Outcome EA1: Increase capacity of LAC countries to develop and include the use of Big data techniques in combination with traditional data to measure the Digital Economy.</td><td colspan="2">Outcome EA2: Enhance capacity of selected LA countries to strengthen their Digital Economy through evidence based policies and plans at national level.</td></tr>
<tr><td rowspan="3">Activities</td><td>A1.1: Technical report identifying key experiences in the region and abroad on the use of Big data analytics for policy design and assessment of the digital economy.</td><td>A1.2: Participate in partnership engagement meetings to discuss Big data techniques, case studies, analytical software tools and exchange experiences.</td><td>A1.3: Organisation of one expert meeting with NSO & technical experts.</td><td>A2.1: Elaborate an analytical report on the evolution of the digital economy.</td><td rowspan="2">A2.3: Technical assistance mission to support the beneficiaries' countries in the design of policies & instruments to foster the digital economy.</td></tr>
<tr><td>A1.4: Organisation of one kick off regional workshop.</td><td>A1.5: Organisation of bilateral technical advisory services meetings.</td><td>A1.6: Develop a technical solution (prototype) for measuring digital economy with Big Data in at least 2 countries.</td><td>A2.2: Organisation workshop on digital economy impact on development.</td></tr>
<tr><td>A1.7: 4 national workshops to provide capacity building and training assistance to the 4 beneficiary countries.</td><td colspan="2">A1.8: Organisation of regional seminar to disseminate the experiences of measuring the digital economy using Big Data techniques with participation of LAC countries.</td><td colspan="2">A2.4: Seminar to promote & raise awareness among stakeholders on the need for digital economy policies and actions plans in LAC countries.</td></tr>
<tr><td>Risks & Barries</td><td colspan="5">R1. Political instability. R2. Private stakeholders falled to support the project. R3. Stakeholders inaccurate expectations. R4. Unforeseen budgetary constraints due to cost increases. R5. Technological developmet problems.</td></tr>
<tr><td>Preconditions</td><td colspan="5">i) Alignment with national governmental digital policies. Ii) Positive Market and trade context (nationally and internationally). iii) Willingness of NSO to get engaged in the capacity-building . iv) Receptiveness of LAC enterprises to facilitate data. v) Strong management capability of the coordinator (ECLAC). vi) Experienced target groups in digital politics are willing to network with and shared experience in peer-guided mentoring towards countries in early stages of digitalisation. vii) Qualified human resourses and funding are available. viii) Well-established partnership in previous cooperation continues.</td></tr>
</table>

Source: Evaluator, based on the project's final report and the summary of activities and publications documents.

The assessment also sought to take into account both anticipated and unanticipated key results, and be consultative and engage the participation of a broad range of stakeholders. The unit of analysis is the project itself, including its design, implementation and effects. The assessment was undertaken following the provisions contained in the Project Document and the Terms of Reference of the evaluation developed by ECLAC. The evaluation was conducted in line with the norms, standards and ethical principles of the United Nations Evaluation Group (UNEG)[45] ethical principles as per its "Ethical Guidelines for Evaluation"[46]: i) Integrity, ii) Accountability, iii) Respect and iv) Beneficence.

ECLAC's guiding principles to the evaluation process were applied. In particular, special consideration was taken to assess how ECLAC's activities and products respected and promoted human rights. This included a consideration of whether ECLAC interventions treated beneficiaries as equals, safeguarded and promoted the rights of minorities, and helped to empower civil society. Moreover, the evaluation process, including the design, data collection, and dissemination of the evaluation report, was carried out in alignment with these principles.

The assessment also sought to emphasise assessing the project's adherence to a number of key DA 10 principles:[47]

- Adapt to the needs of the countries and the evolving agenda.
- Build on comparative advantages of the Development Account implementing entities.
- Build on existing initiatives and programmes (coordination).
- Encourage external participation and funding (partnership).

Regarding the "*impact*" and "*sustainability*" evaluation parameters, the evaluation approach would envisage placing particular attention on these two criteria of the six OEDC/DAC evaluation criteria,[48] namely the extent to which the capacity building and training materials and events together with the identification of key standard indicators for measuring the impact of digital technologies in the economy and their effective leverage in the regional and subregional economy, as well as knowledge management and networking.

The lessons learned and good practices identified and shared during the project implementation will be used as tools for the future planning and implementation of projects. As requested by the ToR, the assessment will also examine the extent to which gender concerns were incorporated into the project —whether project design and implementation included women's needs and priorities, whether women were treated as equal players, and whether it served to promote women's empowerment. When analysing data, the evaluator will, wherever possible, disaggregate by gender.

Regarding evaluation target audience and primary users, the target audience and principal users of the evaluation include all project implementing partners and beneficiaries, the Programme Manager of the Development Account (DESA), as well as other Regional Commissions and agencies of the UN system. Regarding *usability of evaluation findings*, the evaluation also sought to be independent, credible and useful, as well as adhere to the highest possible professional standards.

[45] Norms and Standards for Evaluation in the UN System, UNEG, 2016 (http://www.unevaluation.org/document/detail/1914); UNEG Ethical Guidelines for Evaluation, UNEG, 2020 (http://www.unevaluation.org/document/detail/2866)).

[46] UNEG Ethical Guidelines for Evaluation, UNEG, June 2020.

[47] 8b. 10th Tranche Development Account Programme on Statistics and Data (DA10) which the main objective is to strengthen the statistical capacity of developing countries to measure, monitor and report on the sustainable development goals in an accurate, reliable and timely manner for evidence-based policymaking.

[48] Better Criteria for Better Evaluation – Revised Evaluation Criteria, Definitions and Principles for Use, OECD/DAC Network on Development Evaluation, (10 December 2019).

1.2.2 Evaluation Scope

Based on the Terms of Reference, the assessment focused on the project level as the relevant evaluation level. Regarding **temporal scope,** the evaluation will cover the original period of the project implementation, plus the one-year extension (from 31 May 2016 until 31 December 2020).

1.2.3 Evaluability Assessment

The evaluability assessment guided the development of the evaluation report. This informed the evaluator's understanding of the required scope of the evaluation, the optimal design to meet evaluation objectives, identification of the most relevant stakeholders to involve in the assessment, and effective management of time and resources. The three main areas of focus of the evaluability assessment were:

(i) The quality of the intervention design.

(ii) The availability and quality of the information, in particular, critical documentation.

(iii) The context of the evaluation, including COVID-19 restrictions.

For more details on the components of the evaluability assessment that were presented in the Inception Report, please see Annex 1 of the Inception Report Big Data Evaluation ECLAC. As part of the evaluability assessment, the evaluator also held preliminary consultation with the two ECLAC coordinators of the project and the ECLAC project management team.

Regarding the availability of documentation, the evaluator was given access to a dropbox drive with the reports produced during the implementation period. The drive includes numerous documents from Annual Reports to ProDoc and other relevant materials such as presentations and developed material of Big data project. Annex 2 contains a list of 515 documents received and considered relevant by the evaluator to the project assessment. It should be noted that interim financial reports and Certificated Financial Statements were not provided.

During the inception phase, the evaluator also completed a preliminary analysis of relevant stakeholders and a full list of interviewees (Partners and Donors) who will contribute to the evaluability assessment (see Annex 6 of the Inception Report Big Data Evaluation ECLAC).

This evaluation scope included the main modifications that the project design underwent in its four-and-a-half-year implementation period and the relevance of the two main project outcomes.

1.2.4 Evaluation Management

As per the ToR the evaluator worked independently, reporting to the ECLAC, with ECLAC provide organizational support to the evaluation in key areas, including supporting beneficiaries contact and interview set-up, including initial contact with beneficiaries to present the assessment and the evaluator. Following this presentation, the evaluator will directly arrange the interviews with available beneficiaries.

1.3 EVALUATION CRITERIA AND QUESTIONS

The evaluation questions followed the requested ToR criteria. They were presented in an Evaluation Matrix that synthesises the methodology and indicates the issues that have been addressed, performance indicators, variables to consider, sources of information, triangulation, and the methods of information collected used. The Matrix has included the set of questions put forward in the ToR, re-organised and complemented them. The Matrix also has been the basis for the evaluator preparing the interview guides and survey questionnaire according to the type of stakeholder interviewed or surveyed concerning their involvement with the programmes. The Evaluation Matrix is presented overleaf.

EVALUATION MATRIX

EVALUATION CRITERIA	EVALUATION QUESTIONS	PERFORMACE INDICATORS / VARIABLES TO CONSIDER	POTENTIAL SOURCES OF DATA COLLECTION/ TRIANGULATION
RELEVANCE			
Extent to which the project and its activities are suited to the priorities and policies of the region and countries at the time of formulation and to what extend they are linked or related to the ECLAC mandate and programme work.	EQ1. What was the relevance of the project to regional and country needs?	▪ Extent to which the project design properly addressed the issues identified in the region. ▪ Extent to which the objectives were relevant to the countries' development needs and priorities. ▪ Extent to which the project objectives remained relevant throughout the project implementation. ▪ Beneficiaries level of satisfaction with project relevance. ▪ Extent to which the project goals were linked to ECLAC's mandate and work programme.	• ProDoc and other core project documents. • Project progress reports. • Various project outputs. • Video interviews. • Online survey. • Additional wider information on Big data technology in the LAC region.
	EQ2. What was the quality of the project design to the regional and country needs?	▪ Extent to which the project design properly addressed the issues identified in the region. ▪ Extent to which the project design process showed adequate consultation of relevant stakeholders. ▪ Beneficiaries level of satisfaction with project relevance. ▪ Extent to which the problem analysis defined both i) the initial situation and ii) the major problem conditions with sufficient precision.	• ProDoc and other core project documents. • Project progress reports. • Various project outputs. • Video interviews. • Online survey. • Additional wider information on Big data technology in LAC region.
		▪ Extent to which the problem analysis identified in the project design has realistic cause-effect relationships among problem conditions faced. ▪ Extent to which the project design shows good anticipation of the required activities and implementation approach to meet the needs identified in the target countries and region. ▪ Extent to which project governance and management structures were clearly defined and established, and appropriate of same to the project objectives and activities.	• Video interviews. • Online survey. • Additional wider information on Big data technology in LAC region.

EVALUATION CRITERIA	EVALUATION QUESTIONS	PERFORMACE INDICATORS / VARIABLES TO CONSIDER	POTENTIAL SOURCES OF DATA COLLECTION/ TRIANGULATION
EFFICIENCY			
Measurement of the outputs (qualitative and quantitative) in relation to the inputs.	EQ3. What was the overall efficiency of the project implementation?	▪ Extent to which project governance and management structures of the project contributed to effective project implementation? ▪ Degree to which a continuous capacity strengthening process was established during the project, in concert with country authorities and partners. ▪ Extent to which the project procedures contributed positively to efficient and effective project implementation? ▪ Quality of the project management performance. ▪ Degree to which invested resources produced the planned outcomes.	• ProDoc and other core project documents. • Project progress reports. • Project financial reporting, in particular budget drawdown and absorption. • Various project outputs. • Telephone interviews (NB interviews with ECLAC project implementation staff). • Online Survey.
		▪ Extent to which required resources were available in a timely manner and utilized as planned. ▪ Extent to which outcomes were achieved on time. ▪ Extent to which the project implementation chose more/ most efficient implementation paths? ▪ Beneficiaries level of satisfaction with project management and general efficiency of project implementation. ▪ Extent to which partner contributions were optimized and any complementarities synergies developed? ▪ Extent to which ICTs were leveraged to maximize efficiency of project implementation, communication, knowledge-sharing and dissemination.	• ProDoc and other core project documents. • Project progress reports. • Project financial reporting, in particular budget drawdown and absorption. • Various project outputs. • Telephone interviews (NB interviews with ECLAC project implementation staff). • Online Survey .
EFFECTIVENESS			
Extent to which the activities attain its objectives and expected achievement of its target outcomes?	EQ4. What was the overall effectiveness of the project, in terms of achievement of its target outcomes?	▪ Degree of project achievement of targeted project results. ▪ Extent to which comprehensive analysis for measuring digital economy and use of Big data was provided to national policy makers.	• ProDoc and other core project documents. • Project progress reports. • workshop presentations, workshop reports, capacity development approach.
		▪ Degree to which technical capacities of LA countries to design and apply policies for measuring digital policies and	• ProDoc and other core project documents. • Project progress reports.

EVALUATION CRITERIA	EVALUATION QUESTIONS	PERFORMACE INDICATORS / VARIABLES TO CONSIDER	POTENTIAL SOURCES OF DATA COLLECTION/ TRIANGULATION
		use digital economy (in order to reduce poverty and support economic growth) were enhanced. ▪ Extent to which the project contributed to increase regional collaborations to promote standard digital indicators and supporting the digital agenda eLAC2018. ▪ Beneficiaries level of satisfaction with quality and timeliness of the outputs and services? ▪ What factors have contributed to achieving or not achieving the intended outcomes? ▪ What factors contributed to effectiveness or ineffectiveness? ▪ To what degree were approaches such as a human rights-based approach to programming, gender mainstreaming and results-based management understood and pursued in a coherent fashion? ▪ Has the project made any difference in the behavior/attitude/skills/performance of the clients? ▪ How effective were the project activities in enabling capacities and influencing policy making? ▪ Are there any tangible policies that have considered the contributions provided by the project in relation to the project under evaluation?	• Various project outputs (e.g. workshop presentations, workshop reports, capacity development approach etc.). • Telephone interviews. • Online Survey. • Additional wider information on digital economy in LAC region.
SUSTAINABILITY			
Extent to which the benefits of the project are likely to continue after funding has been withdrawn.	EQ5 What have been, and are, the prospects for sustained project impact?	▪ Extent to which project outputs delivered will be sustained by national capacities after project completion? ▪ Extent to which project outcomes are expected to have a lasting impact on beneficiaries' access to knowledge and technical capacity in the medium- to long term. ▪ Extent to which the project has (or will) contributed to strengthening LAC government capacity to design and implement measurable digital policies for a strong digital economy? ▪ Extent to which follow-up support after the end of the activities have been discussed and formalized ▪ Extent to which the project demonstrates potential for replication and scale-up of successful practices.	• ProDoc and other core project documents. • Project progress reports. • Various project outputs (e.g. workshop presentations, workshop reports, capacity development approach etc.). • Telephone interviews. • Online Survey. • Additional wider information on digital economy in LAC region.

EVALUATION CRITERIA	EVALUATION QUESTIONS	PERFORMACE INDICATORS / VARIABLES TO CONSIDER	POTENTIAL SOURCES OF DATA COLLECTION/ TRIANGULATION
CROSS-CUTING ISSUES			
Human rights and gender equality and non-discrimination.	EQ6. To what extent have the project managers effectively taken into consideration human rights and genders issues in the design and implementation of the Big data project and its activities?	▪ Extent to which the human rights and genders issues have been incorporated in the implementation.	• ProDoc and other core project documents. • Project progress reports. • Telephone interviews. • Online Survey.
SDGs	EQ7. To what extent has the Big data project contributed to the achievement of SDGs?	▪ Extent to which Big data project has contributed (if any) to the achievement of SDGs or supported their achievement.	• ProDoc and other core project documents. • Project progress reports. • Telephone interviews. • Online Survey. • Additional information on digital economy in LAC region.
Innovation and reliable data.	EQ8. To what extent has the innovative aspects of the Big data project (addressing new topics or using new means of delivery or a combination thereof) proved successful in gathering reliable data and measuring the digital economy?	▪ Extent to which the Big data techniques have been adopted and extended during and after the implementation. ▪ Incorporation and utilization of the Bi data in the NSOs to generate new data and analysis.	• Project progress reports. • Telephone interviews. • Online Survey. • Additional wider information on digital economy in LAC region.
Risk management, contingency plans and mitigating activities.	EQ9. To what extent has the Big data project undergone adjustment, if any, to its activities and modality as direct consequence of the COBID-19 situation or in response to new priorities of Member States?	▪ Changes and/or modifications incurred during in the implementation due to the COVID- 19 and/or incorporation of new priorities of Member States.	• Project progress reports. • Telephone interviews. • Online Survey. • Additional wider information on digital economy in LAC region.

1.4 DATA COLLECTION

The Data collection strategy was designed to draw conclusions based on the triangulation of information collected from primary and secondary sources through different methods. The strategy has considered the specific characteristics of the beneficiary countries (Mexico, Colombia, Chile and Brazil) and the LAC countries in general. The strategy aimed to analyse all specific aspects of the project in an effective and efficient manner as well as facilitate the triangulation and validation of information among project beneficiaries and participants and the assessment of the contribution of all activities towards the project objectives.

1.4.1 Secondary Data Collection and Document Review

The Secondary data collection consisted of reviewing and analysing the project documentation. Collected evidence included progress reports, research and studies, workshop reports and technical material produced during the Big data project implementation.

During this initial phase, the evaluator prepared a list of the received documents that built up the Bibliography of the evaluation, as well as other documentation that was considered to be pertinent for the background and to determine the state of the art of the Big Data techniques in Latin America and the Caribbean.

The process of identifying and reviewing the documents was initiated at the inception report phase and continued throughout the evaluation, with the reviewing of additional documentation provided by the beneficiaries and project manager.

1.4.2 Primary Data Collection

The evaluation collected primary data to ensure sufficient coverage and insight into the role and functioning of the project. The primary data collection was carried through i) an electronic survey targeting relevant stakeholders that would have in one way or another participated in either the workshops and trainings delivered during the implementation of the project. And ii) video conference interviews with the key stakeholders and beneficiaries of the project.

As part of the stakeholder mapping exercise, lists of the 14 workshops, seminars and technical training events undertaken by the project were provided to the evaluator, with 564 participants. Some of these names were repeated as several people participated in various events and activities. After the clean-up of the list and the preparation of a unique global list of participants by the evaluator, the number of people was 543.

The key beneficiary country interviews were a key source of information to complement and validate the qualitative information gathered through the desk review and the online survey. They provided in-depth information that allowed all evaluation criteria (relevance, efficiency, effectiveness and sustainability) analysis. The list of direct beneficiaries was established, and of the suggested list, nine people were finally interviewed from the four beneficiary countries.

For the interviews, the evaluation used a judgement sampling approach to select the different key actors of the project: ECLAC Staff, implementing partners, the stakeholders and beneficiaries. The initial judgement sampling was also combined with snowball sampling provided by ECLAC staff and the direct beneficiaries to avoid the risk of sampling bias and as a strategy to mitigate a reduced sample of key actors. The evaluator used several tools for the gathering of the data. For primary data collection, the evaluator relied on in-depth and semi-structured interviews, and some focus group discussions when possible, and the completed surveys.

1.5 METHODOLOGICAL CHALLENGES AND LIMITATIONS

The evaluator identified the following challenges and/or possible limitation in the evaluation process:

1. **Challenge 1 – Securing sufficient stakeholder consultation:** Identifying project stakeholders was assessed as possibly being more difficult, given that some direct beneficiaries might have changed roles. More importantly, some key target persons in the national government ministries may have changed work role.
    - **C1 – Risk Mitigation:** ECLAC's role in this part of the work, in supporting the implementation of the online survey and telephone interviews, was expected to help significantly in countering the risk of insufficient stakeholder participation in consultation.

2. **Challenge 2 – Impact of Time Lapse:** A second possible area of challenge was the impact of the time lapse on at least some stakeholders.
    - **C2 – Risk Mitigation:** It was expected that this challenge could be managed by targeting the key project managers and implementation actors with ECLAC, while the separate desk research programme will also provide an independent and valuable information baseline for the evaluation consultant. Secondly, the structured nature of the online survey also facilitated to a significant extent the direct project beneficiaries being able to complete the survey (as it was focused on soliciting views and assessment rather than seeking answers that required factual data).

3. **Challenge 3 – Data and Information Availability:** Based on the ongoing mapping of project-related data on activities implemented, it appears that significant information gaps exist with regard to activities carried out and implemented, including workshop reports, training reports etc. The participant lists for the various events were also missing information in relation to the position and role they play in the implementation of this project.
    - **C3 – Risk Mitigation:** The evaluation consultant developed a list of information/project outputs references in the project reporting and will provide this to ECLAC with a view to identifying other project documentation relevant to the evaluation.

1.6 DATA ANALYSIS

The analysis process of the primary and secondary data gathered consisted of:

- The primary and secondary data analysis provided a set of findings for each evaluation criteria defined.
- The cross-examination of the findings according to each beneficiary country and less developed countries. Special attention was given to assess whether promoted gender equity and human rights equality were part of the project interventions.
- Strategic issues as the role of the project and possible synergies and contributions to outcome results were identified.
- The analysis focused on responding to the questions from the evaluation matrix, consolidating the main findings towards the evaluation criteria, and leading to the main conclusions and recommendations.

1.7 REPORTING

The reporting was written in English, and the work was done in three phases:

(i) The Inception Report ran in parallel with the desk phase to be more effective and accurate in developing the evaluation methodology.

(ii) The draft Evaluation Report was prepared after completing the data gathering and extra documentation provided. The draft report was shared with ECLAC for feedback and comments.

(iii) The Final Evaluation Report was written, taking into account the comments and feedback received.

The report's executive summary in a PowerPoint presentation was prepared and presented through a video conference to ECLAC.

ANNEX 2

TERMS OF REFERENCE FOR THE EVALUATION

TERMS OF REFERENCE

Assessment of the Development Account Project 1617Y
BIG DATA FOR MEASURING AND FOSTERING THE DIGITAL ECONOMY
IN LATIN AMERICA AND THE CARIBBEAN

I. Introduction

1. This assessment is out in accordance with the General Assembly resolutions 54/236 of December 1999, 54/474 of April 2000 and 70/8 of December 2015, which endorsed the Regulations and Rules Governing Programme Planning, Aspects of the Budget, the Monitoring of Implementation and the Methods of Evaluation (PPBME) and its subsequent revisions. In this context, the General Assembly requested that programmes be evaluated on a regular, periodic basis, covering all areas of work under their purview. As part of the general strengthening of the evaluation function to support and inform the decision-making cycle in the UN Secretariat in general and ECLAC in particular and within the normative recommendations made by different oversight bodies endorsed by the General Assembly, ECLAC's Executive Secretary is implementing an evaluation strategy that includes periodic evaluations of different areas of ECLAC's work. This is therefore a discretionary internal evaluation managed by the Programme Planning and Evaluation Unit (PPEU) of ECLAC's Programme Planning and Operations division (PPOD).

II. Assessment Topic

2. This assessment is an end-of-cycle review of a project aimed at improving national capabilities in the LAC region, in particular in selected LAC countries, to measure the digital economy using Big data and traditional statistical techniques to support evidence-based policies to foster the digital development.

III. Objective of the Assessment

3. The objective of this assessment is to review the efficiency, effectiveness, relevance, and sustainability of the project implementation and more particularly document the results the project attained in relation to its overall objectives and expected results as defined in the project document.

4. The assessment will place an important emphasis in identifying lessons learned and good practices that derive from the implementation of the project, its sustainability and the potential of replicating them to other countries.

5. The lessons learned and good practices in actual project implementation will in turn be used as tools for the future planning and implementation of projects.

IV. Background

<u>The Development Account</u>

6. The Development Account (DA) was established by the General Assembly in 1997, as a mechanism to fund capacity development projects of the economic and social entities of the United Nations (UN). By building capacity on three levels, namely: (i) the individual; (ii) the organizational; and (iii) the enabling

environment, the DA becomes a supportive vehicle for advancing the implementation of internationally agreed development goals (IADGs) and the outcomes of the UN conferences and summits. The DA adopts a medium to long-term approach in helping countries to better integrate social, economic and environmental policies and strategies in order to achieve inclusive and sustained economic growth, poverty eradication, and sustainable development.

7. Projects financed from the DA aim at achieving development impact through building the socio-economic capacity of developing countries through collaboration at the national, sub-regional, regional and inter-regional levels. The DA provides a mechanism for promoting the exchange and transfer of skills, knowledge and good practices among target countries within and between different geographic regions, and through the cooperation with a wide range of partners in the broader development assistance community. It provides a bridge between in-country capacity development actors, on the one hand, and UN Secretariat entities, on the other. The latter offer distinctive skills and competencies in a broad range of economic and social issues that are often only marginally dealt with by other development partners at country level. For target countries, the DA provides a vehicle to tap into the normative and analytical expertise of the UN Secretariat and receive on-going policy support in the economic and social area, particularly in areas where such expertise does not reside in the capacities of the UN country teams.

8. The DA's operational profile is further reinforced by the adoption of pilot approaches that test new ideas and eventually scale them up through supplementary funding, and the emphasis on integration of national expertise in the projects to ensure national ownership and sustainability of project outcomes.

9. DA projects are programmed in tranches, which represent the Account's programming cycle. The DA is funded from the Secretariat's regular budget and the Economic Commission for Latin America and the Caribbean (ECLAC) is one of its 10 implementing entities. The UN Department of Economic and Social Affairs (DESA) provides overall management of the DA portfolio.

10. ECLAC undertakes internal assessments of each of its DA projects in accordance with DA requirements. Assessments are defined by ECLAC as brief end-of-project evaluation exercises aimed at assessing the relevance, efficiency, effectiveness and sustainability of project activities. They are undertaken as desk studies and consist of a document review, stakeholder survey, and a limited number of telephone-based interviews.

The project

11. The project under evaluation is part of the projects approved under this account for the 10th Tranche (2016-2019). It was implemented by the Division of Production, Productivity and Management.

12. The duration of this project was of approximately four and a half years, having started activities on 31 May 2016, and with an estimated date of closure of December 2020 (a one-year extension from the original end date).

13. The overall logic of the project against which results and impact will be assessed contains an overall objective and a set of expected accomplishments and indicators of achievement that will be used as signposts to assess its effectiveness and relevance.

14. The project's objective as stated above is "improve national capabilities in the LAC region, in particular in selected LAC countries, to measure the digital economy using Big data and traditional statistical techniques to support evidence-based policies to foster the digital development." The project was envisaged to focus on Brazil, Chile, Colombia and Mexico as target countries.

15. The expected accomplishments were defined as follows:

- **EA1** Increased capacities of LAC countries to develop and include the use of Big data techniques in combination with traditional data to measure the Digital Economy.
- **EA2** Enhanced capacity of selected Latin American countries to strengthen their Digital Economy through evidence based polices and plans at the regional and/or national level.

16. To achieve the expected accomplishments above, the following activities were originally planned:

A1.1 Prepare a technical report that will identify key experiences in the region and abroad on the use of Big data analytics for policy design and the assessment of the digital economy;

A1.2 Participate in partnership engagement meetings in order to discuss Big data techniques, case studies, analytical software tools and exchange experiences;

A1.3 Organization of one expert meeting with NSO and technical experts to discuss experiences for measuring the digital economy using Big data techniques.;

A1.4 Organization of one kick off regional workshop to discuss the needs of new variables to assess the digital economy and adequate techniques for using Big data (web scraping, content analysis, Big data architecture);

A1.5 Organization of bilateral technical advisory services meetings with NSO and the 4 project beneficiary countries to better understand their measurement needs to assess their digital economy;

A1.6 Develop a technical solution (prototype) for measuring digital economy with Big data in at least 2 countries;

A1.7 4 national workshops to provide capacity building and training assistance to the 4 beneficiary countries on data analytics techniques, including conceptual knowledge and the use of practical tools, standards metrics, and Big data;

A1.8 Organization of one regional seminar to disseminate the experiences of measuring the digital economy using Big data techniques with participation of LAC countries.

A2.1 Elaborate an analytical report on the evolution of the digital economy, its main components in the region and policy recommendations;

A2.2 Organization of one workshop on digital economy impact on development with special focus on productivity, employment, poverty, gender inclusion, among others socio-economic variables to provide expert advices to LAC countries about the importance of digital economy policies;

A2.3 Technical assistance missions to support the beneficiary countries (with a special focus on Brazil, Chile, Colombia and Mexico) in the design of policies and instruments to foster the digital economy;

A2.4 seminar to promote and raise awareness among stakeholders on the need for digital economy policies and actions plans in LAC countries.

17. The budget for the project totaled US$ 682,000. Progress reports were prepared on a yearly basis.

Stakeholder Analysis

18. As stated in the project document, the main project stakeholders were the Ministries responsible for information and communication technology (ICT) policies, National statistics offices (NSO), and other government institutions implementing ICT policies. Other stakeholders included the private sector and academia and expert institutions.

V. Guiding Principles

19. The evaluation will seek to be independent, credible and useful and adhere to the highest possible professional standards. It will be consultative and engage the participation of a broad range of stakeholders. The unit of analysis is the project itself, including its design, implementation and effects. The assessment will be undertaken in accordance with the provisions contained in the Project Document. The evaluation will be conducted in line with the norms, standards and ethical principles of the United Nations Evaluation Group (UNEG)[49].

20. It is expected that ECLAC's guiding principles to the evaluation process are applied[50]. In particular, special consideration will be taken to assess the extent to which ECLAC's activities and outputs respected and promoted human rights[51]. This includes a consideration of whether ECLAC interventions treated beneficiaries as equals, safeguarded and promoted the rights of minorities, and helped to empower civil society.

21. The evaluation will also examine the extent to which gender concerns were incorporated into the project —whether project design and implementation incorporated the needs and priorities of women, whether women were treated as equal players, and whether it served to promote women's empowerment.

22. Moreover, the evaluation process itself, including the design, data collection, and dissemination of the assessment report, will be carried out in alignment with these principles[52].

23. The evaluation will also include an assessment of the project´s contribution to the achievement of the Sustainable Development Goals (SDGs).

24. Evaluators are also expected to respect UNEG's ethical principles as per its "Ethical Guidelines for Evaluation"[53]:

- Integrity.
- Accountability.
- Respect.
- Beneficence.

VI. Scope of the assessment

25. In line with the assessment objective, the scope of the assessment will more specifically cover all the activities implemented by the project. The assessment will review the benefits accrued by the various stakeholders in the region, as well as the sustainability of the project interventions. The assessment will also review the interaction and coordination modalities used in its implementation within ECLAC, and between/among other co-operating agencies participating in the implementation of the project.

[49] Norms and Standards for Evaluation, UNEG, June 2016. http://www.unevaluation.org/document/detail/1914 UNEG Ethical Guidelines for Evaluation, UNEG, June 2020. http://www.unevaluation.org/document/detail/2866.

[50] See ECLAC, "Preparing and Conducting Evaluations: ECLAC Guidelines" (2017) and ECLAC, "Evaluation Policy and Strategy" (2017) for a full description of its guiding principles.

[51] For further reference see UNEG "Integrating Human Rights and Gender Equality in Evaluations" (2014) http://www.unevaluation.org/document/detail/1616 and "Guidance on Evaluating Institutional Gender Mainstreaming" (2018) http://www.unevaluation.org/document/detail/2133.

[52] Human rights and gender perspective.

[53] UNEG Ethical Guidelines for Evaluation, UNEG, June 2020. http://www.unevaluation.org/document/detail/2866.

26. In summary, the elements to be covered in the assessment include:

- Actual progress made towards project objectives.
- The extent to which the project has contributed to outcomes in the identified countries whether intended or unintended.
- The efficiency with which outputs were delivered.
- The strengths and weaknesses of project implementation on the basis of the available elements of the logical framework (objectives, results, etc.) contained in the project document.
- The validity of the strategy and partnership arrangements. Coordination within ECLAC, and with other co-operating agencies.
- The extent to which the project was designed and implemented to facilitate the attainment of the goals.
- Relevance of the project's activities and outputs towards the needs of Member States, the needs of the region and the mandates and programme of works of ECLAC.

27. It will also assess various aspects related to the way the project met the following Development Account criteria:

- Result in durable, self-sustaining initiatives to develop national capacities, with measurable impact at field level, ideally having multiplier effects;
- Be innovative and take advantage of information and communication technology, knowledge management and networking of expertise at the sub regional, regional and global levels;
- Utilize the technical, human and other resources available in developing countries and effectively draw on the existing knowledge/skills/capacity within the UN Secretariat;
- Create synergies with other development interventions and benefit from partnerships with non-UN stakeholders.

VII. Methodology

28. The assessment will use the following data collection methods to assess the impact of the work of the project:

(a) Desk review and secondary data collection analysis: of the programme of work of ECLAC, DA project criteria, the project document, annual reports of advance, workshops and meetings reports and evaluation surveys, other project documentation such as project methodology, country reports, consolidated report, webpage, etc.

(b) Self-administered surveys: Surveys to beneficiaries in the different participating countries covered by the project should be considered as part of the methodology. Surveys to co-operating agencies and stakeholders within the United Nations and the countries participating in the project should be considered if applicable and relevant. PPEU can provide support to manage the online surveys through SurveyMonkey. In the case, this procedure is agreed upon with the evaluator, PPEU will distribute the surveys among project beneficiaries to the revised lists facilitated by the consultant. PPEU will finally provide the evaluator with the consolidated responses.

(c) Semi-structured interviews and focus groups to validate and triangulate information and findings from the surveys and the document reviews, a limited number of interviews (structured, semi-structured, in-depth, key informant, focus group, etc.) may be carried out via tele- or video-conference with project partners to capture the perspectives of managers, beneficiaries, participating ministries, departments and agencies, etc. PPEU will provide assistance to coordinate the interviews, including initial contact with beneficiaries to present the assessment and the evaluator. Following this presentation, the evaluator will directly arrange the interviews with available beneficiaries, project managers and co-operating agencies.

29. Methodological triangulation is an underlying principle of the approach chosen. Suitable frameworks for analysis and evaluation are to be elaborated —based on the questions to be answered. The experts will identify and set out the methods and frameworks as part of the *inception report*.

VIII. Evaluation Issues/Questions

30. This assessment encompasses the different stages of the given project, including its design, process, results, and impact, and is structured around four main criteria: relevance, efficiency, effectiveness, and sustainability. Within each of these criteria, a set of *evaluation questions* will be applied to guide the analysis[54]. The responses to these questions are intended to explain "the extent to which," "why," and "how" specific outcomes were attained.

31. The questions included hereafter are intended to serve as a basis for the final set of evaluation questions, to be adapted by the evaluator and presented in the inception report.

Relevance:

(a) How in line were the activities and outputs delivered with the priorities of the targeted countries?

(b) How aligned was the proposed project with the activities and programmes of work of ECLAC, specifically those of the subprogramme in charge of the implementation of the project?

(c) Were there any complementarities and synergies with other work being developed by ECLAC or by beneficiary countries?

Efficiency

(a) Provision of services and support in a timely and reliable manner, according to the priorities established by the project document;

(b) Flexibility and responsiveness of ECLAC to meet the requirements of the project and the needs of the countries involved, reducing or minimizing the negative effects of externalities (for example, those derived from important changes in the management of UN administrative processes).

(c) How did the project utilize the technical, human and other resources available in participating countries?

(d) To what extent has partnering with other organizations enabled or enhanced reaching of results?

Effectiveness

(a) How satisfied are the project's main beneficiaries with the services they received?

(b) How much more knowledgeable are the participants in workshops and seminars?

(c) What are the results identified by the beneficiaries?

(d) Has the project made any difference in the behavior/attitude/skills/ performance of the clients?

(e) Are there any tangible policies that have considered the contributions provided by ECLAC in relation to the project under evaluation?

(f) How has capacity for the measurement of the digital economy evolved in relation to the project, in particular regarding the use of Big Data?

[54] The questions included here will serve as a basis for the final set of evaluation questions, to be adapted by the evaluator and presented in the inception report.

Sustainability

With beneficiaries:

(a) How have the programme's main results and recommendations been used or incorporated in the work and practices of beneficiary institutions after completion of the project's activities? What were the multiplier effects generated by the programme?

(b) What mechanisms were set up to ensure the follow-up of networks created under the project?

Within ECLAC:

(a) How has the project contributed to shaping / enhancing ECLAC's programme of work / priorities and activities? The work modalities and the type of activities carried out? How has ECLAC built on the findings of the project?

Cross-cutting issues:

(a) Have the project managers effectively taken into consideration human rights and gender issues in the design and implementation of the project and its activities?

(b) Has and how has the project contributed to the achievement of the Sustainable Development Goals (SDGs)?

(c) What innovative aspects of the project (addressing new topics or using new means of delivery or a combination thereof) proved successful?

(d) What adjustments, if any, were made to the project activities and modality, as a direct consequence of the COVID-19 situation or in response to the new priorities of Member States?

IX. Deliverables

32. The assessment will include the following outputs:

(a) Work Plan and Inception Report. No later than 4 weeks after the signature of the contract, the consultant should deliver the inception report, which should include the background of the project, an analysis of the Project profile and implementation and a full review of all related documentation as well as project implementation reports. It should provide a detailed Work Plan of all the activities to be carried out related to the assessment of project 1617Y. Additionally, the inception report should include a detailed evaluation methodology including the description of the types of data collection instruments that will be used and a full analysis of the stakeholders and partners that will be contacted to obtain the evaluation information. First drafts of the instruments to be used for the survey, focus groups and interviews should also be included in this first report.

(b) Draft final evaluation Report. No later than 12 weeks after the signature of the contract, the consultant should deliver the preliminary report for revision and comments by the Programme Planning and Operations Division (PPOD) of ECLAC and the Evaluation Reference Group (ERG), which includes representatives of the implementing substantive Division/Office. The draft final evaluation report should include the main draft results and findings, conclusions of the evaluation, lessons learned and recommendations derived from it, including its sustainability, and potential improvements in project management and coordination of similar DA projects.

(c) Final Evaluation Report. No later than 16 weeks after the signature of the contract, the consultant should deliver the final evaluation report which should include the revised version of the preliminary version after making sure all the comments and observations from PPOD and the ERG have been included. Before submitting the final report, the consultant must have received the clearance on this final version from PPOD, assuring the satisfaction of ECLAC with the final evaluation report.

(d) Presentation of the results of the evaluation. A final presentation of the main results of the evaluation to ECLAC staff involved in the project will be delivered at the same time of the delivery of the final evaluation report.

X. Payment schedule and conditions

33. The duration of the consultancy will be initially for 16 weeks during the months of January – May 2021. The consultant will be reporting to and be managed by the Programme Planning and Evaluation Unit (PPEU) of the Programme Planning and Operations Division (PPOD) of ECLAC. Support to the evaluation activities will be provided by the Production, Productivity and Management Division of ECLAC in Santiago.

34. The contract will include the payment for the services of the consultant as well as all the related expenses of the evaluation. Payments will be done according to the following schedule and conditions:

(a) 30% of the total value of the contract will be paid against the satisfactory delivery of the inception report which should be delivered as per the above deadlines.

(b) 30% of the total value of the contract will be paid against the satisfactory delivery of the draft final evaluation report which should be delivered as per the above deadlines.

(c) 40% of the total value of the contract will be paid against the satisfactory delivery and presentation of the final evaluation report which should be delivered as per the above deadlines.

35. All payments will be done only after the approval of each progress report and the final report from the Programme Planning and Evaluation Unit (PPEU) of the Programme Planning and Operations Division (PPOD) of ECLAC.

XI. Profile of the Evaluator

36. The evaluator will have the following characteristics:

Education

- Advanced university degree (Master's degree or equivalent) in economics, engineering, public policy, development studies, business administration, or a related economic science.

Experience

- At least seven years of progressively responsible relevant experience in programme/project evaluation are required.
- At least two years of experience in areas related to the economics and statistics, in particular concerning digital economy and innovation, is highly desirable.
- Experience in at least three evaluations with international (development) organizations is required. Experience in Regional Commissions and United Nations projects, especially Development Account projects is highly desirable.
- Proven competency in quantitative and qualitative research methods, particularly self-administered surveys, document analysis, and informal and semi-structured interviews are required.
- Working experience in Latin America and the Caribbean is desirable.

Language Requirements

- Proficiency in English and Spanish is required.

XII. Roles and responsibilities in the evaluation process

37. Commissioner of the evaluation

➔ (ECLAC Executive Secretary and PPOD Director).

- Mandates the evaluation.
- Provides the funds to undertake the evaluation.
- Safeguards the independence of the evaluation process.

38. Task manager

➔ (PPEU Evaluation Team).

- Drafts evaluation TORs.
- Recruits the evaluator/evaluation team.
- Shares relevant information and documentation and provides strategic guidance to the evaluator/evaluation team.
- Provides overall management of the evaluation and its budget, including administrative and logistical support in the methodological process and organization of evaluation missions.
- Coordinates communication between the evaluator/evaluation team, implementing partners and the ERG, and convenes meetings.
- Supports the evaluator/evaluation team in the data collection process.
- Reviews key evaluation deliverables for quality and robustness and facilitates the overall quality assurance process for the evaluation.
- Manages the editing, dissemination and communication of the evaluation report.
- Implements the evaluation follow-up process.

39. Evaluator/Evaluation team

➔ (External consultant).

- Undertakes the desk review, designs the evaluation methodology and prepares the inception report.
- Conducts the data collection process, including the design of the electronic survey and semi-structured interviews.
- Carries out the data analysis.
- Drafts the evaluation report and undertakes revisions.

40. Evaluation Reference Group (ERG)

➔ (Composed of representatives of each of the implementing partners).

- Provides feedback to the evaluator/evaluation team on preliminary evaluation findings and final conclusions and recommendations.
- Reviews draft evaluation report for robustness of evidence and factual accuracy.

XIII. Other Issues

41. Intellectual property rights. The consultant is obliged to cede to ECLAC all authors rights, patents and any other intellectual property rights for all the work, reports, final products and materials resulting from the design and implementation of this consultancy, in the cases where these rights are applicable. The consultant will not be allowed to use, nor provide or disseminate part of these products and reports or its total to third parties without previously obtaining a written permission from ECLAC.

42. Coordination arrangements. The team in charge of the evaluation comprised of the staff of the Programme Planning and Evaluation Unit of ECLAC and the consultant will confer and coordinate activities on an on-going basis, ensuring at least a monthly coordination meeting/teleconference to ensure the project is on track and that immediate urgencies and problems are dealt with in a timely manner. If any difficulty or problem develops in the interim the evaluation team member will raise it immediately with the rest of the team so that immediate solutions can be explored and decisions taken.

XIV. Assessment use and dissemination

43. This assessment seeks to identify best practices and lessons learned in the implementation of development account projects and specifically the capacities of the beneficiary countries to promote digital economy policies. The evaluation findings will be presented to and discussed with ECLAC. An Action Plan will be developed to implement recommendations when appropriate in future development account projects. The evaluation report will also be circulated through ECLAC's internet and intranet webpages (and other knowledge management tools), including circulating a final copy to DESA, as the programme manager for the Development Account, so as to constitute a learning tool in the organization.

ANNEX 3

LIST OF DOCUMENTS PRODUCED BY THE BIG DATA PROJECT

NAME OF DOCUMENT	TYPE OF DOCUMENT	ACTIVITY	DESCRIPTION
MATERIAL DEVELOPED FROM THE RESEARCH ACTIVITIES AND PILOTS OF THE PROJECT			
Measuring the Internet Economy in Latin America: A Big Data Analysis. Colombia, Mexico, Brazil & Chile.	Technical Report	A1.6 second part	Web data combined with administrative records.
Tracking the digital footprint in Latin America and the Caribbean, Lessons learned from using big data to assess the digital economy.	Technical Report	A2.1	Web data
MATERIAL DEVELOPED FOR EVENTS, TRAININGS AND WORKSHOPS			
Technical tutorials to policy makers and government officials about the use of Big Data tools.	Training Material	A1.3	
Policies, politics, societies and literacy in the age of Big Data.pptx.	Training Material	A1.7	07/03/2017, Santiago de Chile, Chile. Big Data for Measuring Digital Economy Professional Training Workshop. Emmanuel Letouzé.
Measuring and understanding the digital economy.pptx.	Keynote	A1.7	07/03/2017, Santiago de Chile, Chile. Big Data for Measuring the Digital Economy Professional Training Workshop. Raul Katz.
Web scraping for collecting Price data: Are we doing it right?.pptx.	Training Material	A1.7	07 and 08/03/2017, Santiago de Chile, Chile. Big Data for Measuring the Digital Economy Professional Training Workshop. Antonino Virgilio.
Big Data – IoT Capturando el valor.pptx.	Training Material	A1.7	07/03/2017, Santiago de Chile, Chile. Big Data for Measuring the Digital Economy Professional Training Workshop. Andrés Leiva.
Big Data Programa Estratégico Industrias Inteligentes.pptx.	Training Material	A1.7	07/03/2017, Santiago de Chile, Chile. Big Data for Measuring the Digital Economy Professional Training Workshop. Nelson Cubillos.
Big Data para la medición de la economía en América Latina y el Caribe.pptx.	Training Material	A1.7	07/03/2017, Santiago de Chile, Chile. Big Data for Measuring the Digital Economy Professional Training Workshop. Sebastián Rovira.
Combining data sources to understand the digital economy —using web scraping to produce ICT indicators for enterprises.pptx.	Training Material	A1.7	07/03/2017, Santiago de Chile, Chile. Big Data for Measuring the Digital Economy Professional Training Workshop. Alexandre Barbosa.
Layering Geographic Data.pdf.	Technical Tutorial	A1.7	08/03/2017, Santiago de Chile, Chile. Big Data for Measuring Digital Economy Professional Training Workshop.

NAME OF DOCUMENT	TYPE OF DOCUMENT	ACTIVITY	DESCRIPTION
Designing Big Data Projects.pptx.	Training Material	A1.7	09/03/2017, Santiago de Chile, Chile. Big Data for Measuring Digital Economy Professional Training Workshop. Emmanuel Letouzé.
Data Storytelling & data visualization.pdf.	Training Material	A1.7	09/03/2017, Santiago de Chile, Chile. Big Data for Measuring Digital Economy Professional Training Workshop. Andrés Leiva.
Big Data and the Digital Economy Agenda in Chile: Next steps.pptx.	Training Material	A1.7	09/03/2017, Santiago de Chile, Chile. Big Data for Measuring Digital Economy Professional Training Workshop. Tanira Arismendi and Mauricio Valdez.
Big Data for Measuring the Digital Economy. The experience of the São Paulo City Hall.pdf.	Training Material	A1.7	26/09/2017, Sao Paulo, Brazil. Workshop Big Data for Measuring Digital Economy. Fernando Nogueira.
Mobilab Laboratory for Mobility Innovation City of Sao Paulo.pdf.	Training Material	A1.7	26/09/2017, Sao Paulo, Brazil. Workshop Big Data for Measuring Digital Economy. Mobilab.
Panel II: Big Data for Measuring the Digital Economy - Local Experiences.pdf.	Training Material	A1.7	26/09/2017, Sao Paulo, Brazil. Workshop Big Data for Measuring Digital Economy. Wagner Meira Jr.
Transformação digital: inteligência artificial e robótica.pdf.	Training Material	A1.7	26/09/2017, Sao Paulo, Brazil. Workshop Big Data for Measuring Digital Economy. Wilson Peres.
Mapping Big Data Ecosystems.pdf.	Posters	A1.7	27/09/2017, Sao Paulo, Brazil. Workshop Big Data for Measuring Digital Economy.
Overview of the workshop.pdf. 1- Resumen y objetivos de aprendizaje. 2- Las 3Cs de Big Data. 3- Agenda.	Posters	A1.7	27/09/2017, Sao Paulo, Brazil. Workshop Big Data for Measuring Digital Economy.
Toolkit of the workshop.pdf.	Toolkit	A1.7	27/09/2017, Sao Paulo, Brazil. Workshop Big Data for Measuring Digital Economy.
The Analytics Value Chain.pdf.	Methods and Tools	A1.7	27//09/2017, Sao Paulo, Brazil. Workshop Big Data for Measuring Digital Economy.
Warm-up: Programming ice-breaker.pdf.	Methods and Tools	A1.7	27//09/2017, Sao Paulo, Brazil. Workshop Big Data for Measuring Digital Economy. Data Pop Alliance.
Landscape of Big Data Methods and Tools.pdf.	Methods and Tools	A1.7	27//09/2017, Sao Paulo, Brazil. Workshop Big Data for Measuring Digital Economy. Data Pop Alliance.
Legal Frameworks for Ethical Data Use in Brazil.pdf.	Training Material	A1.7	28/09/2017, Sao Paulo, Brazil. Workshop Big Data for Measuring Digital Economy. Bruno Bioni.
Data Ethics an Overview.pdf.	Training Material	A1.7	28/09/2017, Sao Paulo, Brazil. Workshop Big Data for Measuring Digital Economy. Carolina Bigonha.
Data visualization.pdf.	Training Material	A1.7	28/09/2017, Sao Paulo, Brazil. Workshop Big Data for Measuring Digital Economy. Data Pop Alliance.

NAME OF DOCUMENT	TYPE OF DOCUMENT	ACTIVITY	DESCRIPTION
Estadísticas e indicadores para la Agenda 2030.pptx.	Training Material	A1.7	17/10/2017 Big Data, Digital Economy and Sustainable Development. Professional Training Workshop. Enrique Ordaz.
Agenda 2030 en México evidencia y política pública para el desarrollo sostenible.pdf.	Training Material	A1.7	17/10/2017 Big Data, Digital Economy and Sustainable Development. Professional Training Workshop. Paulina Terrazas.
Agenda 2013 en México.pptx.	Training Material	A1.7	17/10/2017 Big Data, Digital Economy and Sustainable Development. Professional Training Workshop. Luis Iñaki Alberro.
Datos para generar respuestas ante emergencias.pptx.	Training Material	A1.7	17/10/2017 Big Data, Digital Economy and Sustainable Development. Professional Training Workshop. Luis Iñaki Alberro.
Datos para generar respuestas ante emergencias.pdf.	Training Material	A1.7	17/10/2017 Big Data, Digital Economy and Sustainable Development. Professional Training Workshop. Macarena Piombi.
Datos para generar respuestas ante emergencias Terremoto mapping.pptx.	Training Material	A1.7	17/10/2017 Big Data, Digital Economy and Sustainable Development. Professional Training Workshop. Miriam Gonzalez.
Datos en acción combinación de fuentes de datos para medir la economía digital.	Training Material	A1.7	18/10/2017 Big Data, Digital Economy and Sustainable Development. Professional Training Workshop. Fabio Senne.
Agresiones contra periodistas y personas defensoras de derechos humanos.pptx.	Training Material	A1.7	18/10/2017 Big Data, Digital Economy and Sustainable Development. Professional Training Workshop. Paul Hindriks.
Mapping Big Data Ecosystems.pdf.	Posters	A1.7	18/10/2017 Big Data, Digital Economy and Sustainable Development. Professional Training Workshop.
Overview of the workshop.pdf. 1- Resumen y objetivos de aprendizaje. 2- Las 3Cs de Big Data. 3- Agenda.	Tools (Posters)	A1.7	18/10/2017 Big Data, Digital Economy and Sustainable Development. Professional Training Workshop.
Pre-Workshop Guidebook.pdf.	Training Material (Guidebook)	A1.7	18/10/2017 Big Data, Digital Economy and Sustainable Development. Professional Training Workshop.
Workbook of the workshop.pdf.	Training Material (Workbook)	A1.7	18/10/2017 Big Data, Digital Economy and Sustainable Development. Professional Training Workshop.
Toolkit of the workshop.pdf.	Toolkit	A1.7	18/10/2017 Big Data, Digital Economy and Sustainable Development. Professional Training Workshop.
Landscape of Big Data Methods & Tools.pdf.	Methods and Tools	A1.7	18/10/2017 Big Data, Digital Economy and Sustainable Development. Professional Training Workshop.

NAME OF DOCUMENT	TYPE OF DOCUMENT	ACTIVITY	DESCRIPTION
Data visualization.pdf.	Methods and Tools	A1.7	18/10/2017 Big Data, Digital Economy and Sustainable Development. Professional Training Workshop.
Technical tutorial: Analyzing internet prices.docx.	Training Material	A1.7	18/10/2017 Big Data, Digital Economy and Sustainable Development. Professional Training Workshop. Rodrigo Lara Molina.
Métodos y herramientas para Big Data.pdf.	Methods and Tools	A1.7	18/10/2017 Big Data, Digital Economy and Sustainable Development. Professional Training Workshop. Andres Clavijo.
Privacidad, ética y marcos legales para el uso de datos en México.	Training Material	A1.7	19/10/2017 Big Data, Digital Economy and Sustainable Development. Professional Training Workshop. Alejandro Noriega.
Privacidad, ética y marcos legales para el uso de datos en México.	Training Material	A1.7	19/10/2017 Big Data, Digital Economy and Sustainable Development. Professional Training Workshop. Edgardo Marínez Rojas.
Datos Abiertos en México Privacidad, ética y marcos legales.	Training Material	A1.7	19/10/2017 Big Data, Digital Economy and Sustainable Development. Professional Training Workshop. Andrea Barenque.
Kickoff presentation.pdf.	Training Material	A1.3	09/04/2019, Santo Domingo, República Dominicana. Big Data, Economía Digital, y Desarrollo Sostenible. Formación Profesional. Data Pop Alliance.
Retos de Desarrollo.pdf.	Training Material	A1.3	09/04/2019, Santo Domingo, República Dominicana. Big Data, Economía Digital, y Desarrollo Sostenible. Formación Profesional. Data Pop Alliance.
Haciendo que las mediciones importen: Big Data e Inteligencia Artificial para el monitoreo y promoción del desarrollo sostenible.pptx.	Training Material	A1.3	09/04/2019, Santo Domingo, República Dominicana. Big Data, Economía Digital, y Desarrollo Sostenible- Formación Profesional. Emmanuel Letouzé
República Digital (Panel I: Ecosistema Big Data en República Dominicana y el Caribe).pptx.	Training Material	A1.3	09/04/2019, Santo Domingo, República Dominicana. Big Data, Economía Digital, y Desarrollo Sostenible. Formación Profesional. Víctor Rodríguez.
Big Data: El Cambio en los Paradigmas de la Información. (Panel I: Ecosistema Big Data en República Dominicana y el Caribe).pptx.	Training Material	A1.3	09/04/2019, Santo Domingo, República Dominicana. Big Data, Economía Digital, y Desarrollo Sostenible. Formación Profesional. Renato González.
Measuring the internet economy in the Netherlands.pptx.	Training Material	A1.3	09/04/2019, Santo Domingo, República Dominicana. Big Data, Economía Digital, y Desarrollo Sostenible. Formación Profesional. Henk van de Velden.
Volviendo retos de desarrollo en preguntas de datos.pdf.	Tool (Poster)	A1.3	09-11/04/2019, Santo Domingo, República Dominicana. Big Data, Economía Digital, y Desarrollo Sostenible. Formación Profesional.

NAME OF DOCUMENT	TYPE OF DOCUMENT	ACTIVITY	DESCRIPTION
Laboratorio de proyecto: Transformando retos del desarrollo en proyectos de Big Data.pptx.	Training Material	A1.3	10/04/2019, Santo Domingo, República Dominicana. Big Data, Economía Digital, y Desarrollo Sostenible. Formación Profesional. Data Pop Alliance.
Panel II: Big Data to action Combinando fuentes de datos para entender la economía digital.pptx.	Training Material	A1.3	10/04/2019, Santo Domingo, República Dominicana. Big Data, Economía Digital, y Desarrollo Sostenible. Formación Profesional. Isabel Bertolini Coelho.
Panel II: Big Data to action Avances del DANE en Materia de Innovación de Datos.pptx.	Training Material	A1.3	10/04/2019, Santo Domingo, República Dominicana. Big Data, Economía Digital, y Desarrollo Sostenible Formación Profesional. Hugo Hernández.
Panel II: Big Data to action Estudio de nuevas fuentes de datos en IBGE.pptx.	Training Material	A1.3	10/04/2019, Santo Domingo, República Dominicana. Big Data, Economía Digital, y Desarrollo Sostenible Formación Profesional. Aline Visconti Rodríguez.
Project lab: Methods and tools for big data.pdf.	Manuals & Tools	A1.3	10/04/2019, Santo Domingo, República Dominicana. Big Data, Economía Digital, y Desarrollo Sostenible. Formación Profesional. Data Pop Alliance.
Posters on methods and tools.pdf.	Manuals & Tools	A1.3	10/04/2019, Santo Domingo, República Dominicana. Big Data, Economía Digital, y Desarrollo Sostenible. Formación Profesional. Data Pop Alliance.
Uso de consumos de electricidad en la generación de indicadores económicos del sector manufacturero.pptx.	Training Material	A1.3	10/04/2019, Santo Domingo, República Dominicana. Big Data, Economía Digital, y Desarrollo Sostenible. Formación Profesional. Data Pop Alliance.
Toolkit workshop.pdf.	Toolkit	A1.3	09/04/2019, Santo Domingo, República Dominicana. Big Data, Economía Digital, y Desarrollo Sostenible. Formación Profesional. Data Pop Alliance.
Technical Tutorial: Square Meter Index - Assessing Purchase Power in Latin America.pptx.	Technical Tutorial	A1.3	10/04/2019, Santo Domingo, República Dominicana. Big Data, Economía Digital, y Desarrollo Sostenible. Formación Profesional. Rodrigo Lara Molina.
Narrativa y Visualización de datos Big Data.pptx.	Training Material	A1.3	11/04/2019, Santo Domingo, República Dominicana. Big Data, Economía Digital, y Desarrollo Sostenible. Formación Profesional. José Armando Tavarez.
Visualización del Big Data & Narrativa.pptx.	Training Material	A1.3	11/04/2019, Santo Domingo, República Dominicana. Big Data, Economía Digital, y Desarrollo Sostenible. Formación Profesional. Veronika Vilgis.

NAME OF DOCUMENT	TYPE OF DOCUMENT	ACTIVITY	DESCRIPTION
La Protección de Datos Personales en la República Dominicana.pptx.	Training Material	A1.3	11/04/2019, Santo Domingo, República Dominicana. Big Data, Economía Digital, y Desarrollo Sostenible. Formación Profesional.
Un Acercamiento a la Protección de Datos en el sector de las Telecomunicaciones.pptx.	Training Material	A1.3	11/04/2019, Santo Domingo, República Dominicana. Big Data, Economía Digital, y Desarrollo Sostenible. Formación Profesional. Dpto. de Transparencia Gubernamental.
Ética y Privacidad en la Era de la Big Data y la Inteligencia Artificial.pptx.	Training Material	A1.3	11/04/2019, Santo Domingo, República Dominicana. Big Data, Economía Digital, y Desarrollo Sostenible. Formación Profesional. Renato Rodrigues.
Desafíos éticos de Big Data.pptx.	Training Material	A1.3	11/04/2019, Santo Domingo, República Dominicana. Big Data, Economía Digital, y Desarrollo Sostenible. Formación Profesional. Veronika Vilgis.
Workbook of the workshop (Spanish and English).pdf.	Training Material (Workbook)	A1.3	09-11/04/2019, Santo Domingo, República Dominicana. Big Data, Economía Digital, y Desarrollo Sostenible. Formación Profesional. Data Pop Alliance.
4- Bienvenidas 5- Resumen y objetivos de aprendizaje 6- Las 3Cs de Big Data 7- Línea de tiempo Big Data & Desarrollo.	Posters	A1.3	09-11/04/2019, Santo Domingo, República Dominicana. Big Data, Economía Digital, y Desarrollo Sostenible. Formación Profesional. Data Pop Alliance.
Make Measurement Matter: Big Data and Artificial Intelligence for Monitoring and Promoting Sustainable Human Development.pdf.	Training Material	A1.7	07/05/2019 Bogotá, Colombia. Uso de Big Data en las estadísticas oficiales para la medición de la economía digital y el desarrollo sostenible. Emmanuel Leotuzé.
Big data en las estadísticas oficiales para la medición de la economía digital y el desarrollo sostenible.pdf.	Training Material	A1.7	07/05/2019 Bogotá, Colombia. Uso de Big Data en las estadísticas oficiales para la medición de la economía digital y el desarrollo sostenible. Sebastián Rovira.
Herramientas para la recolección de datos web.pdf.	Training Material	A1.7	08/05/2019 Bogotá, Colombia. Uso de Big Data en las estadísticas oficiales para la medición de la economía digital y el desarrollo sostenible. Yu-Chang (Andy) Ho.
Data Science Strategies for National Statistics.pdf.	Training Material	A1.7	08/05/2019 Bogotá, Colombia. Uso de Big Data en las estadísticas oficiales para la medición de la economía digital y el desarrollo sostenible. Jeffrey C. Chen.
Measuring the internet economy in the Netherlands.pdf.	Training Material	A1.7	08/05/2019 Bogotá, Colombia. Uso de Big Data en las estadísticas oficiales para la medición de la economía digital y el desarrollo sostenible. Tommy Span.

NAME OF DOCUMENT	TYPE OF DOCUMENT	ACTIVITY	DESCRIPTION
Considerations when using machine learning for social mapping.pdf.	Training Material	A1.7	08/05/2019 Bogotá, Colombia. Uso de Big Data en las estadísticas oficiales para la medición de la economía digital y el desarrollo sostenible. Pía Faustino.
Technical Tutorial: Square Meter Index - Assessing Purchase Power in Latin America.pdf.	Technical tutorial	A1.7	08/05/2019, Bogotá, Colombia. Big Data, Economía Digital, y Desarrollo Sostenible Formación Profesional. Rodrigo Lara Molina.
Digital economy and alternative data sources.pdf.	Training Material	A1.7	09/05/2019 Bogotá, Colombia. Uso de Big Data en las estadísticas oficiales para la medición de la economía digital y el desarrollo sostenible. Hamish Grant.
Mapping Poverty in the Philippines Using Machine Learning, Satellite Images, and Open Geospatial Information.pdf.	Training Material	A1.7	09/05/2019 Bogotá, Colombia. Uso de Big Data en las estadísticas oficiales para la medición de la economía digital y el desarrollo sostenible. Isabelle Tingzon.
Toolkit workshop (English and Spanish).pdf.	Toolkit	A1.7	07-09/05/2019 Bogotá, Colombia. Uso de Big Data en las estadísticas oficiales para la medición de la economía digital y el desarrollo sostenible.
Workbook of the workshop (Spanish and English).pdf.	Training Material (Workbook)	A1.7	07-09/05/2019 Bogotá, Colombia. Uso de Big Data en las estadísticas oficiales para la medición de la economía digital y el desarrollo sostenible.
Midiendo la economía digital usando Big Data.pptx.	Training Material	A2.3	09-10/10/2019 Santiago de Chile, Chile. Aspectos metodológicos sobre la medición de la economía de Internet Workshop. Sebastián Rovira.
Technical Tutorial: Square Meter Index– Assessing Purchase Power in Latin America. M1 – Web scraping with Selenium. M2 – Interacting with API's using Python and Requests library. M3 – Parsing HTML with BeautifulSoup. M4 – Cleaning web collected data. M5 – Building PP exchange rate. M6 – Building geospatial regressions with Gaussian Processes. M7 – Building interactive visualisations.	Training Material	A1.3	Part of the material used 25-27/11/2019 Rio de Janeiro, Brazil on the technical workshop "Web data collection and analysis: Web scrapping and API's interaction, Professional Workshop. Rodrigo Lara.
Analysing migration with Facebook Marketing API. 1 – Understanding facebook for business 2 – Data Download 3 – Data Analysis 4 – Visualisation	Training Material	A1.3	Part of the material used 25-27/11/2019 Rio de Janeiro, Brazil on the technical workshop "Web data collection and analysis: Web scrapping and API's interaction, Professional Workshop. Rodrigo Lara.

NAME OF DOCUMENT	TYPE OF DOCUMENT	ACTIVITY	DESCRIPTION
Innovación de datos en la producción estadística sobre digitalización y su rol frente al COVID-19.pptx.	Training Material	A2.1	15/10/2020. Webinar. Datos, Innovación y Producción Estadística durante la pandemia por Covid-19. Valeria Jordán.
Digital Sprinters: La oportunidad es ahora. Como capital la oportunidad de un Billón* de dólares.pdf.	Training Material	A2.4	25/11/2020. Webinar. Datos para la definición de políticas para el desarrollo digital. Ana Lucía Lenisfrom Google.
Big Data for measuring the digital economy: ECLAC Project.pptx.	Project Presentation	A1.2	09-11/12/2020. Webinar. Joint ECLAC and UNSD Workshop in cooperation with WTO on Trade in Services. Valeria Jordán.

ANNEX 4

LIST OF PROJECT EVENTS, TRAININGS AND WORKSHOPS

	Event Name	Activity	Date	Location
1	Seminario "Think big: Innovación de datos en América Latina y el Caribe (Kick-Off event).	A1.4	06/03/2017	ECLAC HQ, Santiago, Chile.
2	Big Data for Measuring Digital Economy Professional Training Workshop.	A1.7	07 to 09/03/2017	ECLAC HQ, Santiago, Chile.
3	Big Data for Measuring Digital Economy Professional Training Workshop.	A1.7	26 to 27/09/2017	Sao Paulo, Brazil.
	Seminario "Think big: Innovación de datos en América Latina y el Caribe.	A1.2	16/10/2017	Mexico City, Mexico.
4	Big Data for Measuring Digital Economy Professional Training Workshop.	A1.7	17 to 19/10/2017	Mexico City, Mexico.
5	Challenges in the Measurement of the Digital Economy workshop.	A1.8	19/04/2018	Cartagena de Indias, Colombia Back-to-Back with the Sixth Ministerial Conference on the Information Society in Latin America and the Caribbean.
6	Under the Challenges in the Measurement of the Digital Economy workshop, Bilateral meetings between CETIC.br, University of Columbia, UC Davis, Google, DANE and Data Pop Alliance.	A1.2	19/04/2018	Cartagena de Indias, Colombia Back-to-Back with the Sixth Ministerial Conference on the Information Society in Latin America and the Caribbean.
7	Challenges in an interconnected world cross border data flow, data protection and Cyber security.	A2.2	22/11/2018	Santiago de Chile, Chile.
8	Big Data, Economía Digital, y Desarrollo Sostenible. Formación Profesional.	A.13	09 to 11/04/2019	Santo Domingo, Dominican Republic.
9	Big Data for Measuring Digital Economy Professional Training Workshop.	A1.7	06 to 08/05/2019	Bogota, Colombia.
10	Aspectos metodológicos sobre la medición de la economía de Internet, workshop.	A2.3	09 to 10/10/2019	ECLAC HQ, Santiago, Chile.
11	Big Data for Measuring Digital Economy Professional Training Workshop.	A1.7	25 to 27/11/2019	Rio de Janeiro, Brazil.
12	Second workshop on Methodological aspects on internet economy measurement.	A2.3	22/05/2020	Webinar.
13	Datos, Innovación y Producción Estadística durante la pandemia por Covid-19.	A2.1	15/10/2020	Webinar.
14	Data for the definition of policies for digital development.	A2.4	25/11/2020	Webinar.
15	Joint ECLAC and UNSD Workshop in cooperation with WTO on Trade in Services.	A1.2	09 to 11/12/2020	Webinar.

ANNEX 5

LIST OF PEOPLE INTERVIEWED

No.	Country	Interviewee Name	Organization	Project Position	Email
1	Chile	Anne-Sophie Samjee	CEPAL	Project Manager	anne-sophie.samjee@cepal.org
2	Chile	Valeria Jordán	CEPAL	Project coordinator	valeria.jordan@cepal.org
3	Chile	Claudia Araceli Guerrero	CEPAL		claudia.guerrero@cepal.org
4	Brazil	Leonardo Melo Lins	CETIC/NIC		leonardomelo@nic.br
5	Brazil	Ms. Aline Rodrigues	IBGE	Analyst	aline.rodrigues@ibge.gov.br
6	Brazil	Mr. Vinicius Fonseca	IBGE		Vinivius.fonseca@ibge.gov.br
7	Brazil	Mr. Agustao Cesar Fadel	IBGE		augusto.fadel@ibge.gov.br
8	Colombia	Mr. Alexander González Coca	DANE	Dirección de Regulación, Planeac	agonzalezc@dane.gov.co
9	Mexico	Mr. Hugo Hernández Ramos	INEGI	Director de Vinculación Estadística de Registros Administrativos-	hugo.hernandez@inegi.org.mx
10	Mexico	Mr. Gerardo A. Durand Alcántara	INEGI	Director General Adjunto de Registros Administrativos Económicos	Gerardo.Durand@inegi.org.mx
11	Chile	Ms. Katherine Beatriz Rojas Guerrero	INE		Katherine.rojas@ine.cl
12	Chile	Mr. Jorge Andrés Urrutia	INE	Jefe Departamento (Infraestructura Estad	Jorge.urrutia@ine.cl
13	Chile	Mr. Fernando Barraza	SII	Director	fbarraza@sii.cl

ANNEX 6

Evaluation of the DA Project 1617Y
"Big Data for measuring and fostering the digital economy in Latin America and the Caribbean"

Evaluation Report Feedback Form: Evaluation Reference Group

GENERAL COMMENTS		
REPORT SECTION (if applicable)	**COMMENT**	**EVALUATOR'S RESPONSE**
	There are several sections that repeat the same information on what activities were conducted under the project. They could be combined in one section to avoid repetition and shorten the text.	
	Please remove reference to "draft" throughout the report.	**COMMENT ADRESSED**
SPECIFIC COMMENTS		
PARAGRAPH NUMBER	**COMMENT**	**EVALUATOR'S RESPONSE**
Executive summary		
2	Please add start and end date of the project.	**COMMENT ADRESSED**
Introduction	Some of the headings and subheadings are confusing. Within the introduction there is "evaluation mandate" "subject of the evaluation"," scope of the evaluation", and then a different section called Profile of the evaluation. We suggest a one page introduction. Then a section on evaluation containing. - Evaluation objective and scope. - Evaluation methodology (some of the text currently under evaluation profile + additional information —see below). - Limitation (including restrictions due to COVID-19). Then move on to project background.	**COMMENT ADRESSED** **Section 1 and Section 2 restructured according to comment**
1, 2, 3	Please remove reference to "draft" throughout the report, and rewrite paragraph 2	**COMMENT ADRESSED**
3	Not clear if it is necessary to have a section on organization of the report, it takes up space while simply restating the table of content. Number of chapters is incorrect as the report contains 8 sections.	**COMMENT ADRESSED – This paragraph has been removed.**
4	PPEU did not launch the evaluation mandate. The need to evaluate the project is mandated by the Development Account. Please rephrase and consider renaming section 1.2.	**COMMENT ADRESSED**
1.5	Consider rephrasing from restraints to restrictions	**This sub-section has been deleted as per feedback above to reduce Section 1 (introduction) to 1 page.**
9	Please add dates of the project.	**COMMENT ADRESSED**

SPECIFIC COMMENTS		
PARAGRAPH NUMBER	**COMMENT**	**EVALUATOR'S RESPONSE**
13	Please add a section on evaluation methodology, where you include information on the survey (how many respondents, etc.), on the number of interviews, number of documents reviewed, etc. IT needs to refer to the evaluation questions. Annex 1 is labeled Methodology for evaluation, but it is 24 pages long, and contains the entire inception report, including many things that were not followed in the end (questions related to coherence, etc.) Instead we need a couple paragraphs describing the methodology and what was actually done. Reference should be made to evaluation questions that should be easily found in the annex.	**COMMENT ADRESSED**
Section 3 page 14	Please add theory of change developed for the inception report, as part of this section, if still applicable.	**COMMENT ADRESSED**
19	Not clear why there is a footnote referring to the Statistics and data programme. Please clarify.	**The footnote no.7 adds information to the alignment of the main objective of the project (measure the digital economy using big data and traditional statistical techniques) with DA10 that cofounded this project. Also to reflecting internal coherence within ECLAC programmes. [page 12 of final report].**
20	Please make reference to the SDGs, in addition to gender and human rights consideration.	**COMMENT ADRESSED [page 12 of final report, paragraph 57].**
Section 4 page 18	The structure of section 4 makes it hard to follow. It goes back and forth between list of completed activities and indicators. Please consider renaming section 4 Findings, or Findings and analysis. The information should be reorganized to start with what is now 4.2 relevance, and include the findings under relevance, continue with efficiency, etc. Section 4.1 (progress against indicators) should be folded under effectiveness.	**Section Renamed.** **Findings Structured bye evaluation criteria.-**
33	Table 1 and 2 could be moved to annexes, and referenced briefly in the text, to shorten the body of the report.	**COMMENT ADRESSED they are now. ANNEX 3: List of Documents and Materials produced by the Big Data Project and ANNEX 4: List of Events, Trainings and Workshops of The Big Data Project.**
Table 3 pg. 30	Table 3 takes a lot of space to just list activities implemented under the project. The column indicators is just a rephrasing of the column activities. These are not the 4 indicators of the project. The 2 areas of work don't seem to make sense: Identify, analyze and measure vs. Design and implementation. Consider deleting this table.	**COMMENT ADRESSED**
Finding 1 pg. 35	Move under effectiveness.	**COMMENT ADRESSED**
66	Finding 4 does not seem to be supported text in paragraph 66. Some text from paragraphs 52-56 related to country -level variation between NSOs might be helpful placed here.	**COMMENT ADRESSED**

SPECIFIC COMMENTS		
PARAGRAPH NUMBER	**COMMENT**	**EVALUATOR'S RESPONSE**
98	What do you mean by pilot? Do you mean the project? Please replace pilot by project throughout the report if that is the case, to avoid confusion.	**COMMENT ADRESSED the word pilot was replaced for project when followed by the word country so Pilot country is now "project country" as per documentation received.**
68-80	These are just a list of activities implemented by the project with dates. It does not add anything to the analysis and does seem related to the finding 5. Information from paragraph 99 might fit better here.	**COMMENT ADRESSED the analysis of the activities and outputs that had built the achievement of the results indicators.**
Finding 6 pg. 42	This does not seem related to effectiveness, but with project design. Might be better under relevance.	**COMMENT ADRESSED**
99	Except for the last bullet, this analysis of the survey does not have to do with sustainability but with effectiveness. This could be used to support finding 5.	**COMMENT ADRESSED**
106	Consider adding a finding related to Gender, since a lot of analysis was done on that topic. Please add some text/finding related to human rights integration in the project.	**COMMENT ADRESSED**
110	Those questions (taken from the inception report) were not addressed. Please add text to address those 2 elements in the findings section. • To what extent have the project managers effectively taken into consideration human rights in the design and implementation of the Big data project and its activities? • To what extent has the Big data project undergone adjustment, if any, to its activities and modality as direct consequence of the COVID-19 situation or in response to the new priorities of Member States? (we know the adaptation to COVID-19 is mentioned throughout the findings, but it would be helpful to briefly answer the question directly).	**COMMENT ADRESSED there are three findings in Cross-Cutting section.**
116	Not clear what is meant by "expected indicators". Do you mean the 2 indicators under each of the EA were achieved?	**Yes. This comment is addressed on the effectiveness section.**
Conclusion 5 pg. 52	One word seems to be missing: The project has shown relatively _____ consideration	**COMMENT ADRESSED**
Recommendation 5 pg. 59	Identical to Recommendation 4. Same in summary table and in executive summary. Please review so that there are only 5 recommendations addressed to ECLAC.	**COMMENT ADRESSED**
Recommendation 6 pg. 59	Could the recommendation on short-to-medium term financing strategy be combined with the one on medium-term sustainability strategy?	**COMMENT ADRESSED**
Annex 1	Please replace the inception report with the evaluation matrix including evaluation questions.	**COMMENT ADRESSED**

Evaluation of the DA Project 1617Y
"Big Data for measuring and fostering the digital economy in Latin America and the Caribbean"

Evaluation Report Feedback Form: Evaluation Reference Group

GENERAL COMMENTS		
REPORT SECTION (if applicable)	**COMMENT**	**EVALUATOR'S RESPONSE**
Section 4.1 Progress against indicators. 55. Thus, the project scope of developing a technical solution for measuring the digital economy was limited to assessing the current state of art of the digital economy in LAC, mainly in the labour market and digital skills, technology prices, micro-small-and medium-sized enterprises, broadband, cryptocurrency and social media.	55. Thus, the project scope of developing a technical solution for measuring the digital economy was limited to assessing the current state of art of the digital economy in LAC, mainly in the labour market and digital skills, technology prices, micro-small-and medium-sized enterprises presence in marketplaces, broadband, cryptocurrency, social media and businesses presence on the internet.	**COMMENT ADDRESSED (Text modified)**
Section 4.1	56. The National Statistic Offices participating to the project: INEGI of Mexico, IBGE and CETIC.br of Brazil, INE of Chile and DANE of Colombia have developed measurement instruments with big data techniques to analyze how businesses use Internet. Additionally, web data on businesses has proven to be useful for updating the business directories of the NSOs.	**COMMENT ADDRESSED (Text modified)**

ANNEX 7

SURVEY REPORT

BIG DATA SURVEY REPORT

1. ABOUT THE SURVEY

In the framework of the Development Account project "Big Data for measuring and fostering the digital economy in Latin America and the Caribbean", ECLAC is carrying out the evaluation in order to measure the relevance, efficiency, effectiveness and sustainability of the activities financed by the project for the benefit of the different countries of Latin America and the Caribbean.

In this context, the Survey was intended to capture the impact and effectiveness of the services provided by ECLAC and to improve them in the future.

Number of emails sent out with the survey link: 146
Number of surveys completed: 46

The survey was developed and carried under the frame of the Survey Monkey platform allowing all emailed participants to access easily the English versions of this Survey, an informal translation in to Spanish and Portuguese of the questions was available upon request.

The links to the survey were launch on and sent to **9 de mayo** recipients. By the end of the survey on **20 May 2021**, **46** were considered to have been completed, but in several questions the number of respondents was sometimes reduced to only 21 respondents, as in the case of the open-ended questions the number of respondents was between 8 to 9 only.

2. ABOUT THE SURVEY REPORT

The report of this survey follows the sequence of the survey questions which are categorized along the main areas of evaluation mentioned in the TOR, that are: (1) relevance, (2) coherence, (3) effectiveness, (4) efficiency, (5) impact, (6) sustainability and (7) cross-cutting issues.

The evaluation framework and Evaluation Questions (EQs) are set out with a view to:

- Covering the three different DA project stages (i.e., design, implementation and results)
- Be centered around the four Evaluation parameters specified in the TOR (i.e., relevance, efficiency, effectiveness and sustainability).

Ensure the final evaluation report is coherent and flows in terms of analysis and reporting.
This report is structured along the main areas of evaluation mentioned in the ToR which are: 1) relevance, (2) coherence, (3) effectiveness, (4) efficiency, (5) impact, (6) sustainability and (7) cross-cutting issues.

This report is a support document to the main Report on the evaluation of the Development Account project "Big Data for measuring and fostering the digital economy in Latin America and the Caribbean" requested by ECLAC, and presents an analysis of each of the answered questions in the Survey. The information has been extracted from the Survey Monkey platform and analysed accordingly.

The survey is constituted of open questions (free text boxes) and Multiple option questions with one answer and/or multiple answers per column and row (Multiple choice answers), thus each question provided a particular type of analysis and interpretation.

The following report provides the analysis carried on each question according to the above-mentioned structure and does not necessarily match the number of the questions as they were presented in the Survey.

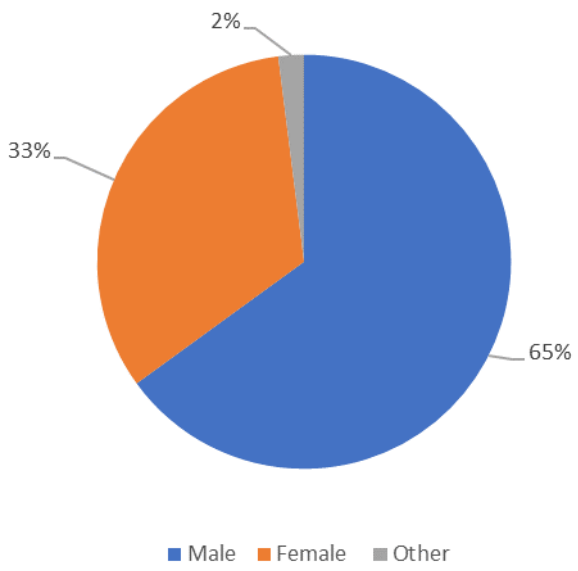
3. THE BIG DATA SURVEY ANALYSIS

3.1. Section A: General Data

The first section of the survey addresses the general information on the respondents. This section allows the evaluator to have a better understanding of the respondents answers and knowledge on the survey. The questions that form this section are Q1, Q2, Q3, and Q4, and seek to gather the information of the sex of the respondents (Q1), the position (Q2), the type of organization the respondents work (Q3), and the number of workshops the respondents have attended to (Q10).

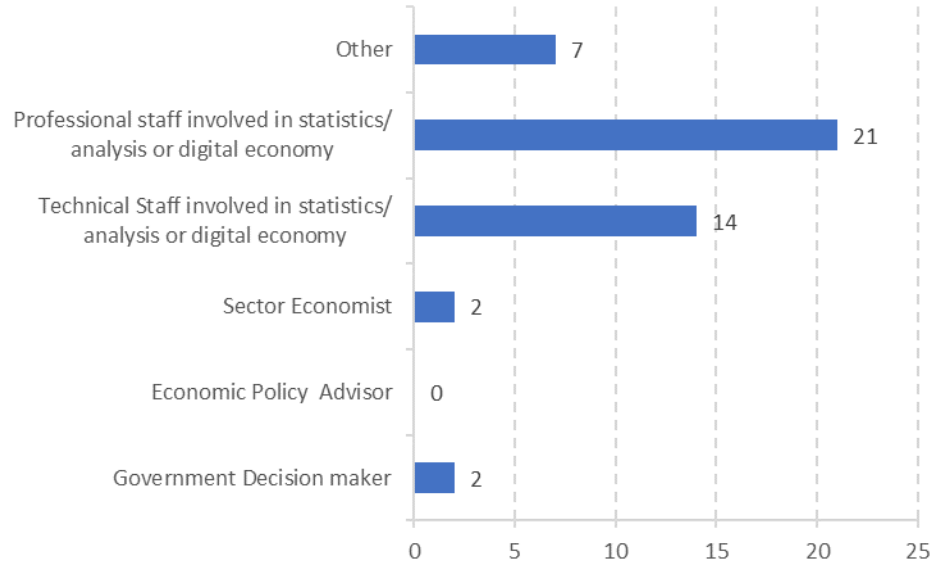
Question 1 addresses the gender of the respondents. Among the 46 respondents, 65% answered male, 33% female, and 2% "Other".

Q1. Indicate your sex



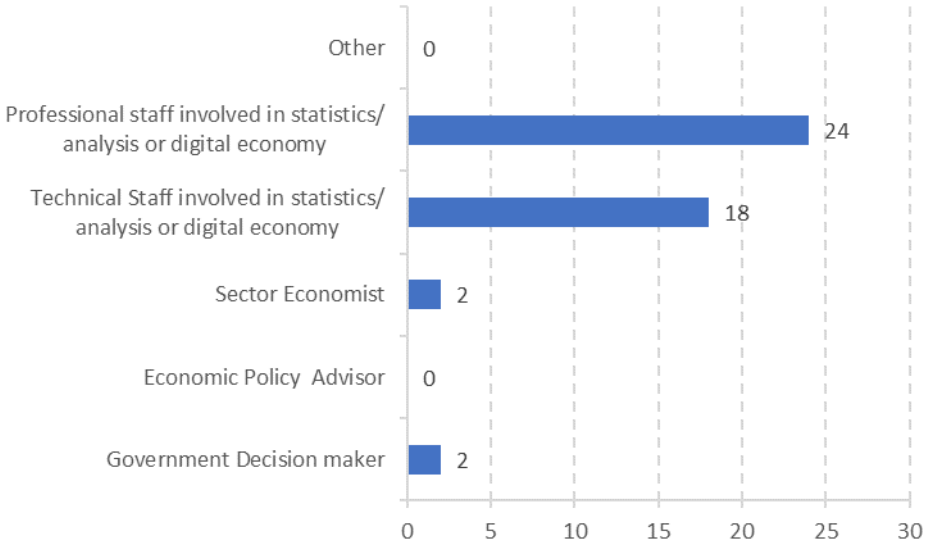
Question 2, "What is your position?" is a multiple-answer question that aims at collecting information of the position of the survey respondents in relation to the BIG DATA project. The Bar chart below illustrates the answers to the question. The majority of the respondents were **Professional staff involved in statistics/analysis or digital economy** with 21 respondents. Followed by the **Technical staff involved in statistics or data analysis** with 14 respondents. The next position was **Other** with 7 respondents. Finally, **Sector Economist** and **Government Decision Maker** with two respondents in each position.

Q2. What is your position?



The initial 7 respondents that marked as **Other** when analysed the position specified, 4 were related to **Technical staff involved in statistics/ analysis of digital economy,** 3 were related to **Professional staff involved in statistics /analysis of digital economy. So after correction of the data provided the respondents position chart reflects:**

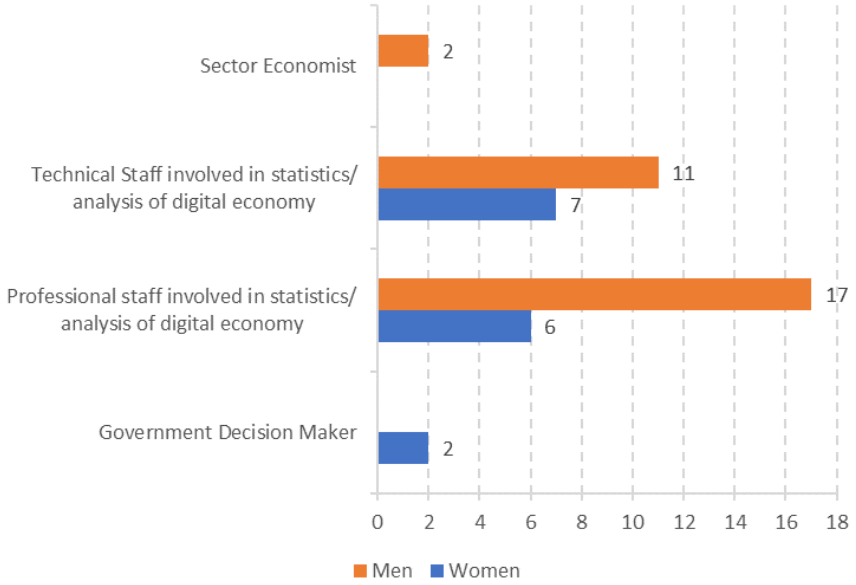
Respondents position after analysis



Overall, 52.2% of respondents were **Professional staff involved in statistics/analysis or digital economy,** followed by 39.1% of respondents that were **Technical staff involved in statistics/ analysis of digital economy,** and both Sector Economists and Government Decision Maker had only 4.3% of respondents each.

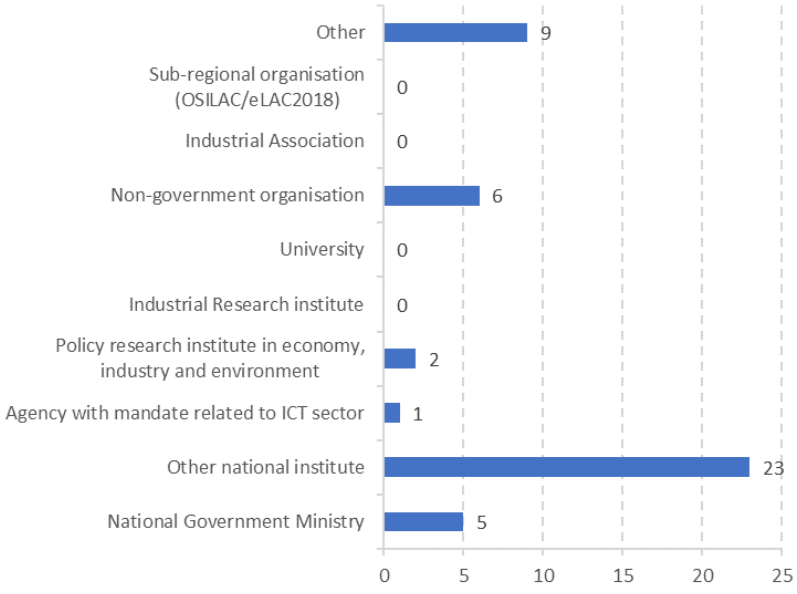
When triangulating question 1 & 2, it turned out that of the 15 women responding the survey, 2 were **Government Decision Maker,** 6 were **Professional Staff involved in statistics/analysis of digital economy** and 7 were **Technical staff involved in statistics/ analysis of digital economy.**

Gender allocation per position



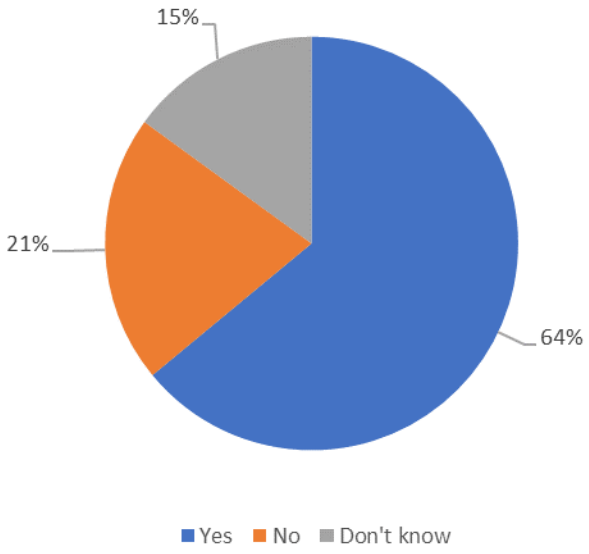
Question 3 looks at the type of organization the respondents work on. The question is formulated in a multiple-answer format in which the respondents could choose among several options. The chart shows that 50% of the respondents (23 out of 46) work in **Other national institute,** followed by 20% respondents declaring that they work in **Other** organization. Next type of organisations were the **Non-governmental organization** with 13% of the respondents and 11% in a **National Government Ministry.** Finally, 4% of the respondents work in the **Policy research institute in Economy, industry and environment,** and 2% in an **Agency with mandate relate to ICT sector.**

Type of organisation that respondents work for



Question10: "*Have you attended any of the workshops implemented by the project?*". This question is formulated in a yes/no format with the possibility of further elaboration. The graph illustrates the answers: whereas 64% of the respondents have attended to workshops, 21% have not, and 15% do not know.

Attendance of the respondents to the workshops implemented by the project



It should be mentioned that 13 of the initial 46 respondents did not answer this question.

Some of the respondents elaborated their answer providing more information about the workshops they attended.

These are the answers:

Speaker - Big Data, Economía Digital y Desarrollo Sostenible (9-11 abril 2019 Santo Domingo, Rep. Dom.); Speaker - Uso de Big Data en las estadísticas oficiales para la medición de la economía digital y el desarrollo sostenible (7-9 mayo 2019, Bogotá, Colombia).
Web data collection and analysis: Web scraping and API's interaction.
Participante do workshop "Web data collection and analysis: Web scraping and API's interaction" realizado em novembro/2019 no Rio de Janeiro, Brasil.
Co-organizador Capacitação em técnicas de Big Data Local IBGE Rio de Janeiro novembro de 2019.
"Taller: Aspectos metodológicos sobre la medición de la economía de Internet". Santiago - Chile. 9/11/2019 até 10/11/2019. Participante. "Technical Workshop: Web data collection and analysis: Web scraping and API's interaction Technical Workshop". Rio de Janeiro - Brasil. 25 até 27/11/2019.
ONE - República Dominicana e data pop Alliance.
Santiago, Chile octubre 2019, Ponente.
Participé en el taller sobre "Aspectos metodológicos sobre la medición de la economía de Internet Comisión Económica para América Latina y el Caribe", dictado en la ciudad de Santiago de Chile, 9-10-11 de octubre luego las reuniones realizadas en el mes de marzo vía online y fui participante del INE Chile.
Taller de Metodologías sobre la medición de la economía de Internet - PARTICIPANTE Y PONENTE`.
Big Data, Economía Digital y Desarrollo Sostenible, Santo Domingo, República Dominicana, abril 2019, participante.

Participante en el Taller Big Data, Economía Digital y Desarrollo Sostenible, Santo Domingo, República Dominicana, 9 al 11 de abril del 2019.
República Dominicana, Santo Domingo 2019.
Big Data, Economía Digital y Desarrollo Sostenible, República Dominicana, abril 2019, Participante.
Taller I: Big data, Santiago de Chile en octubre del 2019.
"Taller: Aspectos metodológico sobre la medición de la economía del internet", Santiago de Chile, 9 y 10 de octubre 2019. Participante.
Aspectos Metodológicos de la Medición de la Economía Digital, Santiago de Chile, octubre 2019. Presentador del Marco Maestro de Empresas de Chile.
Taller en Santiago de Chile.
2 talleres sobre economía digital, Santiago de Chile, Año 2019, participante y ponente.

3.2. Section B: Participation

The questions that form section B are intended to provide a detailed overview of the opinion of the respondents on the project. This section aims at the evaluation of the criteria of the project. It is categorized along the main areas of evaluation mentioned in the TOR, that are: (1) relevance, (2) coherence, (3) effectiveness, (4) efficiency, (5) impact, (6) sustainability and (7) cross-cutting issues.

Relevance

The OECD[55] defines relevance as "*The extent to which the intervention objectives and design respond to beneficiaries', global, country, and partner/institution needs, policies, and priorities, and continue to do so if circumstances change*". The questions aims at measuring the extent to which the project and its activities are suited to the priorities and policies of the region and countries at the time of formulation and to what extent they are linked or related to the ECLAC mandate and programme of work.

Question4. "*How relevant to your national needs and context do you think the project design has been, in terms of:*" was a multi-answer question in which the respondent could chose among a range of options, from "very relevant" to "No relevant" including "Don't know". This question measured two distinct elements related to the relevance of the project to:

(1) Addressing issues in the digital economy (**In blue**).
(2) Your country's development needs and priorities in the digital economy (**in orange**).

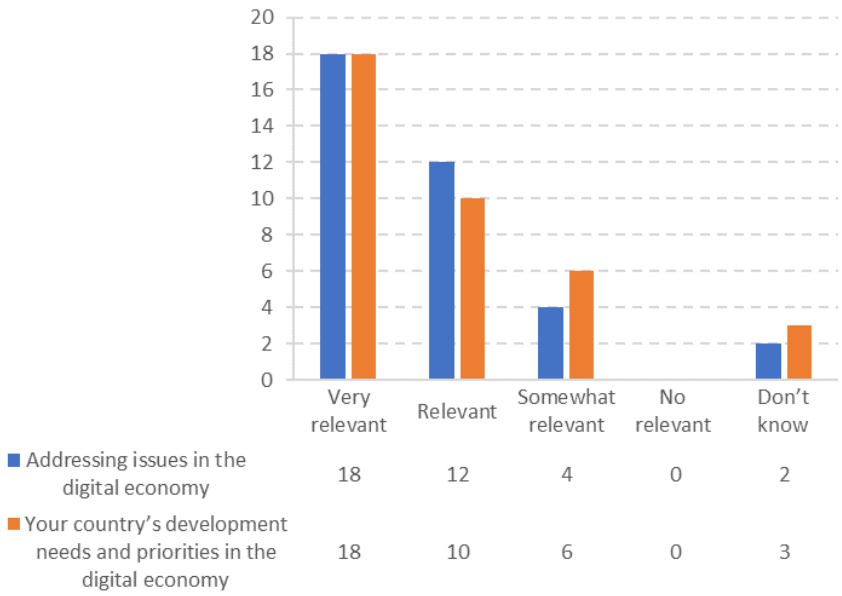
It was answered by 36 of the 46 respondents that started the survey, meaning, that in the change from section A to section B, there was a decrease of 21.7%. on the number of respondents.

Overall, 83.3% of respondents considered that the project either was relevant or very relevant in addressing issues in the digital economy, while 11.1% considered that was somewhat relevant, with only 5,5% of respondents not knowing on this subject.

In relation to the relevance of the project to country development needs and priorities in the digital economy, 77.7% of respondents considered that it was either relevant or very relevant, while 16.6 % considered somewhat relevant, with 8.3% of respondents not knowing on this subject.

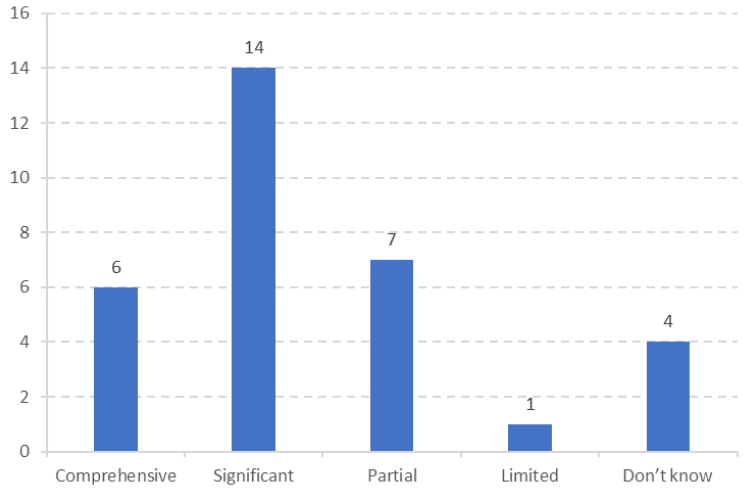
[55] Better Criteria for Better Evaluation, Revised Evaluation Criteria Definitions and Principles for Use OECD p 7.

Respondents opinion on the relevance of the project towards



Question14 is part of the Relevance criterion. This question assesses the response of the project activities to the respondents' needs in the area of promoting digital technologies. From "Comprehensive" to "Limited", the respondents were able to answer how pertinent were the project activities according to their needs.
In this case of question 14 only 32 respondents answered this question. Overall, 62.5% of respondents considered the project activities as either Comprehensive (18.8%) or Significant (43.8%), while 21.9% of respondents considered the projects activities as Partially responding their needs and 3.1% only limited to their needs. 12.5% of respondents answered that they did not know.

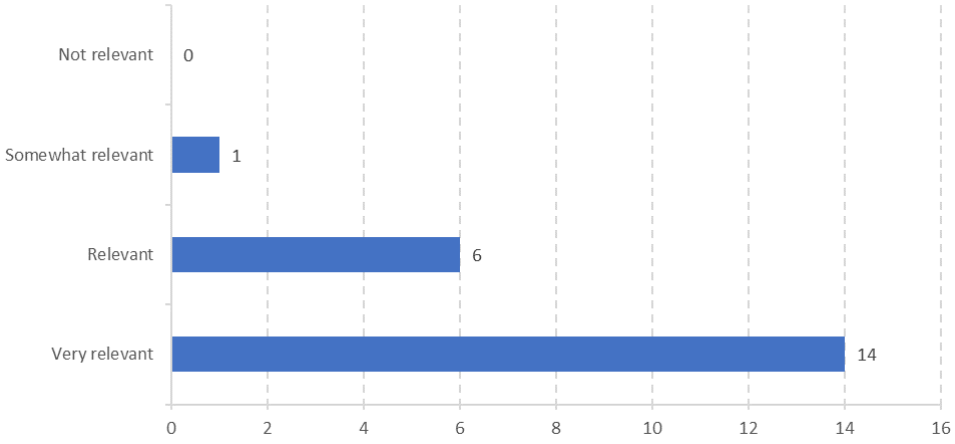
Q14. Please assess the response of the project activities to your needs in the area of promoting digital technologies



Question 11: *How relevant to your national needs and context do you think the workshop's learning capacities development and networking /exchange has been for workshop participants, in terms of your personal knowledge and skills development in digital policy level?*

This question was answered by 21 respondents out of the initial 46 respondents that initiated the survey. There was a decrease of 54.3% on the number of the original total respondents, and a decrease of 15 respondents from the previous two questions. The format of the question is multi-answer, ranging from "Very relevant", to "Not relevant" and included "Don't know". In this case, 66.6% of the respondents (14/21) considered the different workshops were very relevant to their national needs and context in relation to their personal learning capacities (knowledge and skills) in digital policy level. Followed by 28.6% of respondents that considered it was "relevant", and 4.8% of respondents considered it to be "somewhat" relevant. The options **Not relevant** and **Don't know** were not market.

Q11. How relevant to your national needs and context do you think the workshop's learning capacities development and networking /exchange has been for workshop participants, in terms of your personal knowledge and skills development in digital policy level



Efficiency

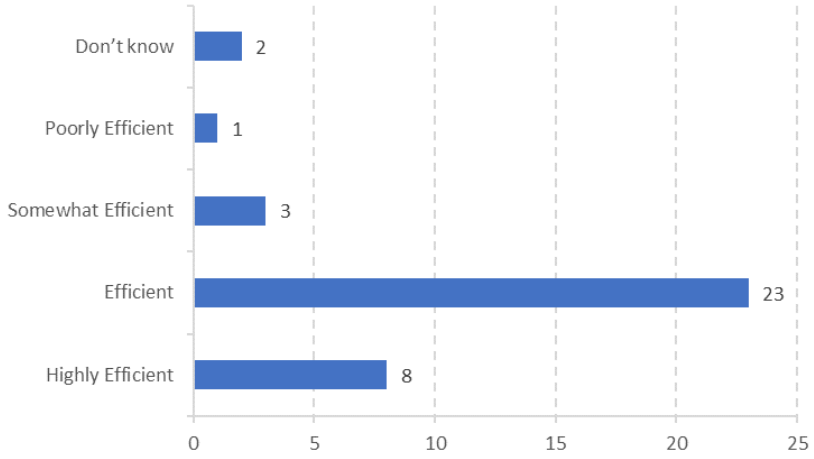
The efficiency of this evaluation is focused at the measurement of the outputs (qualitative and quantitative) in relation to the inputs. The OECD describes efficiency as" the extent to which the intervention delivers, or is likely to deliver, results in an economic and timely way. "*Economic" is the conversion of inputs (funds, expertise, natural resources, time, etc.) into outputs, outcomes and impacts, in the most cost-effective way possible, as compared to feasible alternatives in the context. "Timely" delivery is within the intended timeframe, or a timeframe reasonably adjusted to the demands of the evolving context. This may include assessing operational efficiency (how well the intervention was managed)*". [56]

The first question relating efficiency is **Question 6**. The question "According to you, how has been the efficiency of the project implementation?" is formulated in a multi-answer format and respondents were able to answer it in a scale from "Highly Efficient" to "Poorly Efficient" and "Don't know".

It was answered by 36 respondents, of which 86.2% of respondents regarded the project as either been Efficient (63.8%) or Highly efficient (22.2%), while a 8.3% of respondents regarded the project to have been Somewhat efficient and 2.7% of respondents regarded the project to have been Poorly efficient, and 5.5% of respondents answered that they didn't know.

[56] Ibid p 10.

Q6. According to you, how has been the efficiency of the project implementation?



Effectiveness

The effectiveness of the project addresses the extent to which activities attain its objectives and expected accomplishments. The OECD[57] defines it as *"The extent to which the intervention achieved, or is expected to achieve, its objectives, and its results, including any differential results across groups. Analysis of effectiveness involves taking account of the relative importance of the objectives or results"*. Under this criterion questions 5, 7, 12, 13 and 15 are relevant.

Question 5: *According to you, what has been the quality of the project design in terms of:*

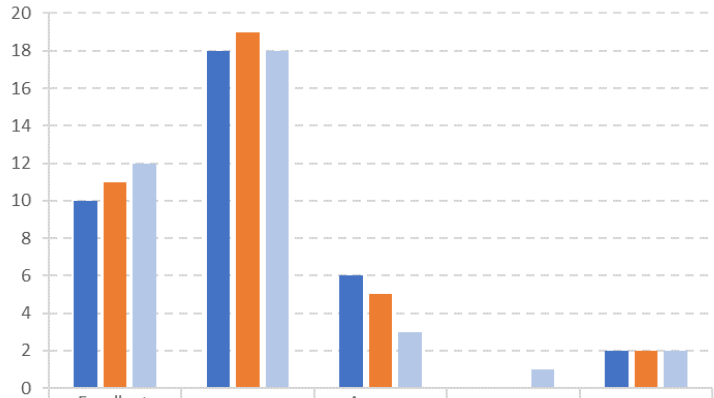
(1) Addressing the regional and country needs of LAC countries (**in dark blue**).
(2) Showing good anticipation of the required activities and implementation approach to the needs identified in the target countries and region (**in orange**).
(3) Level of consultation with relevant stakeholders (**in light blue**).

This question was also answered by 36 respondents out of the 46 original respondents of this survey. It was formulated as a multi-answer format with choices ranging from "excellent quality" to "poor quality" including "don't know".

Overall, 77.7% of respondents considered that the project design in relation to the regional and country needs of LAC countries is either good quality (50%) or excellent quality (27.7%), followed by 13.8% of respondents that considered that the project design is average quality and 5.5% did not know.

[57] Ibid p 9.

Respondents opinion on the quality of the project design in



	Excellent Quality	Good Quality	Average Quality	Poor Quality	Don't know
Addressing the regional and country needs of LAC countries	10	18	6	0	2
Showing good anticipation of the required activities and implementation approach to the needs identified in the target countries and region	11	19	5	0	2
Level of consultation with relevant stakeholders	12	18	3	1	2

In relation to the project design showing good anticipation of the required activities and implementation approach to the needs identified in the target countries and region, 83.3% of respondents considered the project to have been either of good quality (52.7%) OR excellent quality (30.6%), followed by 13.8 % of respondents considering the project to be of average quality while only 5.5% did not know.

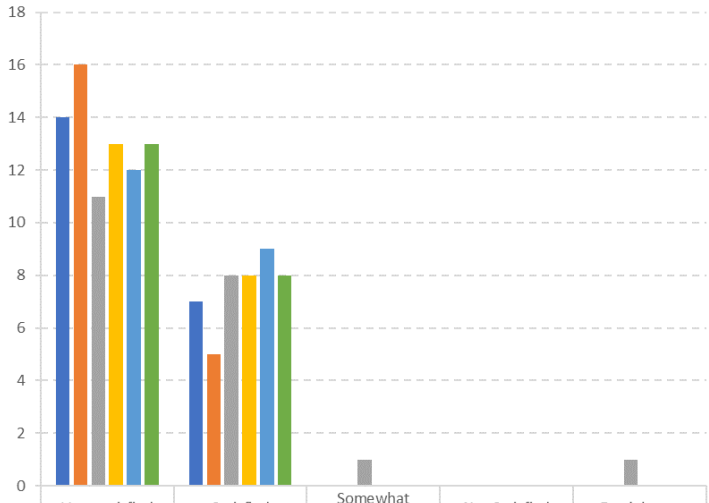
In relation to the level of consultation the project had with relevant stakeholders, 83.35% of respondent considered that the project was either good quality (50%) or excellent quality (33.3%), followed by 8.3% of respondents that considered the project to had an average consultation level with relevant stakeholders, while only 5.5% did not know.

Question 12 measures the levels of satisfaction of the participants regarding different aspects of the workshops and training events. This question is a multi-answer format in which the participants were able to choose among the options "Very Satisfied", "Satisfied", "Somewhat Satisfied", "Not Satisfied" and "Don't know". The question was answered by 21 respondents.

On the clarity of the presentations, 100% of the respondents were either very satisfied (66.67%) or satisfied (33.33%).

On the quality of the event facilitator(s)/leader(s) moderator(s), 100% of the respondent were either very satisfied (73.2%) or satisfied (23.8%).

Q12. Satisfaction with the workshop/training event: How satisfied were you with the following aspects of the workshop /training event?



	Very satisfied	Satisfied	Somewhat satisfied	Not Satisfied	Don't know
The clarity of the presentations	14	7	0	0	0
The quality of the event facilitator(s)/ leader(s) moderator(s)	16	5	0	0	0
The answers you got to your questions in the workshop	11	8	1	0	1
The event logistic arrangements and timing	13	8	0	0	0
The venue where the workshops were implemented	12	9	0	0	0
The workshop structure, content and delivery	13	8	0	0	0

The answers the respondent got to his/her questions in the workshop, 90.5% of respondents were either very satisfied (52.4%) or satisfied (38.1%), followed by 4.8% of respondents that were somewhat satisfied and 4.8% that answered "do not know".

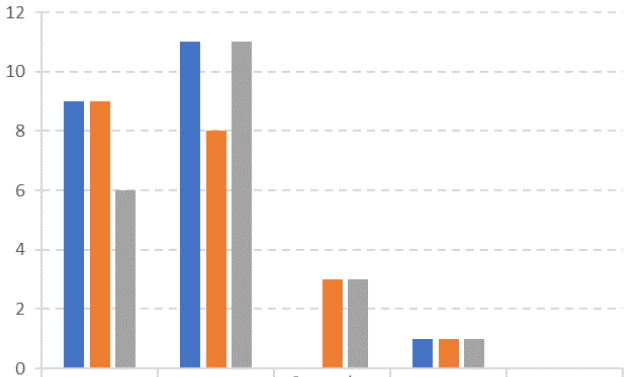
The event logistics arrangements and timing, 100% of the respondents were either very satisfied (61.9%) or satisfied (38.1%).

The venue where the workshops were implemented, 100% of the respondents were either very satisfied (57.1%) or satisfied (42.9%).

The workshop structure, content and delivery, 100% of the respondents were either very satisfied (61.9%%) or satisfied (38.1%).

Question 13 measures the levels of satisfaction of the respondents in relation to the support activities and the resources available that go beyond the project training or capacity building events. The format of the question is a multi-answer format with options ranging from "Very Satisfied" to "Not Satisfied" and the "Don't know option". This question was responded by 21 participants out of the initially 46 respondents.

Q13. Satisfaction with range of project support activities/resources available: How would you assess your satisfaction with the range of project support activities/resources available, beyond and specific project training or capacity building event that



	Very satisfied	Satisfied	Somewhat satisfied	Not satisfied	Don't know
Pre-workshop support activities (e.g. knowledge provision w.r.t. digital technology and digital indicators development)	9	11		1	
Support for designing, planning and developing policy analysis and scenarios	9	8	3	1	
Advisory support and guidance on national policy planning and developing initiatives	6	11	3	1	

According to the chart, it can be described that the reactions and opinions of the respondents are in the majority positive (Satisfied and Very Satisfied). However, there are some participants who were not satisfied at or who were "somewhat satisfied" all with the support activities. Considering the project evolved around the development of the different activities, it is to highlight the answer of the respondents to this question.

On the statement related to Pre-workshop support activities (e.g., knowledge provision w.r.t. digital technology and digital indicators development), 95.2% of respondents considered to be either very satisfied (42.9%) or satisfied (52.3%), with only 4.7% of respondents not satisfied.

On the statement related to the support provided for designing, planning and developing policy analysis and scenarios, 80.9% of respondents considered to be either very satisfied (42.9%) or satisfied (38.1%), followed by 14.3% of respondents to be somewhat satisfied and with only 4.7% of respondents not satisfied.

On the statement related to the advisory support and guidance on national policy planning and developing initiatives, 80.9% of respondents considered to be either very satisfied (28.6%) or satisfied (52.3%), followed by 14.3% of respondents to be somewhat satisfied and with only 4.7% of respondents not satisfied.

Question15, addresses the scope for improvement, as it asks the respondent to look back at his/her experience of the project activity that he/she participated in, and to provide any suggestion on how the effectiveness or impact of this activity could be increased? This is an open-ended question in which the participants are asked for their suggestions on how the effectiveness of the impact of the activities might have been increased based on their previous experience.
This question gathered a total of 9 responses that after analysis have been grouped in the two sections the first group making reference to the time of the project:

- Having more time available for a detailed analysis.
- To promote a second phase of the Project.

- Maybe having shorter meetings displayed in shorter time slots in order to help the development of the projects that had technical difficulties or implementation difficulties).
- Increase the time of the Project implementation.

The second group providing specialized topics:

- To promote project dissemination workshops.
- To learn more about the uses of this information.
- Work on specific issues on the development of technology indicators for the development and monitoring of public policy. Generation of indicators that promote the correct international comparison. Development of standardized methodologies for measuring the sector.
- Linking with statistical and methodological foundations for measuring the digital economy. I consider it important to work with the ECLAC Statistics Division on these orientations.
- Work through agreements between institutions for the objective of the project.
-

Original text of the survey open-ended question 15	Translation to English
Disponer de más tiempo para un análisis más refinado.	Having more time to carry for more refined analysis.
Promover uma segunda fase do projeto.	Promote a second phase of the project.
Talvez mais reuniões curtas, em intervalos de tempo menores poderia ajudar o desenvolvimento dos projetos por organizações que passaram por dificuldades técnicas na implementação do projeto.	Perhaps more short meetings at shorter time intervals could help project development by organizations that have experienced technical difficulties in project implementation.
Conocer más de cerca los usos de esta información.	To learn more about the uses of this information.
Si bien se trata de estandarizar lo indicadores, lamentablemente en muchas ocasiones los indicadores no pueden comparables entre regiones dada la limitación de la información disponible, por lo cual, es necesario, antes de formular los indicadores, conocer la limitación de información de los países participantes.	Although the aim is to standardize the indicators, unfortunately, in many cases the indicators cannot be compared between regions due to the limited information available, so it is necessary, before formulating the indicators, to know the information limitations of the participating countries.
Ampliar el tiempo del proyecto.	Extending the project implementation time.
Trabajar temas específicos sobre elaboración de indicadores de tecnología para la elaboración y seguimiento de la política pública. Generación de indicadores que propicien la correcta comparación internacional. Desarrollo de metodologías estandarizadas para la medición del sector.	Work on specific topics on the development of technology indicators for the elaboration and monitoring of public policy. Generation of indicators that allow for proper international comparison. Development of standardized methodologies for measuring the sector.
mediante convenios entre instituciones para el objetivo del proyecto.	through agreements between institutions for the objective of the project.
Vinculación con fundamentos estadísticos y metodológicos para medición de la economía digital. Considero importante trabajar con la División de Estadísticas de CEPAL en estas orientaciones.	Linking with statistical and methodological foundations for measuring the digital economy. I consider it important to work with the ECLAC Statistics Division on these orientations.

Question 17 intended to gather the respondents experience on how the ECLAC Big Data project and activities have positively supported specific results and achievements in the country of the respondent. The question has an open-ended format in which each respondent was able to provide his/her own text and express his/her experience and opinion. The number of respondents that answers this question and provided examples were only 7 respondents out of the 46 that started the survey.

The answers reveal that the project had a positive impact on the countries that were implemented. However, the reduced number of answers and specific examples limits the wait of the information provided.

Original text of the survey open-ended question 17	Translation to English
Mayor conocimiento sobre el tema.	Increased knowledge on the subject.
Enriquecimento do cadastro de empresas com informações coletadas da web, com possibilidade de atualização praticamente em tempo real. Além do impacto positivo em todo o processo de produção de estatísticas de empresas, possibilita a captação de populações de difícil observação em função de elevada volatilidade (atividade econômica, localização etc) ou limitada contribuição econômica individual.	Enrichment of the business register with information collected from the web, with the possibility of updating it practically in real time. In addition to the positive impact on the whole process of producing business statistics, it makes it possible to capture populations that are difficult to observe due to high volatility (economic activity, location, etc.) or limited individual economic contribution.
IBGE e Cetic irão fazer um projeto similar ao projeto Big Data para mensuração da economia digital utilizando a pesquisa de comercio do IBGE e os registros do Nic.	IBGE and Cetic will carry out a project similar to the Big Data project to measure the digital economy using IBGE's commerce survey and NIC.
Na parte técnica do projeto, infelizmente não conseguimos modelos com bons desempenhos, porém o estudo possibilitou um grande avanço nas metodologias estudadas. O projeto enriqueceu muito nosso conhecimento sobre o tema. O estudo permitiu avaliar de uma forma geral como são os websites brasileiros, suas características e limitações. O projeto possibilitou uma vasta troca de experiência entre diferentes países e organizações.	In the technical part of the project, unfortunately we did not achieve models with good performance, but the study enabled a great advance in the methodologies studied. The project greatly enriched our knowledge on the subject. The study allowed to evaluate in a general way how the Brazilian websites are, their characteristics and limitations. The project has enabled a vast exchange of experience between different countries and organisations.
Conocer el uso de Internet por las empresas durante la pandemia.	Understanding business use of the Internet during the pandemic.
Caracterización de las empresas que utilizan el Internet Medición del impacto de la economía digital Vinculación de empresas	Characterisation of companies using the Internet Measuring the impact of the digital economy Linking companies.

Impact:

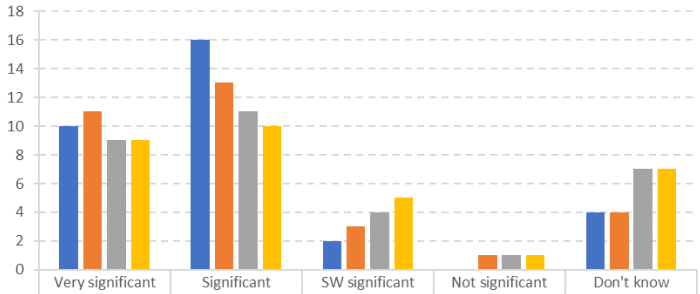
According to **OECD,**[58] impact is "*The extent to which the intervention has generated or is expected to generate significant positive or negative, intended or unintended, higher-level effects. Impact addresses the ultimate significance and potentially transformative effects of the intervention. It seeks to identify social, environmental and economic effects of the intervention that are longer term or broader in scope than those already captured under the effectiveness criterion. Beyond the immediate results, this criterion seeks to capture the indirect, secondary and potential consequences of the intervention. It does so by examining the holistic and enduring changes in systems or norms, and potential effects on people's well-being, human rights, gender equality, and the environment.*"

Question 8, It is an open-question in which the respondents were asked to provide if they knew of any policy that in their opinion could have been impacted/ benefit from the project activities by using big data techniques, or information. Out of the 8 respondents who answered the question, none of them were able to provide the example of a policy in their country that have benefit from the use of Big Data technology. This could be due to the lack of knowledge of the respondents regarding this subject, or that it is quite early in the adoption of the Big data technologies to have already an impact / effect on the policy assessment.

Question 16, assessed the impact of the project on the bases of the usefulness of the project activities on personal knowledge development, on personal skill development, on capabilities in development and measurement, and on capabilities in measurement and implementation. This multi-answer question was answered by 32 respondents who measured the impact from "Very Significant" to "Not significant" having "Don't know" as alternative.

[58] Ibid p 11.

Q16. How useful do you think that the project activities have been in terms of



	Very significant	Significant	SW significant	Not significant	Don't know
Impact of project activities on my personal knowledge development in digital policy development and measurement	10	16	2	0	4
Impact of project activities on my personal skill development in digital policy development and measurement	11	13	3	1	4
Impact on capabilities (e.g. in your department/national/ ministry/organisation) in digital policy development and measurement	9	11	4	1	7
Impact on capabilities (e.g. in your department/national/ ministry/organisation) in digital policy measurement and implementation	9	10	5	1	7

On the statement asking about the Impact of project activities on the respondents' personal knowledge development in digital policy development and measurement, a total of 81.3% of respondents considered that the impact has been either very significant (31.3%) or significant (50%), followed by 6.3% of respondents considering that the impact has been somewhat significant, there was no respondent for the not significant criterion but 12.5 of respondents answered that they did not know.

On the statement asking about the Impact of project activities on my personal skill development in digital policy development and measurement,75% of respondents considered that the impact has been either very significant (34.4%) or significant (40.6%), followed by 9.4% of respondents that considered the impact of the project in their personal skills on digital policy development and measurement was somewhat significant. Only 3.1% of respondents considered that there was not significant impact on their skills, with 12.5 of respondents answered that they did not know.

On the statement asking about the Impact on capabilities (e.g. in your department/national/ ministry/organization) in digital policy development and measurement, 62.5% of respondents considered that the impact has been either very significant (28.1%) or significant (34.4%), followed by 12.5% of respondents considering that the impact has been somewhat significant, there was 3.1% of respondents that considered there was not significant impact but 21.9% of respondents answered that they did not know.

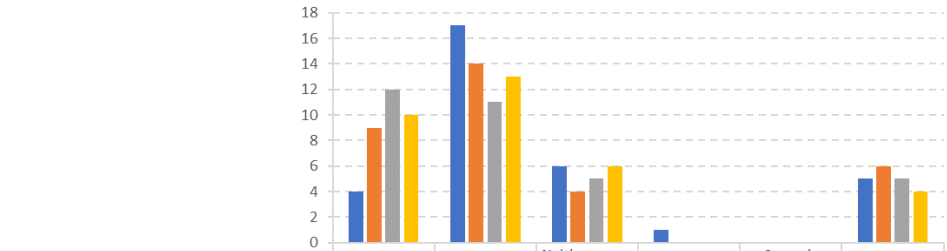
On the statement related to Impact on capabilities (e.g. in your department/national/ ministry/organization) in digital policy measurement and implementation, 59.4% of respondents considered that the impact has been either very significant (28.1%) or significant (31.3%), followed by 15.6% of respondents considering that the impact has been somewhat significant, there was 3.1% of respondents that considered there was not significant impact, and 21.9% of respondents answered that they did not know.

Note of the evaluator: The criterion of Impact was not requested in the assessment of the final results of the Big Data project, but given that during the first round of interviews with the ECLAC project coordinators it was mentioned the good will and interest from the stakeholders and direct beneficiaries, the evaluator took the liberty to put forward these questions in the survey, that have helped to triangulate and corroborate the information from the reports, and interviews carried in the evaluation process.

Sustainability

The last of the criteria of the survey according to the ToR is the degree of Sustainability. According to OECD [59], sustainability is "*The extent to which the net benefits of the intervention continue, or are likely to continue.*

Q7. Please indicate if you agree with the following affirmations



	Strongly agree	Agree	Neither agree or disagree	Disagree	Strongly disagree	Don't know
Comprehensive analysis for measuring digital economy and use of big data was provided to national policy makers	4	17	6	1	0	5
The project has enhanced the technical capacities of LA countries to design and apply policies for measuring digital policies and use digital economy	9	14	4	0	0	6
The project implementation has contributed to promote standard digital indicators and support the digital agenda eLAC2018	12	11	5	0	0	5
The project's delivered outputs enhancing the national capacity in big data techniques, analysis and use of standard indicators to measure digital economy will continue to be used after the project completion	10	13	6	0	0	4

Includes an examination of the financial, economic, social, environmental, and institutional capacities of the systems needed to sustain net benefits over time. Involves analyses of resilience, risks and potential trade-offs. Depending on the timing of the evaluation, this may involve analysing the actual flow of net benefits or estimating the likelihood of net benefits continuing over the medium and long-term."

Questions 7, 9 and 18 are under this criterion, and the provide the beneficiary and stakeholder opinion on the sustainability that they have experienced and its potential to continue using the developed material and replicating the technical exercises in the use of the Big Data techniques.

Question 7 is a multi-answer question in which different statements are proposed and the respondent has to grade them according his/her level of agreement or disagreement that ranges from "Strongly agree" to "Strongly disagree" with the possibility to mark "Don't know". This question was answered by 33 respondents.

Overall, 63.6% of respondents either agree or strongly agree that the project has provided a comprehensive analysis for measuring digital economic and use of big data was provided to national policy makers, while 18.2% of respondents neither agree or disagree, and 3% disagree with the statement. There were 15.25 of respondents that answered that they did not know.

On the enhancement of the technical capacities of LA countries to design and apply policies for measuring digital policies and use digital economy, 69.7% of respondents either agree (42.4%) or strongly agree (27.3%) with the statement, followed by 12.1% of respondents that neither agree or disagree with the statement, while 18.2% of respondents answered that they did not know.
On the project contribution to promote standard digital indicators and support the digital agenda eLAC2018, 69.7% of respondents either agree (33.3%) or strongly agree (36.4%) with the statement,

[59] Ibid p 12.

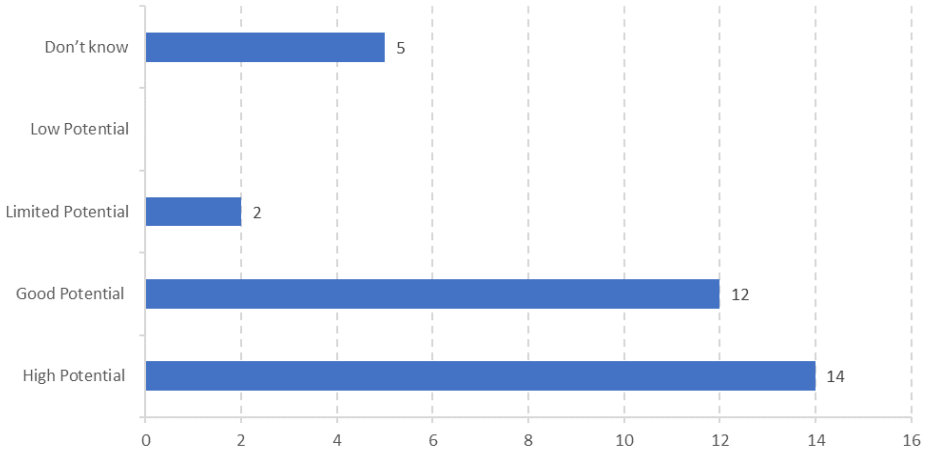
followed by 15.2% of respondents that neither agree or disagree with the statement, while 15.2% of respondents answered that they did not know.

On the sustainability of the project's outputs enhancing the national capacity in big data techniques, analysis and use of standard indicators to measure digital economy after the project completion, 69.7% of respondents either agree (39.4%) or strongly agree (30.3%) with the statement, followed by 18.2% of respondents that neither agree or disagree with the statement, while 12.1% of respondents answered that they did not know.

Question 9, is related to the potential of reapplication and scale-up of the project's successful practices. This multi-answer question was responded by 33 participants, of which 78.8% respondents considered that the activities had either good (33.3%) or high potential (45.5%) to be reapplied and scaled-up. Followed by 6.1% of respondents that considered that the activities had limited potential of reapplication, while 15.2% of respondents answered that they did not know.

The survey shows a positive reaction from the users towards the possibility of reapplication of the activities, which is important for the sustainability of the project.

Q9. According to you, do the project implemented activities have potential for replication and scale-up of successful practices?



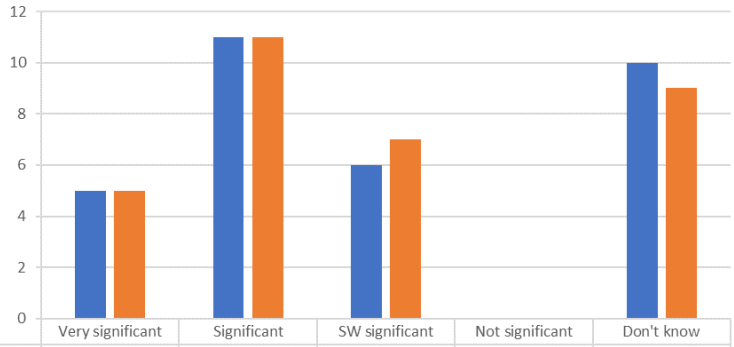
Question 18, is a multi-answer question interested in the sustainability of the project activities on development of national capacities in digital policy development and measurement. Respondents were able to grade their answers in a scale from "very significant" to "not significant" including the "don't know" answer.

On the statement requesting the opinion of the respondent on the progress achieved by the respondent's country in development, implementation and adoption of a digital policy since the project start, during, and after the project ended, overall, 50% of respondents considered that either the country's progress was very significant (15.6%) or significant (34.4%), followed by 18.8% of respondents that considered the country progress somewhat significant. However, 31.3% of respondents answered that they considered to "do not know" about the progress achieved by their country in development, implementation and adoption of digital policy.

On the statement asking for the level of adoption of digital technologies and standard digital indicators by relevant stakeholders in the respondent's country, 50% of respondents considered that the country's level of adoption was either very significant (15.6%) or significant (34.4%), followed by 18.8% of respondents that considered the country progress somewhat significant. However, 31.3% of respondents answered that they did not know on the level of adoption of digital technologies and standard digital indicators.

The high level of respondents not knowing on either sustainability statements (31.3% of respondents for each statement) reflects the need to continue the promotion of new innovative technologies such as the Big Data for the measurement of the digital economy and support to elaborated well founded policies on the digital economy.

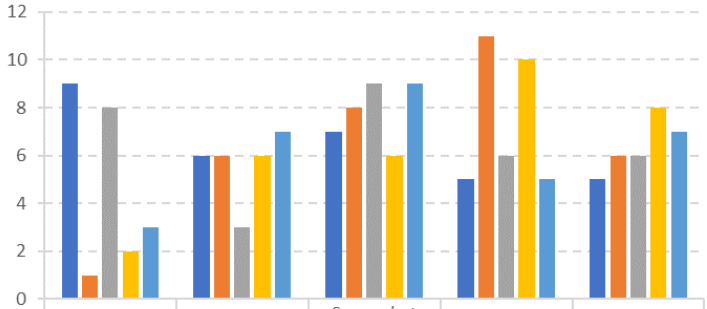
Q18. Sustainability of the project activities on development of national capacities in digital policy development and measurement: how would you assess



	Very significant	Significant	SW significant	Not significant	Don't know
My country's progress in development, implementation and adoption of a digital policy since the project start, during, and after the project ended	5	11	6	0	10
Level of adoption of digital technologies and standard digital indicators by relevant stakeholders in my country	5	11	7	0	9

Question 19 tried to assess the factors that have constrained or reduced the project's potential for implementing learning process. The question is a multi-answer format in which respondents graded the answer from "Very significant" to "Not significant" including the "Don't know" answer.

Q19. Sustainability: what factors, if any, have in your view constrained or reduced the potential adoption from the learning provided by the ECLAC Big Data project?



	Very significant	Significant	Somewhat significant	Not significant	Don't know
Resources constrains within my ministry/organisation (e.g. staff capacity, inadequate staff numbers, etc)	9	6	7	5	5
Influencing constraints- e.g. difficulties in persuading the senior hierarchy to consider or adopt digital policy initiatives	1	6	8	11	6
Lack of governmental finance to support specific digital policy initiatives	8	3	9	6	6
Inadequate follow-on support after the ECLAC project ended	2	6	6	10	8
COVID-19 constraints	3	7	9	5	7

On the statement related to the resources constrains within my ministry/organization (e.g. staff capacity, inadequate staff numbers, etc.), 46.9% of respondents considered either very significant (28.1%) or significant (18.8%) the existing constrains, followed by 21.9% of respondents considering that the constrains were somewhat significant, Thus a total of 68.8% of respondents identified as a constrain within the respondent's organization, while only 15.6% of respondents considered that the constrain was not significant, with another 15.6% of respondents that answered that they did not know.

On the statement related to the Influencing constraints- e.g. difficulties in persuading the senior hierarchy to consider or adopt digital policy initiatives, 34.4% of respondents considered that there were not significant constrains/difficulties in persuading the senior hierarchy to consider/adopt digital policy initiatives, while 21.95 of respondents considered that either there were very significant (3.1%) or significant (18.8%) influencing constrains, and 25% of respondents considered that there were somewhat significant the constrains. The respondents perception was rather negative with a total of 46.9% of respondents considering that there were persistent influencing constrains, against 34.4% of the respondents, with 18.8% of respondents answering that they did not know of influencing constraints.

On the statement about the lack of governmental finance to support specific digital policy initiatives, 34.4% of respondents considered either very significant (25%) or significant (9.4%) the lack of government finance to support specific digital policy initiatives, followed by 28.1% of respondents considering that there was somewhat significant lack of government financing. While 18.85% of respondents considered that there was not significant lack of government finance and another 18.85% did not know about. Again, the perception is rather negative with 62.5% of respondent considering some significant level of poor governmental finance support for specific digital policy initiatives.

Cross-cutting issues

The survey finds its final in the **Question 20** which belongs to the criterion of "Cross-cutting issues". The question has an open-ended format in which respondents shared their opinion towards their country current and future capacity development needs in developing and implementing digital policies.

The question was answered by 12 respondents who shared the following:

Original text of the survey open-ended question 20	Translation to English
No lo sé.	Don't know.
Muitas iniciativas se tornam inviáveis em função da carência de recursos (humanos e materiais). Eventos compartilhando sucessos e aprendizados podem ser de grande valia não apenas na capacitação técnica e estratégica das partes envolvidas, mas também na persuasão dos tomadores de decisão quanto à importância e viabilidade dos trabalhos propostos ou desenvolvidos. Adicionalmente, uma vez que não há perspectivas de melhoria na disponibilidade de recursos financeiros, são de grande interesse abordagens que contribuam com qualquer aspecto de eficiência do ponto de vista econômico.	Many initiatives become unfeasible due to the lack of resources (human and material). Events sharing successes and lessons learned can be of great value not only in the technical and strategic training of the parties involved, but also in the persuasion of decision makers regarding the importance and feasibility of the proposed or developed works. Additionally, since there are no prospects for improving the availability of financial resources, approaches that contribute to any aspect of efficiency from an economic point of view are of great interest.
Na área de indicadores de sustentabilidade e novas tecnologias.	In the area of sustainability indicators and new technologies.
Principalmente na área de Tecnologia da Informação, pois o Brasil é um país muito grande com diferentes níveis de empresas. Empresas de pequeno porte ainda não tem condições de ter um website de qualidade. Acredito que com incentivos e apoio do governo (seja fiscal, treinamentos, etc), permitiria que muitas empresas que hoje estão fora do mundo digital, entre seja capaz de oferecer seus produtos e/ou serviços nos meios digitais.	Mainly in the Information Technology area, as Brazil is a very large country with different levels of companies. Small businesses are still unable to have a quality website. I believe that with government incentives and support (whether tax, training, etc), it would allow many companies that are currently outside the digital world, to be able to offer their products and/or services in digital media.

Original text of the survey open-ended question 20	Translation to English
En la formación de científicos de datos que se ubiquen en áreas estratégicas de estadística e investigación.	In the training of data scientists who are located in strategic areas of statistics and research.
Creo que el concepto de "economía digital y su medición" es muy incipiente, lo que se traduce políticas digitales mal implementadas, creo que necesitamos como país fuentes de datos más robustas y que tengan mayor cobertura, además de estandarización de conceptos e indicadores.	I believe that the concept of "digital economy and its measurement" is very incipient, which translates into poorly implemented digital policies. I believe that as a country we need more robust data sources that have greater coverage, as well as standardization of concepts and indicators Identification of companies that use the Internet for the development of their activities.
Identificación de empresas que utilizan el Internet para el desarrollo de sus actividades.	Identification of companies that use the Internet for the development of their activities.
normatividad, infraestructura, metodologías.	Regulations, infrastructure, methodologies.
Área de tecnología.	Technology area.
Se requiere mejorar la generación de indicadores nacionales que sean comparables internacionalmente, homologar metodologías, unir esfuerzos de diferentes instituciones.	It is necessary to improve the generation of national indicators that are internationally comparable, standardize methodologies, join efforts of different institutions.
En el área económica (nivel micro empresa).	In the economic area (micro enterprise level).
Solo relevar la necesidad del vínculo entre la técnica informática de la medición de la economía digital con los aspectos metodológicos y estadísticos para la producción de estadísticas oficiales y cuentas nacionales.	Only to highlight the need for a link between the IT technique of measuring the digital economy with the methodological and statistical aspects for the production of official statistics and national accounts.

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