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Coordination of international statistical work in the United Nations Economic Commission for Europe region**In-depth review of strategic partnerships with the information industry****Note by Statistics Canada***Summary*

The present note is the in-depth review paper on strategic partnerships with the information industry. The Bureau of the Conference of European Statisticians (CES) conducted the in-depth review at its meeting in October 2015. The purpose of the reviews is to improve coordination of statistical activities in the region of the United Nations Economic Commission for Europe, identify gaps or duplication of work, and address emerging issues.

The note summarises international statistical activities related to strategic partnerships with the information industry, identifies issues and challenges, and makes recommendations for possible follow-up work.

The outcome of the review is provided in document ECE/CES/2016/5/Add.1.



I. Executive summary

1. This paper reviews strategic partnerships with the information industry by providing examples of partnerships carried out with the public sector, the private sector, civil society organizations and academia. It also includes partnerships through crowdsourcing and engagement activities with various actors. A number of countries provided partnership examples, and other examples were found on the Internet.

2. The examples described in this paper represent only a small sample of the types of partnerships undertaken by international organizations and national statistical offices (NSOs). It is likely that other types or models of partnerships not presented in this paper are also taking place. However, the diversity of the partnerships described does illustrate the importance of these partnerships in fulfilling the needs of an organization.

3. The motivations for starting partnerships are varied. A wide range of specific contributions may be sought from different actors to support an organization's existing statistical programmes and address data gaps. The role of different stakeholders in the examples described included providing: 1) financial support; 2) knowledge sharing; 3) advocacy; 4) support for the coordination and production of national statistics and international commitments; 5) development of international reference manuals and practices; 6) data access and 7) outsourced services. Engagement activities were also done to accomplish various goals, such as encouraging respondent participation, gaining support from influential bodies, showcasing the value of official statistics and promoting their use by giving access to data and tools, and offering training and support.

4. A large body of literature documents cases of successful partnerships (see Section II). Based on the information provided, none of the partnerships presented appear to be at the philanthropic stage; however, many examples reflect partnerships at the transactional or integrative stages. A few examples could be considered to be approaching the transformational stage.

5. Issues, challenges and key factors for success are presented for crowdsourcing; data acquisition; the development of information technology infrastructure, tools and software; the outsourcing of operational and statistical processes; partnerships carried out with academia and engagement activities.

6. Depending on the type of partnerships, a number of factors emerge as being crucial such as: 1) having an enabling legal framework for data access; 2) using efficient governance models for developing, implementing, monitoring, evaluating and renegotiating agreements, but also strengthening the influence of organizations coordinating national and international commitments; 3) considering operational issues brought by new partnership initiatives; 4) maintaining organizational requirements when a third party is involved; 5) negotiating efficient funding model with risk sharing among all partners; 6) managing resistance to cultural changes brought by new initiatives; 7) having the capacity to respond to the varying and evolving needs of users and stakeholders; 8) taking into account how intellectual property can be an enabler or a disabler; and 9) maintaining public trust and addressing privacy concerns.

7. The following recommendation is being submitted for further consideration:

- Determine the requirements of NSOs and other organizations for sharing information related to innovative strategic partnerships with the information industry and determine the best means to do so.

8. CES will discuss possible further work related to strategic partnerships of official statistics with the information industry at the CES seminar on strategic partnerships which will take place on 27 April 2016 in Paris.

II. Scope and definition: strategic partnerships with the information industry

9. Strategic partnerships with the information industry are defined as partnerships that are instrumental in the delivery of the business model of a statistical organization. Typically, these partnerships are covered under section 1.3, “Manage strategic collaboration and cooperation,” of the Generic Activity Model for Statistical Organizations¹. They may take place for any business processes defined in the Generic Statistical Business Process Model² to meet organizational, as well as sub-national, national and international, commitments. The definition of ‘information industry’ provided by Wikipedia includes six categories: 1) producers and sellers of information, 2) information-processing services, 3) dissemination services, 4) manufacturers of information-processing devices, 5) research-intensive industries, and 6) providers of infrastructure for information production and sophisticated decision making. Outreach and engagement activities that can lead to specific partnerships are also included in this review.

10. This paper covers a wide range of partnerships with various stakeholders, such as individuals (crowdsourcing), the public sector (public–public partnerships, PPPs), the private sector, civil society organizations (CSOs), researchers and academia. The term PPP has been defined in different ways worldwide by various countries and international organizations.³ For example, the Canadian Council for PPPs defines PPPs as: “A cooperative venture between the public and private sectors, built on the expertise of each partner, that best meets clearly defined public needs through the appropriate allocation of resources, risks and rewards.”⁴ Other terms are used in the literature, such as ‘public–private development partnership’, ‘cross-sector development partnership’ (CSDP) and ‘private finance initiative.’

11. There are various models of PPP, where roles and responsibilities, specific functions (design, build, operate, manage), and financial and operating risks are shared among parties following a particular arrangement. As stated in the European Commission’s *Guidelines for Successful Public–Private Partnerships*, “many forms of PPP exist and are continuously being developed to suit project characteristics.”

12. The motivations for embarking on partnerships are varied. A wide range of specific contributions (financial support, expertise in specific areas, advocacy, etc.) may be sought from different actors. Furthermore, as reported by Kindornay et al.,⁵ “there are four different types of value created for participants in CSDPs (Austin and Seitanidi⁶). These are associational, transferred resource, interaction, and synergistic value”.

¹ www1.unece.org/stat/platform/display/GAMSO/GAMSO+v1.0

² www1.unece.org/stat/platform/display/metis/The+Generic+Statistical+Business+Process+Model

³ www.pppinindia.com/pdf/ppp_definition_approach_paper.pdf for an overview of 19 different definitions.

⁴ www.pppcouncil.ca/resources/about-ppp/definitions.html

⁵ Kindornay, S., Tissot, S. And Sheiban, N., 2014. Finding Value in Development Partnerships: Where to look. The North-South Institute.

⁶ Austin, James E., and M. May Seitanidi. 2012. Collaborative value Creation: A Review of Partnering between Nonprofits and Businesses. Part 2: Partnership Processes and Outcomes. *Nonprofit and Voluntary Sector Quarterly* 41 (6): 929–68. www.nvs.sagepub.com

13. Furthermore, Kindornay et al. (2014a) discuss the four stages of partnerships associated with value creation: the philanthropic stage, the transactional stage, the integrative stage and the transformational stage. They also discuss how greater value can be generated as the partnership evolves from the philanthropic to the transformational stage. As stated by Kindornay et al. (2014a), “Partnerships often include elements of more than one stage of partnership as they progress along the collaboration continuum.”

III. International overview of statistical activities associated with strategic partnerships

14. This section presents examples of activities associated with strategic partnerships provided by various international and national organizations; these examples include reference documents produced for establishing partnerships, discussion forums on partnerships and specific partnerships that have been carried out with the information industry.

A. Reference documents and support

15. A large number of reference documents on partnerships are available, including guides and principles by international organizations, such as UNECE, World Bank, Organisation for Economic Cooperation and Development (OECD) and European Commission.

B. Partnership forums⁷

16. Many international organizations, such as OECD, Eurostat and World Bank, as well as NSOs, have active offers on their websites inviting various actors to engage in partnerships with them. In addition, the 2015 Economic and Social Council Forum on Partnership, held in May 2015, brought together leaders from businesses, foundations, civil society and academia to engage in a dialogue with governments on the role of partnerships in achieving the post-2015 development agenda.⁸ Partnerships may also be sought through involvement in professional associations such as the International Statistical Institute (ISI)⁹ or other national or supra-national organizations.

⁷ See also the Busan Partnership agreement that sets out principles, commitments and actions that offer a foundation for effective cooperation in support of international development, <http://www.oecd.org/development/effectiveness/busanpartnership.htm>.

⁸ See <http://www.un.org/en/ecosoc/about/>.

⁹ See <http://www.isi-web.org/>

C. Examples of partnerships

1. Crowdsourcing

17. As described by Brabham,¹⁰ crowdsourcing can be used to 1) locate and assemble information, 2) analyze existing information, 3) seek help to find an empirical solution, and 4) evaluate public taste or public support.

18. Based on 29 case studies¹¹ drivers for using crowdsourcing varied between case studies from responsiveness and limited resources to limited access to specific geographic areas. The crowdsourcing models presented included various actors, such as the general public, the public sector, CSOs, international organizations, academia and the private sector. The lengths of the projects ranged from a few days (e.g., for disaster response) to many months, and some projects are ongoing.

19. Contributors provided information by visiting specific websites to perform updates using platforms such as OpenStreetMap, Google Earth, Google Maps, FINTAN¹² and HTML forms. Depending on the project, information could also be sent through text messages, pictures or emails. For example, for the Boston's Street Bump project, road condition data were relayed through an application that used the motion-sensing capability of the contributors' smartphones.

20. Methods of engagement included reaching out to the public and specific organizations for support, providing access to datasets, incorporating legal changes to facilitate data access, directly employing contributors, financially compensating the public (in areas of very low income) and champions actively participating in specific communities of practice.

21. For example, for the U.S. national map crowdsourcing case study public volunteers can register online and then collect and edit data about human-made structures (including schools, hospitals, post offices, police stations and other important public buildings) using a web-based mapping platform. Editing guidelines are provided online. Volunteers who have contributed 25 edits can act as peer-review editors to review other volunteers' contributions for accuracy and make further improvements to the data.¹³ A pilot study performed in Colorado demonstrated that volunteer information did improve baseline structure data. Peer reviews by more experienced editors improved the data even more. Various gamification techniques or incentives are used to engage volunteers, such as a volunteer recognition programme with virtual recognition badges, online recognition of volunteers based on the number of edits contributed and a tiered editing approach.

2. Public sector

22. Public-sector partnerships can be carried out through bilateral or multilateral agreements with all national and international levels of government. Examples provided

¹⁰ Brabham, C., 2013. Using Crowdsourcing in Government. IBM Center for the Business of Government.

¹¹ Haklay, M., Antoniou, V., Basiouka, S., Soden, R., and Mooney, P. 2014 Crowdsourced geographic information use in government, Report to GFDRR (World Bank). London. License: Creative Commons Attribution CC BY 3.0.

¹² FINTAN is an OS application that enables the crowdsourcing of vernacular local names of coastal areas.

¹³ <http://nationalmap.gov/TheNationalMapCorps/>

include public-sector partnerships for data acquisition; the development of information technology (IT) infrastructure, tools and software; and statistical business processes.

A. *Data acquisition*

23. Data acquisition can serve to support an organization's existing programmes and address data gaps. It is also a crucial activity for organizations responsible for coordinating national administrative statistics, such as the National Statistical Service of the Republic of Armenia and other organizations, such as Statistics Finland, where the majority of statistics produced is based on data from registers and other administrative sources, and Statistics Austria, which coordinates the delivery of European statistics produced by other national authorities.

24. The Australian Bureau of Statistics (ABS) and the Australian Taxation Office (ATO) are both agencies within the Treasury portfolio of the Australian government. As major collectors of data, ABS and ATO work together to improve Australia's National Statistical Service, including data analytics, whole-of-government data acquisition infrastructure and access to government-held data. The benefits of the partnership include: 1) reduced red tape and burden on the community through the reuse of government-held data; 2) improved data for use by other agencies through ABS-ATO collaborative development work; 3) shared expertise and experiences (e.g., big data analytics and taxonomy); and 4) shared infrastructure to further reduce the burden on the community and result in more efficient data collection by the government (e.g., the ABS's adoption of standard business reporting).

25. The Databank of Official Statistics on Quebec (BDSO) (Canada) was implemented more than 10 years ago as a partnership of more than 25 ministries and agencies, unique to the Quebec government. It was specifically created to provide access to a wide range of reliable, comparable, and high-quality data on Quebec in one location (the BDSO website). Since the project launch, ministries and agencies have defining common standards, nomenclatures and classifications to ensure coherence and complementarity of the disseminated statistics on Quebec. A steering committee comprises representatives from each partner, and a management team at the Institut employs rigorous mechanisms to ensure the coherence of BDSO's content and its comparability with international reference frameworks.

B. *Information technology infrastructure, tools and software*

26. Shared Services Canada (SSC) was established in 2011 to modernize the way the Government of Canada (GC) manages IT infrastructure to better support the delivery of programmes and services to Canadians. SSC's mandate is to provide email, data-centre and telecommunications services to 43 federal departments and agencies, referred to as partners. The consolidation and standardization of GC's IT infrastructure aims to create efficiencies, achieve cost savings by creating economies of scale with a whole-of-government approach to IT, and improve security. The duties of SSC liaison include management activities related to governance, communications, coordination, day-to-day operations, process alignment with new standards and capacity planning.

27. The PC-Axis family¹⁴ programmes are mostly used by statistical offices to allow users to retrieve statistics. It is the result of an ongoing development project started at Statistics Sweden (SCB) in the 1970s. Currently, over 50 statistical agencies and international organizations use the products and are part of the PC-Axis consortium. All

¹⁴ www.scb.se/sv_/PC-Axis/About-PC-Axis.

members are encouraged to participate actively in the growth of the programme. The responsibility for the different programmes and their development is distributed among the nordic countries, which form the core of the consortium. Once a year, an international reference group meeting is held to gather all of the licensees and discuss the product and current developments, as well as make requests for the future. The common goal is to improve the product to meet the needs of the users, and new functions are added in each version.

C. *Statistical business processes*

28. Statistics Finland develops, maintains and distributes the SISU microsimulation model¹⁵ that models the personal taxation and social security systems of Finland. The SISU model is a calculation tool intended for planning, monitoring and assessing personal taxation and social security legislation. The model has been developed at Statistics Finland since 2011 in close collaboration with the Research Department of the Social Insurance Institution of Finland. The development work also included contributions from several experts from the Ministry of Finance, the Ministry of Social Affairs and Health, the National Institute for Health and Welfare and the Government Institute for Economic Research. This initiative led to a significant increase in data usage, as well as active interaction and communication with the researchers.

29. As promoted by the tenth Fundamental Principle of Official Statistics, there are numerous international statistical partnership activities which are taking place. Under the UN family of organizations, high-level committees, expert and technical committees are in place globally and regionally to advance statistical concepts, methods, processes, systems, and standards on all front. For example, the UNECE High-Level Group for the Modernisation of Official Statistics (HLG-MOS) was established by the CES Bureau in 2010 to oversee and coordinate international work relating to statistical modernization.¹⁶

3. Private sector

30. Examples of partnerships with the private sector include those carried out for data acquisition; the development of IT infrastructure, tools and software and the outsourcing of operational processes.

A. *Data acquisition*

31. The U.S. Bureau of Economic Analysis (BEA) has been using private-sector data in its estimation processes for at least 15 years. In collaboration with the U.S. Census Bureau, it has recently entered into an agreement with a major credit card company to allow researchers to evaluate the usefulness of credit-card transaction data in the production and development of official economic statistics. The credit card company will explore the usefulness of the data in the creation of new data products for its customers. A non-disclosure agreement has been established for this pilot project. The tabulations from the pilot project, along with the modelled estimates produced by the credit card company, will enable BEA to evaluate the quality of the existing annual estimates of consumer spending by state and to investigate the feasibility of producing consumer-spending estimates by county.

¹⁵ http://tilastokeskus.fi/tup/mikrosimulointi/index_en.html.

¹⁶ www1.unece.org/stat/platform/display/hlgbas/Strategic+vision+of+the+HLG.

B. Information technology infrastructure, tools and software

32. In 2011, the Croatian Bureau of Statistics contracted a premier support agreement with a major software company. The agreement provides three main categories of services: 1) reactive services, 2) proactive services and 3) a direct relationship with the private company through a dedicated resource (a technical account manager). Reactive services ensure that critical issues that could affect the business systems are dealt with by the private company and are addressed with the highest priority until they are successfully resolved. Proactive services ensure that systems are running according to industry standards and best practices. Actively monitoring IT health and addressing risks helps to lower the probability of system downtime and ensure that business systems are running at expected service levels.

33. The Philippines National Statistics Office established a ‘build-operate-transfer’ public-private partnership, where the private sector was responsible for developing imaging solutions and supporting infrastructure to improve access to civil registry information.¹⁷ In this case, the private sector also financed the development and operations. This is a revenue-generating initiative, as access fees incurred by users are paid back to the private sector and the NSO, and then remitted to the National Treasury of the Philippines.

C. Operational and statistical business processes

34. Contracts were awarded to a private company after competitive bids for the 2006 and 2011 censuses of Canada. The activities under contract for 2006 included printing, the shipping of questionnaire packages, developing systems for computer-assisted telephone interviewing and the Census Help Line, the design and development of an Internet response option and the design and development of systems for processing. The scope of the second contract awarded in 2011 was considerably changed, as Statistics Canada took over many elements of work. As part of each contract, Statistics Canada (through the Government of Canada) retained the right to modify and use portions of the installed solutions in future activities, and, in fact, portions of the original solutions are to be used for the 2016 cycle. A change-management approach was implemented to ensure that requests or issues could be escalated quickly for discussion if either Statistics Canada or the contractor leads felt that work was not progressing quickly enough or to their satisfaction.

35. As it did for the 2001 Census, the United Kingdom’s Office for National Statistics (ONS) contracted out a number of services for the 2011 Census.¹⁸ As stated in the 2011 Census report produced by ONS, “given the 10-year cycle of the census and the short timetable requiring a large temporary workforce, it would not have been appropriate for ONS to recruit and train such personnel itself”. The following were outsourced: recruiting, training and paying field staff; printing the questionnaires, delivering the questionnaires and collecting completed returns via a postal service; designing a questionnaire-tracking system; providing an online questionnaire-completion system; providing a contact centre; translating, printing and distributing non-questionnaire material and other field logistics services; providing the publicity campaign; capturing and coding census data in electronic format; producing the archival records and developing a Web data-access system.

¹⁷ Civil Registry System Project Under the ICT Sector of the BOT Programme, Management Services Report No. 2004-03D, Sectoral Performance Audit National Statistics Office.

¹⁸ 2011 Census England and Wales General Report, Office of National Statistics, 2015

4. Civil society organizations

36. As reported Ghaus-Pasha¹⁹ “the civil society sector is instrumental in promoting local economic development, alleviating poverty, advocating policy change, contributing to good governance and campaigning for the Millennium Declaration”. Examples of partnerships carried out with CSOs illustrate how the partners collaborated on statistical business processes and for data acquisition, funding purposes, as well as to share knowledge and explore strategic issues.

37. Statistics Austria and the Austrian Chamber of Commerce (WKÖ) have a formal cooperation agreement to coordinate their activities. The committee’s main tasks are to discuss strategic issues relating to business statistics, exchange information relevant to the other partner and collaborate to prepare new legal acts or amend existing legal acts. Furthermore, day-to-day tasks and issues are efficiently addressed bilaterally: ad hoc working groups cover more complex issues, and advisory boards address strategic decisions beyond the scope of the high-level steering committee.

38. For many years, Statistics Netherlands (CBS) and the Netherlands Organisation for Applied Scientific Research (TNO) have conducted a joint survey on working conditions, commissioned by the Dutch Ministry of Social Affairs and Employment (and with many other important users). TNO is an organization regulated by public law; it is not part of any government, university or company.²⁰ CBS is responsible for collecting data and producing statistics, while TNO carries out additional analyses and produces dedicated advisory reports. When the agreement that formalized this partnership had to be renewed, it was expanded to include all themes of common interest, with an emphasis on innovative approaches, which included searching jointly for external funding. Since the new agreement was signed in April 2015, over 20 new ideas are being explored.

39. With initial funding from the Ewing Marion Kauffman Foundation, the U.S. Census Bureau (USCB) developed the Business Dynamics Statistics (BDS) programme to better understand entrepreneurship and the dynamic economy. The BDS provides annual statistics on establishment openings and closings, firm start-ups and shutdowns, employment, job creation and job destruction from 1976 to 2012, by firm (or establishment) size, age, industrial sector, state and metropolitan area status. The BDS received additional support from the Small Business Administration. Most recently, in 2015, the Kauffman Foundation provided partial funding to the USCB to establish an annual survey of entrepreneurs, which would collect data more frequently than the quinquennial Survey of Business Owners. A clear benefit of partnering with the Kauffman Foundation is the funds it provided, as well as the feedback received from the Kauffman Foundation’s network of experts.

5. Multi-stakeholder partnerships (public–private–academia–non-governmental organizations)

40. In many cases, a large number of different stakeholders are involved in the partnerships. Examples of these partnerships include those carried out for data acquisition; the development of IT infrastructure, tools and software; and statistical business processes.

¹⁹ Ghaus-Pasha, A., 2005. Role of Civil Society Organizations In Governance. 6th Global Forum on Reinventing Government Towards Participatory and Transparent Governance 24 – 27 May 2005, Seoul, Republic of Korea

²⁰ www.tno.nl

A. *Data acquisition*

41. As described by Moody²¹, “the United Kingdom’s Data Service has been instrumental in voicing the benefits of less restrictive access to the data community, helping maximise the re-use of data and ensure that historic data deposited with us remains available for research practice in years to come. The Collections Development team at the UK Data Service undertook an initial three-month programme of renegotiation of access conditions for some of their data collections, helping to open up data to more users by encouraging depositors to move away from restrictive conditions towards more open access. The Collections Development team has streamlined and standardised the access conditions that apply to new datasets, so that they can easily fit into three broad categories – Open (no registration required), Safeguarded (registration required) or Controlled (secure remote access only).”

B. *Information technology infrastructure, tools and software*

42. The OECD Statistical Information System (SIS) is a suite of integrated software components for statistical data and metadata.²² Central to SIS is the OECD.Stat data warehouse, which integrates statistical production, sharing and dissemination processes. As a result of requests from several other organizations, the OECD began sharing OECD.Stat in 2007. Since then, a set of bilateral relations were established that have enabled organizations to use OECD.Stat in combination with their own branding (e.g., ABS.Stat). In addition, in 2010, the OECD set up the SIS Collaboration Community (SIS-CC) of OECD.Stat users. It was set up to allow participating members to benefit from broad collaboration and from sharing experiences, knowledge and best practices, and to enable cost-effective innovation in minimal time.

43. Blaise is a powerful and flexible system used for computer-assisted survey processing. It is used worldwide by NSOs and related scientific research organizations to produce official statistics. Blaise was developed by CBS as a tool to improve the data editing process and was released in 1986. Through the years, updated versions were released with new functionalities to respond to user requirements (the latest version is Blaise 5).²³ Organizations that use Blaise extensively to collect large, complex data and that often have multi-mode requirements are offered a corporate licence. These licences provide users with a free, open relationship and a ‘partnership’ of sorts with CBS. Corporate licence holders are automatically part of the Blaise Corporate License Users Board (B-CLUB) and, as such, can learn about proposed Blaise developments and comment on their needs and priorities.

44. The e-VT project, a centralized data-collection system, was established under the leadership of the Turkish Statistical Institute (TurkStat) in collaboration with the Union of Chambers of Certified Public Accountants and Sworn-in Certified Public Accountants of Turkey and accounting software firms. TurkStat has also consulted with accountants who have been using accounting software programmes. Through the e-VT system, data are collected automatically from different accounting software services and transferred safely and directly to the TurkStat database system. The system’s goal is to reduce the burden on respondents and improve efficiency (cost and quality). There is no formal agreement—it is a consensus based on mutual trust and support among stakeholders of the e-VT system. TurkStat provides consulting services to software providers on integrating their software

²¹ Moody, V., 2015. Helping Depositors Share Data: Negotiating Away Difficult License Conditions.

²² The Stat and SIS-CC Strategy 2014-2019, version 2, 2014, update 2015.

²³ Meetings: www.blaiseusers.org

into the e-VT system. Other collection methods are available for respondents who do not use software with integrated e-VT modules.

C. *Statistical business processes*

45. House-sale statistics have been produced with the collaboration of the Turkish Statistical Institute (TurkStat) and the General Directorate of Land Registry and Cadastre (GDLC) of the Turkish Ministry of Environment and Urbanization since 2008. TurkStat has also a close cooperation with CSOs such as the Housing Developers and Investors Organization, the Association of Real Estate, Real Estate Investment Companies and other users to determine their needs. GDLC revises the database in order to satisfy new requirements. TurkStat collaborates closely with GDLC to ensure the quality of data.

6. **Public-academia partnerships**

46. Examples of partnerships with academia are those carried out to promote microdata access and analytical tools, influence academic curricula, establish joint professorships and share knowledge.

A. *Microdata access*

47. Established in 1996, the Data Liberation Initiative (DLI) was the result of a collaborative effort between Statistics Canada and the academic community to substantially increase the availability of public-use microdata files (PUMFs) for researchers at Canadian universities. Prior to DLI, researchers interested in working with microdata would have to either travel to Statistics Canada headquarters in Ottawa to access the data or pay substantial fees to obtain the files. Universities now only pay a modest annual fee to house the data files. DLI proved to be a cost-effective programme for improving access to data resources at Canadian postsecondary institutions. The programme now includes 79 postsecondary institutions across the country with access to over 350 survey cycles of PUMFs. The academic community and Statistics Canada continue to work together to find innovative methods for data delivery, share best practices on how to use data and ensure that the services provided by Statistics Canada to the academic community are relevant to current needs.

48. Established in 2000, the Research Data Centres Programme was meant to complement DLI by extending the social science research capabilities in Canada to include access to a broad range of confidential data files that could not be placed in university libraries or other non-secure locations for public access. These files are available to researchers with approved projects in secure Statistics Canada facilities at university campuses across Canada. Among its benefits, the programme greatly enhances the relevance of Statistics Canada data by increasing their use and serves as a platform for training quantitative researchers. This access programme is managed as a collaborative partnership between Statistics Canada, Canadian universities and Canadian research funding agencies, which form the Canadian Research Data Centres Network²⁴. Annually, the programme provides services to over 1,500 researchers, and the level of activity continues to grow. By 2014, more than 4,300 researchers had analyzed information on a broad range of socioeconomic and health issues and had produced over 3,000 publications since the inception of the programme.

²⁴ Currie, R. F., Fortin, S., 2015. Social Statistics Matter: A History of the RDC Network, CRDCN-RCCDR, Hamilton, Ontario.

B. Academic curricula, joint professorships and knowledge sharing

49. Statistics Austria has established a formal cooperation agreement with the Vienna University of Economics and Business. The goals of the agreement are to transfer and improve the competencies of both parties, cooperate in empirical analyses of socioeconomic issues, and improve access to official statistical data. To facilitate access to microdata, a website has been established offering several standard datasets, along with corresponding metadata and all necessary technical information. Any researcher can submit a research proposal and apply for registration, which allows him or her to download a suitable standard dataset. If none of the standard datasets are suitable, an offer to produce a tailored dataset is made.

50. Statistics Austria offers courses on statistical literacy and organized a so-called “Statistics Day” for schools for the first time in October 2011. The main intent was to improve the statistical literacy of future generations of statistics users at an early stage. Because of the success of the first event, statistics days for schools have been held once or twice a year ever since, reaching around 100 to 200 high-school students and their teachers every year. This is a voluntary service offered by Statistics Austria. School classes and teachers are invited by Statistics Austria to attend short lessons on various statistical topics. Even after four years, the response is still very high and Statistics Austria receives more requests than it can handle.

51. Statistics Finland has had joint professorships with Finnish universities, previously with the University of Helsinki and Tampere on statistical methods and economics. The main benefits of these joint professorships for Statistics Finland are in the development of methodologies, competencies and theses, improved use of statistics by students, and interaction with students who are potential future statisticians and users. Some joint courses in national economics have been organized, in which experts from Statistics Finland have participated both as students and as tutors and teachers.

52. Strengthening relations with universities and research institutes is a policy target for CBS. A dedicated relations officer has been appointed to formulate policies, identify best practices and undertake relevant initiatives to stimulate cooperation focusing on Dutch universities, but some universities abroad are also targeted. A LinkedIn group has been started as a platform for communication with the academic community and a website (“CBS in the Lecture Hall”) is being prepared to collect statistical material for university teaching. A number of CBS researchers double as university professors, and advise PhD students working on CBS subjects. Recently, a workshop was organized with Maastricht University to identify areas of common interest, which generated new ideas. A summer school on survey methodology was organized twice with Utrecht University. Students in the PREMIUM programme at Maastricht University work on CBS issues as part of their honours programme. CBS prepares a data camp with the University of Twente to help PhD students gain experience in big data.

7. Engagement activities

53. Engagement activities were done to accomplish various goals, such as encouraging respondent participation, gaining support from influential bodies, showcasing the value of official statistics and promoting their use by giving access to data and tools, and offering training and support. Other activities were also done to strengthen existing relationships.

A. Encouraging respondent participation and gaining support from influential bodies

54. In general and in its mission statement in particular, Statistics Austria considers respondents as partners. It sees reducing response burden, whenever possible, as an obligation. Numerous measures for relief and support of the reporting units have already been implemented successfully, including the use of other data sources, customized electronic questionnaires with numerous features for assistance, extensive survey-related

explanations on the website and the establishment of hotlines for technical and content-related support. Statistics Austria also offers statistical information feedback to respondents in different forms.

55. ONS took a more consistent approach to communicating with stakeholders than it had taken in previous censuses. In particular, a programme of local authority liaison was initiated to maximize coverage of the 2011 Census. Its aims were to raise local authority awareness and understanding of the census and the role that local authorities can play in delivering a successful 2011 Census, build confidence and trust in the census methodology and the resulting outputs, and encourage local authorities to participate in and support the census. Engagement with stakeholders comprised four steps, each providing a progressively higher level of engagement: raising awareness, providing explanations, consulting, and working in partnerships. ONS recognized that stakeholder groups would require different methods and degrees of approach, so different modes of engagement were developed.

56. To sustain a partnership programme, the USCB developed an evergreen national partnership programme. The new programme was built on the success of the 2010 Census and continues to develop and foster relationships with national organizations, federal agencies and businesses. For example, for the 2010 Census, national organizations signed national partnership agreement forms or verbally committed to assisting in the 2010 Census campaign. A small-scale partnership effort was implemented during the 2015 Census Test, to show how these partnership efforts translate on a local level. During this test, the Census Bureau looked at messaging and partnership materials; worked with a contractor to develop a social hub with partner content, including messaging, video content and tool kits for partners; and developed a champion campaign. The National Partnership Office works closely with many national partners from the 2010 Census by providing webinars, briefings, presentations and interactive workshops.

B. Showcasing the value of official statistics and promoting their use

57. Since 2012, under the premise that information is a public good, Mexico's National Institute of Statistics and Geography (INEGI) began to develop a new strategy that favors the use of information from different segments of society (the public sector, the private sector, CSOs, academia and the media). INEGI also approved new guidelines that promote free access to the information it generates. A key engagement strategy is "INEGI at hand," a no-cost programme that links INEGI with strategic segments of society. Guidelines for the strategy establish rules to be followed by INEGI administrative units and public servants operating in their respective fields of competence. INEGI also developed an ad hoc training programme for strategic users to facilitate the understanding of statistical concepts, data analysis and data communication. As a result of this programme, more than 290 cooperation agreements have been made with strategic users. Up to date, 19,785 individual strategic users have been trained.

58. Since 2013, Statistics Canada hosted "Talking Stats: A discussion series with StatCan" in different Canadian cities to discuss the uses of statistics in various fields.²⁵ These half-day events are an opportunity to connect and engage with the public, data users and stakeholders, and to better understand their evolving data needs. The Chief Statistician presents a keynote presentation followed by a discussion with a panel of experts on public policy issues, research, private-sector opportunities and community-level engagement, etc. All participants receive paper and electronic copies of the presentation. This partnership with specialists from various sectors allows for an in-depth discussion with the public about

²⁵ www.statcan.gc.ca/eng/events/talkingstats.

observed social and economic phenomena, truly demonstrating the value of official statistics.

59. As well, Statistics Canada uses a variety of activities to engage data users and the public in strategic partnerships that will benefit both parties. Some of these activities include the StatCan Blog, a vehicle for informing the public about its priorities, programmes, and new initiatives and for responding to questions and comments online; the question of the month, a quick qualitative survey that gives a voice to users regarding various aspects of Statistics Canada's website, products and services; and "chat with an expert" sessions, one-hour live online sessions during which the public asks an expert questions on a specific topic. Statistics Canada also publishes factual information on a daily basis on Facebook and Twitter. One of the major challenges of this type of partnership is to keep up with the pace by being visible on the most popular platforms, in a timely manner. For example, in 2014, the "chat with an expert" platform was completely overhauled to make the module more functional and user-friendly, thus simplifying its use and making it more popular.

60. In May 2013, the first version of SCB's application programming interface (API) was released to build applications for smartphones and new Web services with information from SCB's database, free of charge. A communications strategy was developed to attract potential users. Since using the API requires specific skills and knowledge, the target audience for marketing the API was quite specific (e.g., developers, IT students and people engaged in open-data issues). The plan was to invite potential users to create new applications and services and later communicate the results to a broader audience. The first Hack for Sweden event that took place in 2014 was created in collaboration with eleven other government agencies. Given its success, another event was launched in 2015 with the collaboration of 20 government agencies. The events consisted of a competition in which programmers and developers were invited to create new services and applications based on public open data. An event website was created, as well as accounts on Twitter and Facebook, to reach target audiences and enroll teams at low cost. Inviting external experts to be part of the jury proved to be a success factor.

61. The ONS Big Data Project includes four pilot projects that cover economic and social themes using different data sources (Internet price data, Twitter messaging, smart-meter data and mobile phone positioning data). Alongside the pilot projects, a significant activity will be stakeholder engagement and communications. As stated in the progress report,²⁶ stakeholder engagement activities seek to achieve: engagement with data users and the public to understand their concerns with the use of big data in official statistics and their requirements for new types of outputs; engage with external stakeholders to acquire their data, tools and technologies for use in pilot projects; engage with external stakeholders to learn from their experience, develop ONS knowledge and skills, coordinate efforts, and develop partnerships and work collaboratively; engage with internal stakeholders to coordinate efforts, ensure the project's objectives align with ONS strategic objectives and ensure support for the project exists across ONS; and manage stakeholder expectations at various stages of the programme. Nine groups of stakeholders were identified for the project: privacy groups, ONS, international stakeholders, academia, the private sector, big-data companies, technology providers, government and data users (including the public).

²⁶ www.ons.gov.uk/ons/about-ons/who-ons-are/programmes-and-projects/the-ons-big-dataproject/index.html

IV. Issues, challenges and key factors for success

A. Crowdsourcing

62. Haklay et al. (2014) identify as challenges of crowdsourcing: 1) many projects use a wide range of conventional and open-source software applications, and these specific tools may not be available to everyone and may require high technical abilities; 2) the format of the dataset used in open-source software may be difficult to integrate with proprietary software packages, hence limiting interoperability; 3) the accuracy and quality of the data; 4) the acceptance of the authority given to various contributors (which is a departure from the belief that only information originating from a government organization is authoritative) and 5) data ownership and specific licensing agreements can limit the way that the data can be used.

63. Braham (2013) defines best practices for crowdsourcing at the planning, implementation and post-implementation phases. Haklay et al. (2014) identify key factors associated with crowdsourcing used by governments that can be summarized as follows: 1) identifying the appropriate level of cooperation between the public and the government during and possibly after the life of the project; 2) developing strong collaboration between different organizations that have specific expertise; 3) establishing workshops to train volunteers; 4) targeting the recruitment of volunteers according to the needs of the project and, when needed, offering appropriate incentives (financial or non-financial); 5) using innovative techniques to keep the public interested, such as gamification, and using other media, such as SMS, videos, photographs, and social media, for reporting information; 6) indicating clearly how the data will be used by the government or organization; 7) recognizing that crowdsourcing of this type supplements and enhances the work of professionals, but does not replace it; 8) implementing a recruitment strategy for volunteers that reduces coverage bias (volunteers may be more numerous in specific areas); 9) conducting quality assessments; 10) establishing open and clear lines of communication and identifying contact people; 11) determining early in the project any limitations related to intellectual property rights and 12) recognizing that the role of champions and change leaders within the public sector organization can be critical.

B. Data acquisition

64. The use of administrative data for statistical purposes can involve various challenges (for example, see Brackstone²⁷, and Wallgren and Wallgren²⁸). The particular challenges relate to data access and its relevant legal framework, developing and implementing agreements, the need to renegotiate agreement that were too restrictive, quality issues, stability issues, specific demands regarding the coordination role for national and international commitments, privacy concerns and funding. The examples below highlight these challenges and explain how they were addressed.

65. “Strategies for dealing with quality and stability issues in the partnership between the **ABS** and the **Australian Taxation Office**: 1) a proactive effort to align definitions and

²⁷ Brackstone, G. J., 1987. Issues in the Use of Administrative Records for Statistical Purposes, Survey Methodology Vol. 13, pp. 29-43, Statistics Canada.

²⁸ Wallgren, A, and Wallgren, B., 2014. Register-Based Statistics - Statistical Methods for Administrative Data. Second Edition. Chisester: JohnWiley & Sons Ltd.

data maintenance procedures to achieve greater coherence; 2) joint work in managing and testing processing systems and 3) discussion regarding proposed changes to legislation or reporting requirements to enable decisions to be made in the context of whole-of-government impacts on the community. Sharing information and expertise through this partnership also led to unexpected benefits. For example, ABS advice on confidentiality methods has allowed ATO to release more unit record data to researchers and policy officers, without identifying individual taxpayers. It also led to quality improvements to the Australian Business Register (ABR). These have benefitted all ABR partner agencies (Australian governments at all levels) for a wide variety of purposes, such as planning and emergency response.

66. Statistics Austria's access to administrative data is bound by national laws that state precisely what administrative data can be accessed free of charge, electronically. Article 10 of the *Federal Statistics Act* focuses on the responsibilities of administrative data providers, particularly with respect to the transmission of data to Statistics Austria; provides information on the definitions and methods used; and address changes affecting the production of official statistics. Despite the Statistics Council's possibility to deliver official opinions on the design of administrative databases to the responsible ministries, the actual possibility of influencing the quality of the delivered administrative data or changes in data structure has been comparatively poor in the past. The amendment of Regulation (EC) no. 223/2009 on European statistics strengthens the role of national statistical institutes in terms of free and timely access to administrative data and should presumably enable Statistics Austria to strengthen existing partnerships with administrative data providers. This new role requires a new form of cooperation and common understanding and a rethink by administrative data owners.

67. For Statistics Austria, one of the most outstanding cooperation agreements is the Framework Cooperation Agreement (FCA) with the Austrian National Bank (OeNB) on macroeconomic statistics. The main challenge in this long-standing cooperation was fulfilling European requirements in the context of Austria's accession to the European Union. A newer challenge has arisen from the differing views of Eurostat and the European Central Bank on certain issues that are covered by statistics compiled by two systems (the European Statistical System and the European System of Central Banks). Consequently, the reporting requirements for Statistics Austria and OeNB differ, and this increases the administrative burden for Austria as a whole. The governance structure, which includes a high-level steering committee with two regular participants from each institution, is a key feature in addressing these challenges. These challenges are also being addressed through joint participation in European forums dealing with statistical matters.

68. A strategic aim of Statistics Austria is to increase the possibility to use big data as new data sources (e.g. telecommunication data or toll data from motorway operator). In the context of the acquisition of new big data sources from the private sector, Statistics Austria has identified the need to develop an accreditation process. Its aim is to ensure Statistics Austria receives relevant big data and is involved if there are any changes to the nature or structure of these data. Additional challenges relate to the need to respect the business model of the data custodian, data privacy, and the development of strict protocols for data transfer.

69. Some of the challenges identified by the Institut de la statistique du Québec (ISQ) related to the development of a data portal which integrates statistics provided by many organizations include: 1) developing and sharing standards, nomenclatures, classifications and metadata to improve quality and ensure a correct interpretation of the statistics concepts and 2) identifying relevant statistics to be integrated. According to ISQ, important factors to consider for collaborative projects of this nature include 1) obtaining political support for the project to ensure funding for both the start-up and the ongoing maintenance phases: 2) obtaining administrative support from central agencies such as the Treasury Board Secretariat, to integrate the government project into the government's orientations and

policies and, in so doing, compel the ministries and agencies to present their dissemination needs to the project authority for evaluation and recommendation: 3) implementing a tripartite governance model (central agency, project authority and partner representatives) to ensure risk-sharing across all levels and 4) establishing a funding model at the start of the project that covers not only the start-up costs, but also the annual operating costs, to ensure its sustainability.

70. The National Statistical Service of the Republic of Armenia actively cooperates with administrative data providers and acts effectively as the coordinator of administrative statistics. This activity is based on partnership relations on the access to and use of administrative data for statistical purposes. The NSO stressed the importance of supporting ministries and other public bodies in managing their administrative registers through methodological support and development of training material.²⁹ Further strengthening the NSO's influence on registers is an important factor. Future plans include the development of online reporting to reduce the reporting burden for businesses and increase the NSO's efficiency.

71. The U.S. Bureau of Economic Analysis (BEA) and a major credit card company have been working together for almost a year to develop a pilot project that will provide BEA and the U.S. Census Bureau with selected aggregated monthly data from the credit card company transactions database. Data privacy concerns presented a challenge for both parties. Data sharing between BEA and the Census Bureau was also problematic. These issues were negotiated and written into the non-disclosure agreement.

C. Information technology infrastructure, tools and software, and operational and statistical business processes

72. Some of the challenges identified with outsourcing activities or with partnerships related to the development of IT infrastructure, tools and software, and operational and statistical business processes include the cultural change associated with outsourcing, the integration of an outsourced solution with existing in-house systems, funding requirements, public perception and other challenges associated with different partnership strategies.

73. ABS is planning a major transformation programme over the next four years to replace a large number of legacy systems. ABS cannot continue to build and maintain its own infrastructure, as it is expensive, difficult to update and fragile. ABS is considering different partnership strategies, such as a lobbying bloc, a wrapper for an existing off-the-shelf product, a request for tender (for an existing off-the-shelf product or a new product) and joint funding. A number of potential issues need to be explored with other statistical organizations to test the feasibility of these options, including issues related to legislation, whole-of-government rules, intellectual property, funding restrictions, timeframes and requirements.

74. The success of HLG-MOS is highly dependent on goodwill and is often referred to as "the coalition of the willing". A lack of both long term and permanent funding poses the risk that the resources required to support priority projects will either stop or be insufficient to support the required project scope. A mitigating strategy is to find a critical mass of participants whose work within their own organizations is well aligned with the objectives of the HLG-MOS projects.

²⁹ www.armstat.am/file/doc/99465743.pdf

75. The Civil Registry System (CRS) Project Report (Philippines National Statistics Office), describes a number of issues related to the build-operate-transfer partnership with the private sector for developing imaging solutions and supporting infrastructure to improve access to civil registry information. As stated in the report, "the effective implementation of the CRS project was adversely affected by its failure to achieve the acceptable service level in the presence of additional charges imposed to the users in at least three local governments units, system deficiencies, failure to comply with some contract requirements and inadequacy of controls to protect the interest of both the government and the public".

76. Transformational initiatives carried out by Shared Services Canada (SSC), in which new IT solutions replace existing IT solutions, can represent a cultural change and trigger resistance. To address this, information sessions are organized to provide IT staff with the latest information, benefits and impacts of important transformational initiatives. As specific projects or initiatives arise, SSC engages with its partners to solicit their requirements. With major transformational initiatives, departments may not always have all the expertise in-house or sufficient resources. In these cases, departments have to make provisions in their budgets for additional resources. As SSC engages more with partners in different forums and moves forward with its transformational activities, it will be able to increase awareness of, and leverage, the well-planned, well-designed and well-managed services and processes it develops for its partners. SSC will also be able to enhance these services and processes to the enterprise level by working with partner lead organizations.

77. The investment for the development, maintenance and support of Blaise by CBS is offset by the multiple advantages associated with the widespread use of Blaise by organizations. This success can be attributed to the Blaise Corporate License Users Board (B-CLUB) partnership model that enables worldwide use and active feedback from users. Through B-CLUB, users can influence the development of Blaise and contribute to enhancing its quality and applicability. Through these exchanges, Blaise has become capable and comprehensive software driven by the production of high-quality survey data. If Blaise had remained as initially developed, an in-house product, CBS would not have benefitted from the intellectual input of researchers and developers from across the world.

78. Efficient knowledge transfer was seen as a key element for efficiently integrating business solutions developed by a contractor for the Canadian censuses within Statistics Canada's production systems. Because Statistics Canada's employees were involved at all stages of development, their feedback was used to improve the contractor's work products, from interface screens to management reports. While this was done within the context of the Canadian census programme, it was frequently acknowledged that Statistics Canada approaches (such as data-quality approaches and interactive coding) brought value to the contractor's business. Lessons learned in working with contracting staff have stimulated Statistics Canada employees to rethink in-house processes. All participants acknowledged that the governance structure in place was a key factor in the successful implementation of solutions for both the 2006 and 2011 censuses.

79. Because of the long duration of specific projects, external factors can change, causing changes to the risk profiles associated with these factors. In the case of the Canadian census, where some work was awarded to a contractor, public opinion on the awarding of any work associated with confidential data holdings shifted considerably between the time of contract development and award. While safeguards had already been in place, work under contract was further restructured in response to public perception that any data were at risk. The strong collaborative nature of the work partnership allowed this to take place in a minimum amount of time.

80. The transition from delivered systems supported under contract to systems maintained and improved within the department can be problematic. In some instances, knowledge can be lost even when documentation is thorough. For example, Statistics Canada's staff found that the documentation provided by the contractor for the census project, although well done, was not detailed enough for making changes to systems. Over

time, third-party vendors who supplied components of an original system may change their software products or the licensing agreements under which they were originally obtained. This may make their integration more difficult. Likewise, hardware acquisition policies or directions within the government may change, requiring adjustments to systems.

D. Partnerships with academia

81. Factors to consider when establishing partnerships with academia included the importance to involve relevant stakeholders when negotiating an agreement and the necessity to target specific audience using tailored presentation material for outreach activities.

82. Statistics Austria reports that collaboration agreements carried out with academia, should not be organized in a top-down process, as the commitment of the experts involved depends largely on their personal fields of interest. Hence, it is of the utmost importance to include all stakeholders from the beginning and to build up the collaboration as a partnership between institutions and experts.

83. One of the lessons learned with the Statistics Day project for Austrian schools was the importance of targeting the audience that is most likely to be interested and to benefit from the experience. A lot of effort was put into developing a statistical training programme for teachers; however, this experience showed that it is difficult to win over teachers in Austria to this form of training, which is different from their usual qualification process.

E. Engagement activities

84. Engagement activities require adopting an agile approach to adapt to varying and evolving needs of the various stakeholders and information platforms.

85. As in the ONS 2011 Census report: “engagement with Parliament, ministers and the National Assembly for Wales was seen as being an essential element of the wider 2011 Census stakeholder management strategy. The engagement approach was intended to be more proactive than had been the case in the 2001 Census. The 2001 Census showed that it was difficult to encourage Westminster MPs interest and enthusiasm for the census more than a few months before the event. So, ONS contacted several parliamentary stakeholder groups: MPs as individual constituency representatives; relevant Select Committees; All-Party Parliamentary Groups with a potential interest; the House of Commons Library and Journals Office; and ministers of key policy departments. There was a similar programme of engagement with Assembly Members and committees in Wales, led by Welsh Government officials. Success varied considerably across these forums: while it was still difficult to engage the attention of all MPs, Assembly Members were generally supportive”.

V. Conclusions and recommendations

86. The examples described in this paper represent only a small sample of the types of partnerships undertaken by international organizations and NSOs. It is likely that other types or models of partnerships not presented in this paper are also taking place. However, the diversity of the partnerships described does illustrate the importance of these partnerships in fulfilling the needs of an organization.

87. A large body of literature documents cases of successful partnerships (see Section II). However, the International Institute for Sustainable Development (IISD)³⁰ believes that the principles of transparency, accountability, whole-life costing and value for money, and the importance of triggering positive economic externalities across the domestic economy, have not been prioritized in the design of public–private partnerships to date.

88. The motivations for starting partnerships are varied. A wide range of specific contributions may be sought from different actors to support an organization’s existing statistical programmes and address data gaps. The role of different stakeholders in the examples described included providing: 1) financial support; 2) knowledge sharing; 3) advocacy; 4) support for the coordination and production of national statistics and international commitments; 5) development of international reference manuals and practices; 6) data access and 7) outsourced services. Engagement activities were also done to accomplish various goals, such as encouraging respondent participation, gaining support from influential bodies, showcasing the value of official statistics and promoting their use by giving access to data and tools, and offering training and support.

89. Based on the information provided, none of the partnerships presented appear to be at the philanthropic stage; however, many examples reflect partnerships at the transactional or integrative stages. A few examples, such as the Blaise partnership through the Blaise Corporate License Users Board, could be considered to be approaching the transformational stage.

90. A historical perspective on how partnership business models evolved within different organizations was not included in the in-depth review; however, drawing from Statistics Canada’s experience, interesting patterns are revealed. Recently, transformational initiatives led to partnerships with a whole-of-government approach. Partnerships with the public and private sectors leading to data acquisition have increased significantly, reflecting the use of administrative data to produce official statistics. Statistics Canada is also seeking new partnerships with the private sector to explore new sources of data and is developing guidelines for the procurement of data available to the public. Public concerns related to privacy and confidentiality have led to a different approach for contracts with the private sector.

91. Depending on the type of partnerships, a number of factors emerge as being crucial such as: 1) an enabling legal framework for data access; 2) efficient governance models for developing, implementing, monitoring, evaluating and renegotiating agreements, but also strengthening the influence of organizations coordinating national and international commitments; 3) considering operational issues brought by new partnership initiatives (for example interoperability challenges when outsourced solutions are integrated with existing in-house systems); 4) meeting organizational requirements when a third party is involved (for example an accreditation process may be necessary to ensure that quality, privacy and confidentiality requirements are met and also to manage third party risks); 5) efficient funding model with risk sharing among all partners; 6) managing resistance to cultural changes brought by new initiatives (for example the acceptance of the authority given to various contributors to official data, the use of outsourcing, the implementation of a whole-of-government approach); 7) the capacity to respond to the varying and evolving needs of users and stakeholders; 8) taking into account how intellectual property can be an enabler or a disabler and 9) maintaining public trust and addressing privacy concerns.

³⁰ p.47, Colverson, S. Perera, O., *Harnessing the Power of Public-Private Partnerships: The role of hybrid financing strategies in sustainable development*, IISD report 2012.

92. The following recommendation is submitted for further consideration:

Determine the requirements of NSOs and other organizations for sharing information related to innovative strategic partnerships with the information industry and determine the best means to do so. For example, information need may be specific to certain types of partnerships. As well, the creation of a dynamic inventory of innovative partnerships may also be identified as a specific need. In this particular case, organizations could be invited to use the existing Observatory of Public Sector Innovation maintained by OECD to post about innovative strategic partnerships with the information industry. Postings on this portal describe an initiative, how it was developed, the results obtained and the lessons learned. If this proposal is received favourably, discussion could take place with the OECD on including various categories related to partnerships under the current heading “Type of innovation” to facilitate searches.

93. CES will discuss possible further work related to strategic partnerships of official statistics with the information industry at the CES seminar on strategic partnerships which will take place on 27 April 2016 in Paris.
