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Counting on Statistics:

How can national statistical offices and donors increase use?

Tanya Sethi and Mihir Prakash

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Part of a broader project to increase the impact of official statistics, this report aims to understand the perspectives of national statistical offices and government ministries in low- and middle-income countries on the use of official statistics. AidData and Open Data Watch have led this effort jointly, resulting in this report. Tanya Sethi and Mihir Prakash co-authored the report. Shaida Badiee, Eric Swanson, Deirdre Appel, Caleb Rudow, and Amelia Pittman from Open Data Watch and Samantha Custer from AidData were invaluable in providing feedback on the design, fielding, and analysis of the snap polls for national statistical offices and government ministries. The second part of the project focuses on measuring the use of data by analyzing data portals to gather use metrics, an effort that has been led by Open Data Watch and PARIS21.

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The findings and conclusions of this report are those of the authors alone and do not necessarily reflect the views of these funders and partners.

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Acronyms

LMICs: Low- and middle-income countries

NSO: National statistical office

SDGs: Sustainable development goals

CSO: Civil society organization

MDGs: Millennium development goals

SCI: Statistical capacity index

NGO: Non-government organization

DHS: Demographic and health survey

NSDS: National strategies for the development of statistics

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CHAPTER ONE

Introduction

Official statistics—datasets produced by official government agencies—are of the utmost importance to policymakers in low- and middle-income countries (LMICs).[1] These leaders employ censuses and nationally representative surveys to monitor development progress for their country as a whole, as well as respond to hotspots of poverty and inequality.[2] In fact, past studies have shown that domestic decision-makers in LMICs reportedly use official statistics more than any other type of data in their work (Masaki et al., 2017; Custer and Sethi, 2017).[3] Unfortunately, national statistical offices (NSOs) in many LMICs are ill-equipped to meet this domestic demand, or that of international actors, due to constrained financial and technical capacity.[4]

This demand for official statistics in LMICs outstripping supply raises two critical questions which we tackle in this report:

- How can future efforts by domestic and international actors better support producers of official statistics to respond to this demand?
- How can donors fund and design capacity building approaches that go beyond the producers to also incorporate domestic use and user needs?

This report is part of a larger project funded by the William & Flora Hewlett Foundation to understand and measure use of official statistics in LMICs. Led by AidData at William & Mary and Open Data Watch, this first report draws upon insights from those who produce official statistics (NSOs) and one important user group (government ministries) to inform investments to spur greater use of these data. In a complementary effort, the second part of the project, led by Open Data Watch and PARIS21, studies how national statistical systems can most effectively disseminate official statistics by analyzing how users access official statistics through the websites of seven NSOs.[5]

Several studies have previously tackled some of these questions and themes through interviews, case studies, and desk research (Dargent et al., 2018; PARIS21, 2018a). These studies are useful for understanding country-specific opportunities and constraints within the broader political economy of data use. However, findings from a broad cross-section of NSOs in LMICs are also needed to inform global capacity building strategies and investment priorities of development partners.

SECTION 1.1

Official statistics: Why demand exceeds supply

Official statistics are meant to "serve the government, the economy and the public with data about the economic, demographic, social and environmental situation" (UN Fundamental Principles of Official Statistics, 2014).[6] By extension, NSOs view their mandate as being to collect, compile, analyze, and publish high-quality statistics on the demographic, economic and social condition of society. In other words, the main role of national statistical agencies and official statistics is to inform domestic actors and policies at the national or subnational level.

There has been a surge in demand for official statistics since the 1990s.[7] Global development agendas such as the Sustainable Development Goals (SDGs) and the Millennium Development Goals (MDGs), as well as donor-specific initiatives like the World Bank's Poverty Reduction Strategy Papers[8] have placed heavy demands on national statistical systems to monitor and report relevant indicators.[9] One example of this is poverty data. Even towards the end of the MDG monitoring period, very few countries had sufficiently robust poverty measures (Serajuddin et al., 2015).[10]

More recently, the SDGs' focus on "no one left behind" demonstrates increased demands on NSOs to produce high-quality data at much more granular levels. To ensure vulnerable populations and marginal communities equally benefit from development, policymakers need disaggregated data to see "beyond the tyranny of averages" (Greenwell et al., 2016; Custer et al., 2017).

However, this growing demand has not been met with a corresponding increase in the capacity of countries to deliver official statistics (OPM, 2009; Tomizawa and Masugi, 2018). Official statistics are not costless to collect, manage, and publish, but they are often provided to users at no (or low) cost. Like other public goods, these data are typically under-provided.[11,12] Apart from their public good value, strengthening official statistics is also important for another reason. In a world where technology makes it easy for anyone to

publish data, official statistics have an even more important role to counter false truths and "bring credible, evidence-based information to the public" (Fu, 2018). However, official statistics cannot play this role if they themselves are perceived to be of poor quality.[13]

There is an estimated shortfall in funding for statistics of roughly $200 million annually between 2016 and 2030[14] (GPSDD, 2016). But mobilizing more money for official statistics only solves one part of the capacity gap. Those that produce official statistics often have limited visibility on what prospective users want from these data or have limited technical capacity to respond even if they do.

SECTION 1.2

Demand-driven investments: How can we close the gap?

Ultimately, if countries lack access to timely and reliable official statistics, policymakers cannot allocate resources efficiently, development partners cannot align assistance with the greatest needs, and civil society organizations (CSOs) cannot hold local and national governments accountable for results. However, every dollar spent on collecting official statistics has an opportunity cost: fewer funds available to deliver public services and development programs (Development Gateway, 2017). The case to increase funding for better official statistics thus rests on whether domestic or international funders see a return on this investment in the form of a corresponding increase in the use and usefulness of these data (Jacob, 2017).

This report draws upon two perspectives to address the capacity gap: the primary producers of official statistics (NSOs)[15] and an important domestic user group for these data (government officials in LMICs).[16] From NSOs, we need to better understand the supply-side constraints that inhibit them from responding to demand. What barriers do they perceive to the use of NSO data and what do their organizations need to overcome these barriers? From government users of official statistics, we want to understand how NSOs can build their capacity in line with user demand. How do these users prefer to access official statistics and what barriers keep them from using this information?[17]

This report is divided into three main chapters in which we discuss our surveys and methodology, the key findings, and what we think is the way forward. In Chapter 2, we introduce two snap polls fielded in 2018 to capture producer and user perspectives and the methodology we employ to evaluate the results. In Chapter 3, we examine what producers and users have to say about the current landscape of official statistics in their countries. Motivated by the need to monitor progress against global development agendas, international donors play an important role in financing official statistics in LMICs and often require NSOs to report data in line with internationally agreed upon standards to enable cross-country comparisons (OPM, 2009; Custer and Sethi, 2017).[18] We examine whether and how this changing dynamic influences who NSOs see as the primary users of official statistics and NSOs' data collection priorities. A second theme we explore in Chapter 3 is the extent to which NSOs view monitoring the use of official statistics and responding to users of their data as falling within their mandate.[19]

Moving from understanding the status quo to identifying forward-looking solutions, in Chapter 4 we first diagnose the major barriers to the use of official statistics in LMICs and then discuss what NSOs need to spur greater uptake of the data they produce. Finally, recognizing that governments and organizations have limited dollars to spend, we present recommendations for NSOs and their partners on how best to direct future investments and design capacity building approaches[20] in line with user demand.

This report is particularly timely as governments and their development partners increasingly recognize the need for pooled financing mechanisms rather than ad hoc, bilateral investments in discrete datasets.[21] The United Nations Cape Town Global Action Plan for Sustainable Development Data is one example of this desire for greater coordination and cooperation between those who produce, fund, and use official statistics.[22] Our findings shed light on how these domestic and international actors can provide financial or technical assistance to NSOs in a way that not only increases the supply of official statistics, but simultaneously bolsters the likelihood that this information is used effectively by domestic stakeholders.

[1] Official statistics are numerical datasets produced by official governmental agencies mainly for administrative purposes, including the census, crime figures, health data, income and employment rates, as well as those based on government-sponsored social surveys (Official statistics, 2004). They conventionally include economic statistics (national accounts, balance of payments, government financials) and social and demographic statistics (population, health, education, and labor market figures) (PARIS21, 2018a).

[2] According to UN (2003), the products of a statistical agency must be national in scope; i.e., they must apply to all sectors of a nation's society and economy. This stands in contrast to datasets produced by other actors, which are often specific to certain geographical areas, populations, or sectors.

[3] In Custer and Sethi (2017), when asked about high-value data sources, interviewees in Honduras, Timor-Leste and Senegal most frequently mentioned geo-referenced and sector-specific administrative data produced by line ministries, and surveys and censuses from NSOs.

[4] Even though NSOs are only one part of the national statistical system, they are the central bodies of statistical production and coordination whose autonomy and capacity largely determine the quality of a country's statistics (Dargent et al., 2018).

[5] The seven NSOs are in Ecuador, Indonesia, Kenya, Moldova, the Philippines, Rwanda, and Senegal.

[6] Principle 1 further states, "... official statistics that meet the test of practical utility are to be compiled and made available on an impartial basis by official statistical agencies to honor citizens' entitlement to public information."

[7] See Sanga (2013), Round (2014) and OPM (2009). Prior to this, domestic demand for this information was weak, and NSOs in developing countries had excess capacity (OPM 2009).

[8] Poverty Reduction Strategy Papers were introduced by the World Bank in 1999 as an aid instrument and the focus of its own and the IMF's assistance to developing countries. See IMF (2016) for more details.

[9] Development partners use data on these indicators for cross-country comparisons as well as to design country-specific assistance programs (e.g., the IMF's lending programs use macroeconomic data reported by member countries).

[10] Among the 155 countries for which the World Bank monitors poverty data, 29 countries did not have any poverty estimate and 28 countries had only one poverty data point during 2002-2011. The authors attributed the lack of poverty data to a lack of household survey data (Serajuddin et al., 2015).

[11] As Round (2014) puts it: "...users of official statistics are not usually charged a fee for their use of data or, at least, the charge is not commensurate with the (marginal) cost of production." Dargent et al. (2018) argue that as a public good, if governments publish official statistics, they may expose gaps in service delivery and invite greater (and undesired) scrutiny from citizens. Lokshin (2018) provides an alternate explanation, suggesting that decision-makers may not fully understand the utility of data and even when they do, political pressures may override information in guiding policies. This results in investments being diverted away from the production of high-quality data to other priorities. Finally, Custer and Sethi (2017) present several examples in practice of how demand for official statistics exceeds supply. Decision-makers in Honduras, Timor-Leste and Senegal wanted more data that is disaggregated by sector, geography or demography. In Honduras, the last agriculture census was conducted in 1993.

[12] Of course, in the case of official statistics, it is also possible that there is over-production relative to latent domestic demand (Round, 2014; Lokshin, 2018)

[13] Despite the debate around the potential of big data to provide faster, cheaper, and more granular data, the importance of official statistics—particularly so in LMICs—is unlikely to diminish in the near future. See Letouzé and Jütting (2015) for a discussion of the role of big data. Authors summarize the prevailing consensus as: at best, big data has the potential to supplement but not replace official statistics, given the limited relevance and use even in developed economies such as France.

[14] This is based on an estimate to expand the program of surveys and censuses and improve administrative data to be able to monitor the 150 Tier I and II indicators in 77 IDA-eligible and 67 IBRD countries. Of the total estimated need in IDA-eligible countries of $1.2 billion annually, 50% can be financed from their government budget. Of the total estimated need in IBRD countries of $1.8 billion annually, 95% can be financed from their government budget.

[15] Many countries have more than one producer of official statistics at the national level, but NSOs are distinct in that this is their "core or even exclusive task" (Bruengger, 2008). NSOs field censuses and household surveys to collect demographic and social statistics, including sector-specific information on agriculture, health, education, and employment indicators (UNSTATS, 2001). Other producers of official statistics at the national level include central banks and various ministries. In centralized statistical systems, a single institution is responsible for most of the official statistics (e.g., Australia, Canada, and Mexico), though the collection of some official statistics may be the responsibility of others. Decentralized systems have independent statistical agencies for different subject matters (e.g., the United States). Producers of official statistics may exist at the regional and even municipal levels (Bruengger, 2008).

[16] Government ministries represent only one of many user groups, but they have historically been viewed as a particularly important audience for official statistics, given their role in national policymaking (UN, 2003; Bruengger, 2008). The needs of other users such as citizens, media, and local municipal governments, while relevant and valuable, lie outside the scope of this report. Government ministries in this report include five ministries to which AidData sent the snap poll, including the ministries of finance and/or planning, education, health and the Office of the President and/or Prime Minister. We subsequently refer to them as "government users" or "users in government ministries."

[17] This report discusses use and usefulness as reported by users themselves, but it does not discuss the value of data for users, and the investments they are willing to make to "use" information. For instance, a respondent may need to build their own capacity to use and analyze data, or may need to counter political pressures to use data for a decision. The report does not focus on these competing priorities.

[18] To be sure, given the high costs of data collection for surveys, it is questionable whether statistical agencies in certain developing countries can manage without external funding (Lokshin, 2018).

[19] While the mandate of NSOs often stops at the provision of official statistics through printed or online publications, the opportunity costs of collecting and analyzing official statistics imply that NSOs also need to know the extent to which their data are used.

[20] We use PARIS21's definition of capacity development: "In the context of NSOs, it involves improving processes, products and business models for the generation and utilization of data and statistics." See http://www.paris21.org/capacity-development-40/cd40-survey

[21] Examples of data partnerships in recent years include Statistics for Results Facility (2009) and the Global Partnership for Sustainable Development Data (2015).

[22] The CT-GAP is a strategic framework to strengthen statistical capacity necessary to achieve the full scope and intent of the 2030 Agenda, and was launched at the first UN World Data Forum in 2017.

CHAPTER TWO

Methodology: Insights from surveys of producers and users

Our approach to understanding how producers and users perceive official statistics is novel in two ways. First, we surveyed NSO officials and their counterparts in government ministries to get first-hand information about the use of official statistics.[23] Second, recognizing that NSOs have varying levels of financial and technical capacity, we assessed whether these survey responses varied on the basis of a country's per capita income and statistical capacity using secondary data.

In early 2018, AidData sent an online survey to 1,218 senior- and mid-level officials in 140 LMICs who, at the time of fielding the survey, held a position within their country's NSO at some point between 2010-2017. Of those who received the survey invitation, 387 responded (32 percent).[24] Through the survey, these NSO officials shared their views on: the most important and frequent users of their data; whether or not they are monitoring use of official statistics; dissemination practices around the data they produce; improvements to spur uptake of their data; and what NSOs need to make those improvements.

The NSO respondents were highly experienced—most had worked at their organization for seven or more years—and predominantly technical, in that they reportedly spent most of their time on tasks such as data collection, reporting, or analysis. Nonetheless, approximately 28 percent were involved in program or unit administration tasks such as program implementation and staff management. Another 12 percent were responsible for political matters such as policy formulation and stakeholder engagement.

In addition to the NSO survey, AidData sent a second online survey to 8,161 senior- and mid-level officials that worked in other government ministries—Finance and/or Planning, Health, Education, and the Office of the President or Prime Minister—in the same 140 LMICs. These officials, at the time of fielding the survey, held a position in these agencies at some point between 2010-2015. Of those who received the survey invitation, 655 responded (8 percent) to a series of questions similar to those asked to NSO officials. The purpose was to understand whether NSO perceptions of the use of official statistics were aligned with those of their government users.[25] The government ministry officials who responded to the survey were also highly experienced, but their allocation of effort was more equally distributed across technical, political, and administrative activities than what we observed in our NSO officials.[26]

The global coverage of the two surveys allows us to examine variation in perceptions of official statistics by geographic region, as well as by per capita income and statistical capacity. For this analysis, we leverage secondary data from the World Bank, namely their country income group classification (by GNI per capita) and Statistical Capacity Index (SCI). The latter assesses the adherence of national statistical systems to internationally recognized standards across three dimensions: statistical methodology (i.e., whether countries adhere to international standards and methods for data collection), source data (i.e., whether countries collect data with internationally-recommended periodicity and whether data from administrative systems are available and reliable), and periodicity and timeliness (i.e., the extent to which these data are accessible to users in a timely fashion).[27]

A limitation of the study is that we do not examine alignment or misalignment between responses of NSOs and their government ministry counterparts at the country level due to sample size and confidentiality concerns.[28] Therefore, the findings must be interpreted with this caveat in mind, since a misalignment at the "global level" does not necessarily imply that the NSO of a particular country is unaware of its government ministries' needs and preferences regarding the dissemination and use of official statistics.

It is also important to note that the conclusions drawn in this report are based on one user group, and do not take into account the many other domestic and international users of official statistics. While government ministries are only one among various users, they have traditionally been conceived as the primary users of NSO-produced data (UN, 2003).[29] Rosales (2018) argues that even today, national policymakers rank at the top as users of statistics. The perceptions of ministry officials thus offer an opportunity to understand how well NSOs know these government users. In the next chapter, we present findings from the snap polls on the use of official statistics in LMICs.[30]

[23] For more details on the construction of the sampling frame and survey implementation, see Appendix A.

[24] This response rate is higher than what AidData has seen in its previous snap polls, and is encouraging given the generally low response rates in elite surveys of busy government officials. NSO officials also had the highest response rate among all government officials to AidData's larger *2017 Listening to Leaders Survey* sent to 58,000 policymakers and practitioners in 126 LMICs.

[25] Both surveys were sent out in three languages: English, Spanish, and French. The surveys remained in the field for approximately four weeks during which three reminders were sent out. The sample of respondents in the case of both the surveys was broadly representative of the sampling frame in terms of gender, country and region. See Tables A1 and A2 in Appendix A for more details. For the survey questionnaires, see Appendix C.

[26] Nearly a third of the ministry respondents worked at the Ministry of Finance and/or planning, followed by Ministry of Health (23 percent) and Ministry of Education (16 percent). See Tables A4 and A5 for descriptive statistics on the demographic profile of NSO and ministry respondents.

[27] Countries are scored against 25 criteria in these areas, using publicly available information and/or country input. The overall Statistical Capacity score is then calculated as a simple average of all three area scores on a scale of 0-100. See Table A3 for a breakdown of countries in our sample by capacity categories. See World Bank (2012) for more details.

[28] To protect respondent identity and reassure respondents of their responses remaining confidential, the splash page of the NSO snap poll mentioned that responses would not be analyzed at the country level. This is because in our sampling frame, many countries had less than 10 NSO officials, and presenting results at the country level (assuming 6-7 of those individuals respond) would jeopardize the anonymity of their responses.

[29] Official statistics are supplied mainly to ministries of industry and finance; to planning commissions and to ministries of trade; and to the most traditional users—the ministries of agriculture, transportation and labor (UN, 2003).

[30] Our sample of NSO and ministry officials is broadly representative of the population, in terms of gender, region and country. Still, to draw descriptive inferences for the 140 LMICs, all the figures presented in this report are weighted by country. See Appendix A for more details.

CHAPTER 3

Assessing use: What do we know about the use and users of official statistics?

Official statistics are in sufficiently high demand from various domestic and international constituencies that NSOs often have to make tough choices in how to prioritize their efforts in light of constrained financial and technical capacity (Sanga, 2013).[31] Central government agencies want these data to inform national policymaking and program implementation (PARIS21, 2018b), while subnational governments may care about census or poverty measures that determine the resources they receive from the central government (Dargent et al., 2018). As important funders of official statistics, international donors have their own demands which often emphasize reporting on macro-level indicators to enable cross-country comparisons on progress against global development agendas.

NSOs are clearly pulled in many different directions. In this chapter, we analyze snap poll responses to understand who NSOs regard as the primary and most frequent users of their data, and shed light on the tension between balancing domestic and international demands for data and reporting. We also look at the extent to which NSOs monitor the use of data they produce and which tracking tools they deem to be most attractive to monitor data use.

SECTION 3.1

How do NSOs view users and the use of official statistics?

Previous studies argue that international demand for official statistics is generally higher than demand at home, a factor that inhibits statistical capacity building (OPM, 2009; Dargent et al., 2018).[32] We use the snap poll to understand how NSOs themselves view this demand through two questions. First, who are the most important prospective users of their data in the eyes of NSOs? Second, how well do NSOs understand the needs of their government users?

FINDING #1

International development partners are the most important and frequent users in the eyes of NSO officials, followed by domestic research organizations, suggesting the need to broaden the domestic user base for official statistics

NSOs consider international development partners the most important users of official statistics. Overall, the importance of domestic actors as users in the eyes of NSOs is relatively low, with the exception of research organizations, universities, and think tanks.[33] This academic community is much more important to the NSOs as a target user group compared to domestic policymakers in other government ministries (Figure 1).

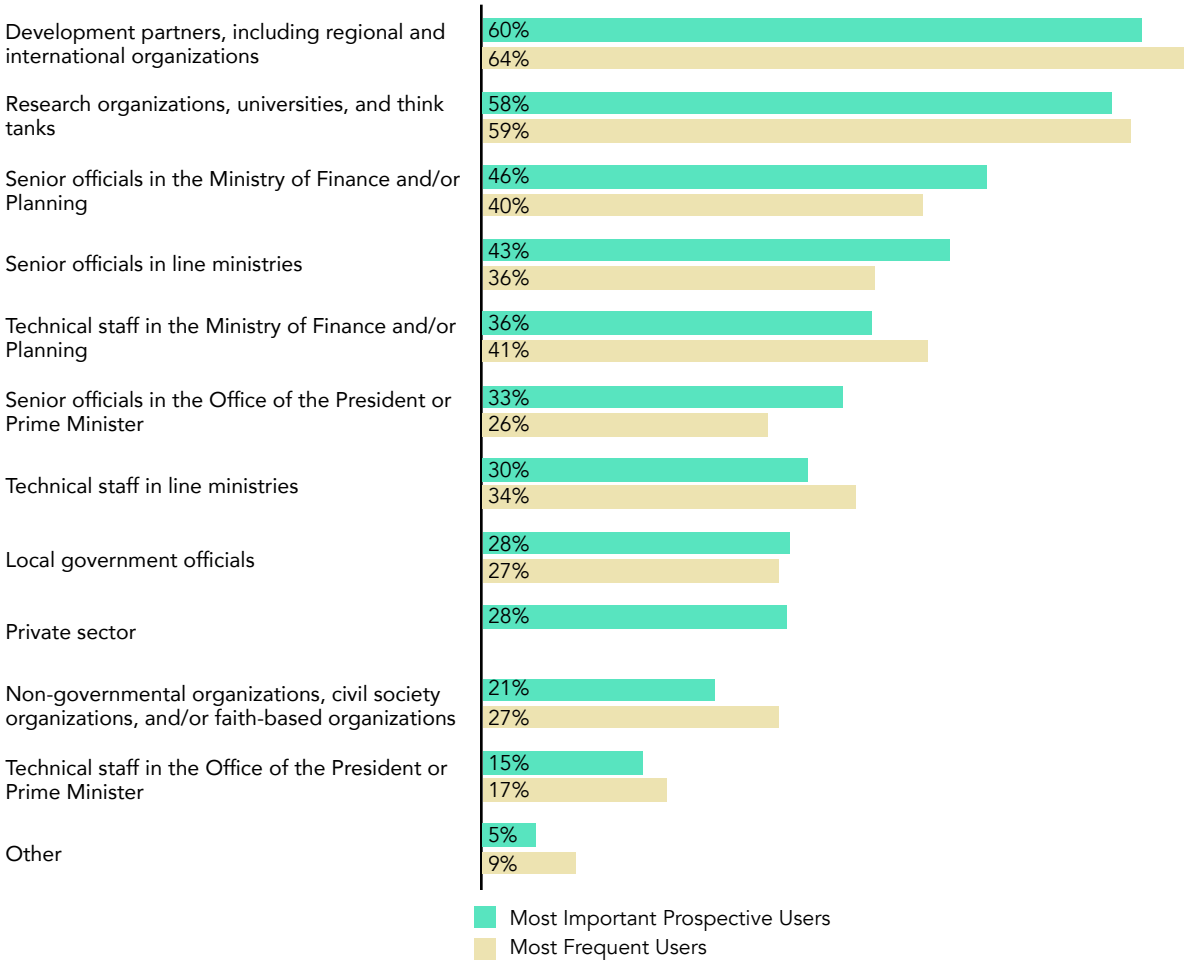
Why might NSOs be incentivized to pay greater attention to international development partners and domestic research organizations? One possible explanation is that NSOs focus on the user base with the strongest (and most vocal) demand for the data they produce. In countries where domestic consumption of official statistics is comparatively weak, NSOs may instead focus where demand is already high.[34] The fact that development partners and research organizations are also perceived to be the most frequent users of NSO data lends support to this explanation.[35] Alternatively, NSOs might believe that paying attention to external demand will help them secure financial or reputational benefits that would otherwise not be accessible.[36]

While a high perceived demand from domestic research organizations is encouraging, the general emphasis of NSO respondents on international users over domestic constituencies (e.g., ministry of finance and/or planning, line ministries, local government, and NGOs) may have an important unintended consequence of displacing attention from efforts to capture information that is more relevant to decisions made at the national or local level.[37] As financiers of official statistics such as censuses and surveys, development partners may create perverse incentives for NSOs to channel their resources towards the datasets, activities, and methods that international actors prioritize over domestic needs. Sandefur and Glassman (2015) give one poignant example of this in practice, saying that the Demographic and Health Survey (DHS) serves the needs of donors by providing comparable information across countries and time, but it may not allow for comparison among various subnational units within a country. This makes the DHS less useful to health and education ministries who cannot use these data to allocate resources at the subnational level.[38]

FIGURE 1

Who do NSO officials consider their most important and most frequent users?

Percentage of respondents. Each respondent could select up to five choices.



Notes: This figure shows the responses of NSO officials to two questions: (1) which of the following groups are the most important prospective users of your data? (2) Which of the following groups do you think uses data produced by [your NSO] most frequently? The number of respondents that answered this question was 350.

FINDING #2

Technical staff in government ministries could be crucial intermediaries to reach senior officials, who NSOs view as among the most important domestic users of their data

Among government users, NSOs view senior officials in the ministries of finance and/or planning and line ministries as the most important users of their data. This may be because they have the authority to make consequential decisions with (or without) nationally representative data. However, relative to their importance as users, these senior officials are viewed as using the NSO data less frequently. This is in contrast with the pattern for technical staff in government ministries: NSO officials view them as frequent users of their data relative to their importance as target users (see Figure 1).[39]

What might explain why NSOs perceive senior officials as less frequent users of official statistics? One explanation might be that senior officials want data in visual formats that are not currently available, such as in the form of dashboards or interactive portals that allow them to query the data to answer specific questions of interest. Using functional roles as a proxy for seniority, we put this hypothesis to the test by asking ministry officials about their preferred formats to access data produced by NSOs.[40] Staff that spend most of their time on political matters such as policy formulation are more likely to be senior-level officials.[41]

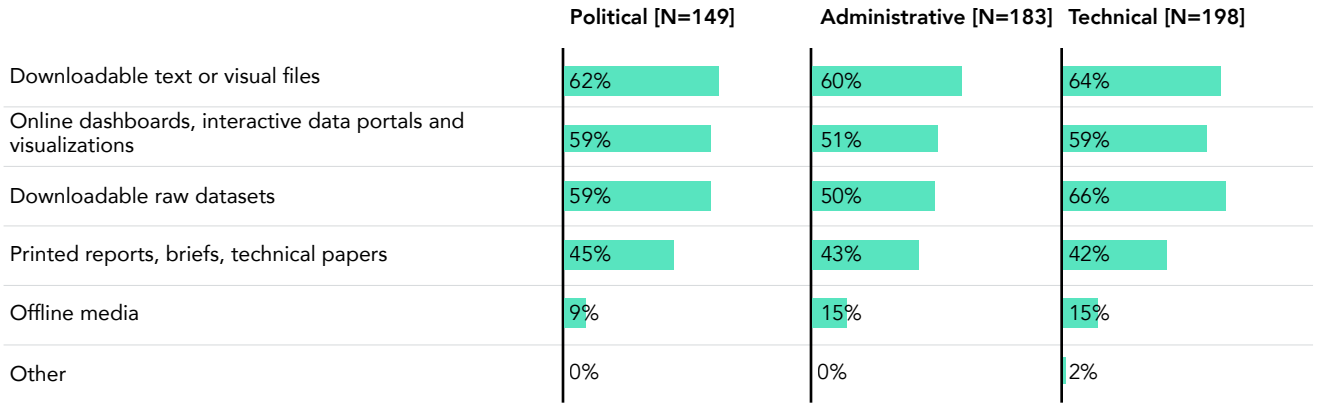
Surprisingly, officials that spend more time on political matters (i.e., more senior individuals) do not have a marked preference for accessing official statistics via more visual forms (Figure 2.1). Around 60 percent of political staff expressed a preference for accessing data via: (1) downloadable text or visual files; and (2) online dashboards, interactive data portals, or data visualizations. This was no different for technical staff, indicating a clear preference across both groups to access data via online platforms rather than printed publications.

If the medium is not the obstacle, then what else might explain why NSOs perceive senior officials as less frequent users of official statistics? First, NSO officials may not have visibility on "direct use" of their data by senior officials. A relatively higher share of political staff, as compared to administrative and technical staff, report using NSO-produced data to justify an existing policy, inform the design of programs and policies, weigh the costs and benefits of various options, or advocate for a decision to implement a certain policy or program (Figure 2.2).[42] These decision-making processes are often internal to a given ministry and less visible to outsiders. Second, political staff may over-report the use of data in decision-making, while NSOs may have a less optimistic (and potentially more pragmatic) view of how data actually gets used.

FIGURE 2.1

In which formats do ministry officials prefer to access data produced by their NSO?

Percentage of respondents. Each respondent could select all that apply.

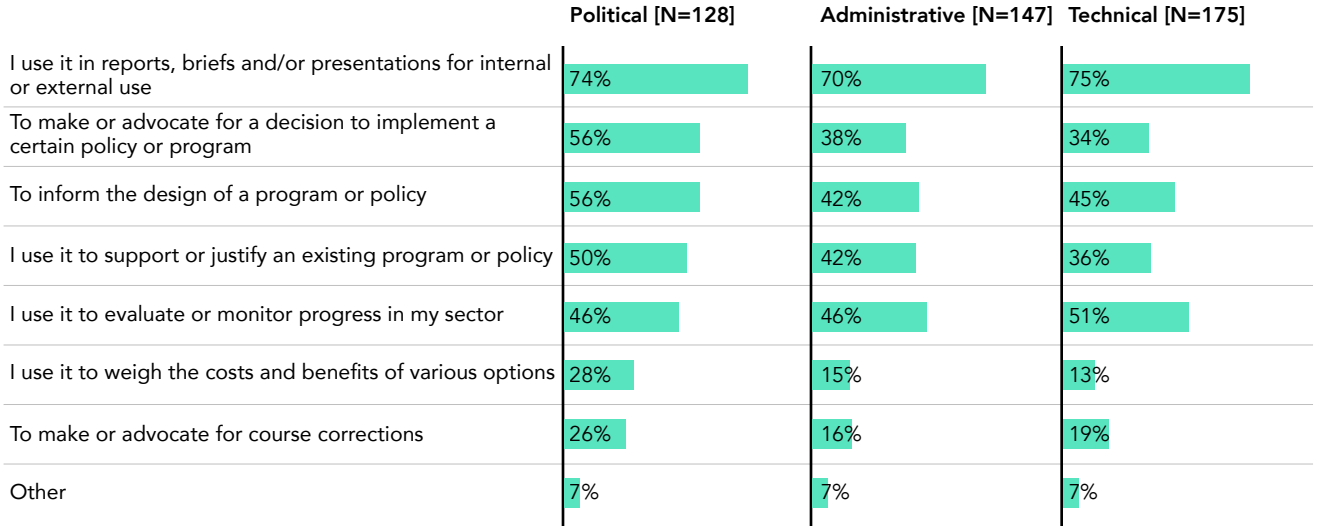


Notes: The number of respondents that answered this question was 530.

FIGURE 2.2

How do ministry officials typically use data obtained from their NSO?

Percentage of respondents. Each respondent could select all that apply.

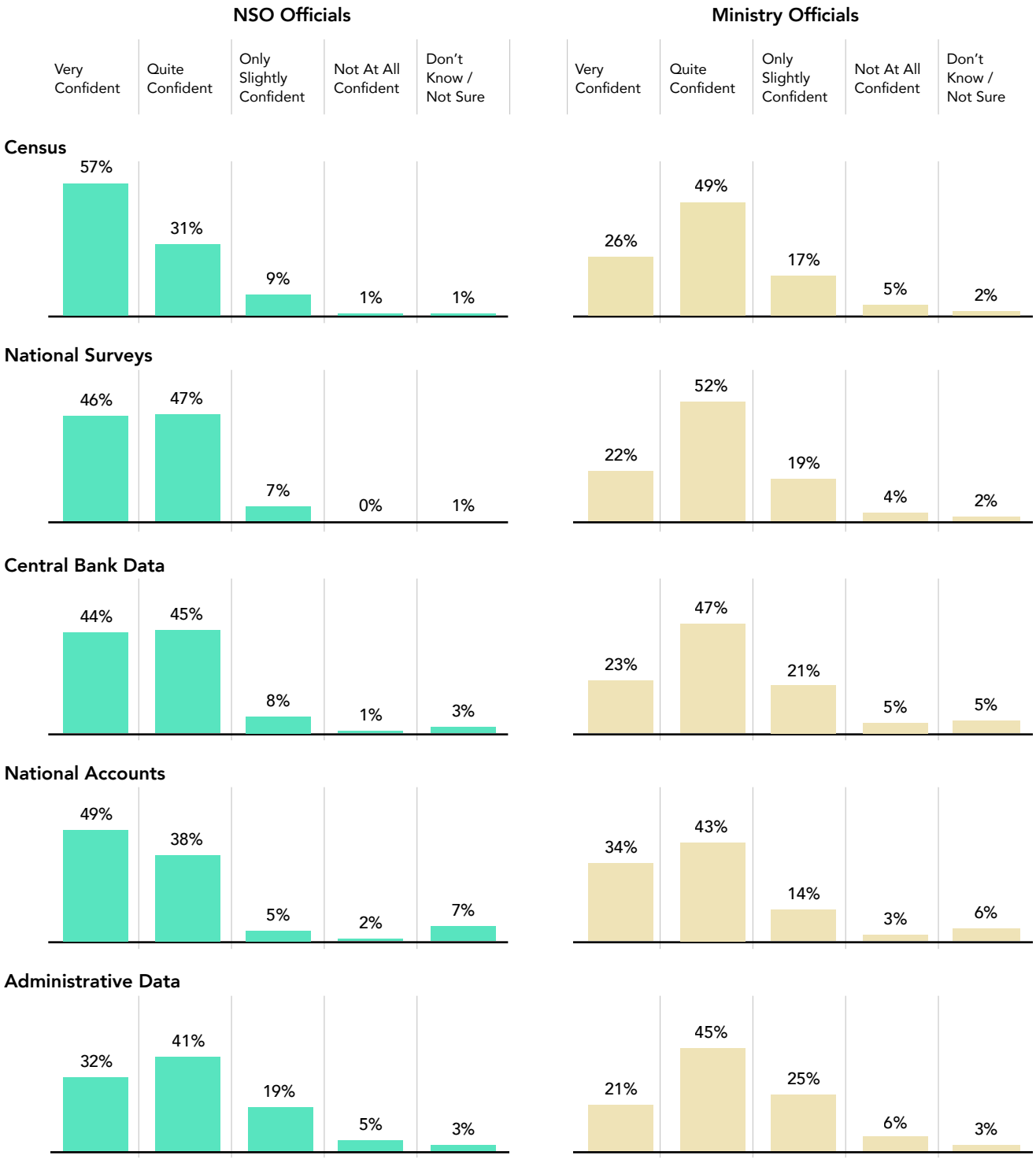


Notes: The number of respondents that answered this question was 450.

FIGURE 3

Ministry officials' confidence in official statistics differs from NSOs' perceptions of that confidence

Percentage of respondents.



Notes: This figure is based on questions in the NSO and ministry snap polls. The question in the NSO snap poll was: In your opinion, what level of confidence do other government officials in [country] have in the official statistics of [country]? The question in the ministry snap poll was: What is your level of confidence in the official statistics of [country]? Confidence refers to trust in the accuracy of data. In both questions, respondents had to rank their confidence for five types of official statistics: census, national surveys, national accounts, data produced by the central bank, and administrative data. Respondents ranked their confidence in each of these as "very confident," "quite confident," "only slightly confident," "not at all confident," or "don't know/not sure." The number of respondents that answered this question was 322 (NSO) and 542 (ministry).

FINDING #3

NSO officials overestimate the confidence that other government officials have in official statistics

Official statistics are unique in that the results ought to be replicable to be believable; however, in most cases, it is nearly impossible for external users to replicate them (UN, 2003). This makes it even more important for a statistical agency to build credibility. Several studies have assessed trust in official statistics for OECD countries (particularly the United Kingdom),[43] but there is a dearth of comparable evidence for LMICs. One exception is a study by Custer and Sethi (2017) that found a simultaneous high demand for and lack of trust in official statistics among a broad cross-section of users in Honduras, Timor-Leste, and Senegal. This perception was due to both technical and political constraints, which impeded quality data collection and reporting of "truthful" numbers in the public domain. In this report, we leverage our two surveys of NSOs and ministry officials to look at the issue of trust in official statistics more systematically across 140 LMICs.[44]

More than 85 percent of NSO respondents reported that other government officials in their country were "very confident" or "quite confident" in four of five types of official statistics: census, national surveys, national accounts, and data produced by the central bank. Confidence was defined as trust in the accuracy of data. Officials from other government ministries were less sanguine. While a majority of respondents still said they were confident in their country's official statistics, between 17-25 percent of ministry officials were "only slightly confident" or "not at all confident" (Figure 3).

The only data type where NSOs perceived a relatively lower level of confidence on the part of other government officials was administrative data (Figure 3).[45] Notably, administrative data are the only type of official statistics not produced by NSOs. Interestingly, officials from other government ministries are not necessarily more confident about administrative data which they typically collect themselves, perhaps because as producers they understand the data deficiencies better than anyone else. Another reason may relate to the relative neglect of administrative data and civil registration over the years (OECD, 2017; SDSN, 2017).[46]

Public trust in statistics is also strongly associated with trust in institutions, and one potential determinant of trust in institutions is the capacity of a country's statistical system. Countries with higher capacity scores on the World Bank's Statistical Capacity Index are likely to inspire a higher level of user confidence in their data. In general, we do find that government ministries' confidence is higher in higher-capacity countries. This is most clearly seen in the case of administrative data: 52 percent of officials in low-to-medium capacity countries are confident in their administrative data, compared to 78 percent of their counterparts in very high capacity countries (see Figure B1 in Appendix B).[47]

FINDING #4

NSOs may need to rethink some of their dissemination strategies to be more in line with what government users want

Globally, NSOs and their government users are aligned on one dissemination strategy: posting the NSO data on the website or data portal. This was the top choice for NSO officials to inform users of their data as well as the top preference for ministry officials to learn about NSO data (Figure 4). This mirrors an earlier finding that these ministry officials prefer "online" modes to access official statistics through downloadable text or visual files (such as PDF, Word, and PowerPoint).[48]

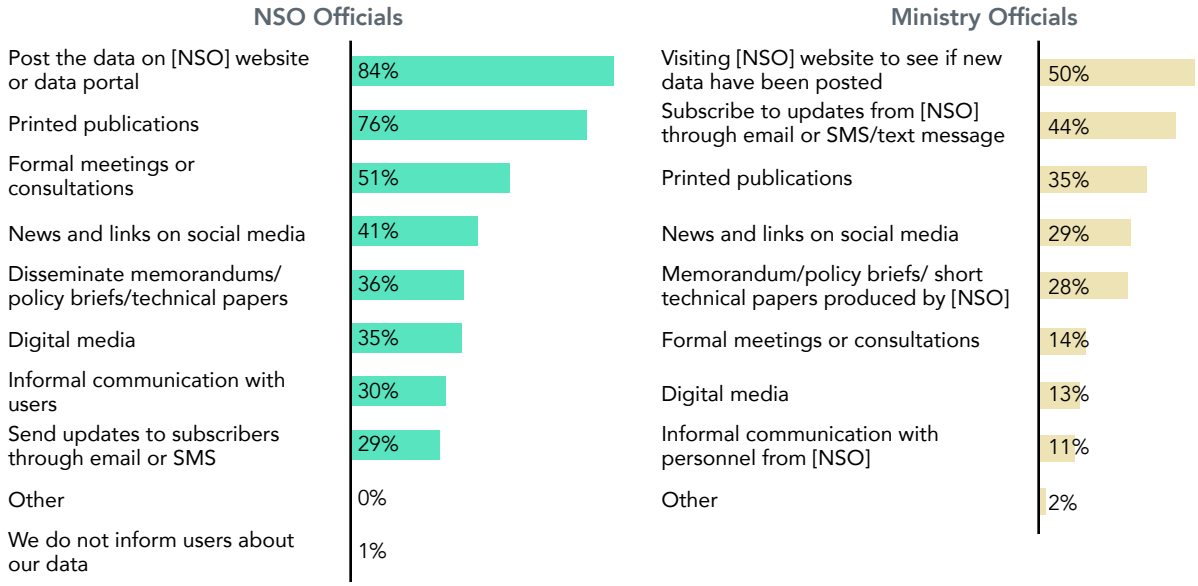
However, the dissemination strategy of NSOs also deviates from how ministry officials reportedly prefer to access data produced by NSOs in one critical way.[49] While nearly half of all ministry respondents said they would like to subscribe to updates via email or text message, this was the least-used dissemination channel by NSO officials. Notably, this dissemination channel is particularly important if NSOs want to reach political staff (i.e., senior-level officials) in government ministries, as these individuals identified subscribing to email or SMS updates as much a preferred option as visiting the NSO website (Figure B2 in Appendix B).[50] A one-time investment in a system where users can voluntarily register to receive regular email or SMS updates would be relatively cost-effective[51] and could yield significant gains in terms of raising awareness of new datasets and boosting data use.

This misalignment at the global level also holds at the region and income cohort level. The most striking example is in South Asia, where more than half of ministry officials wanted to receive email/SMS updates, and only 6 percent of NSO officials in the region reported using this channel. We also see that NSOs employ very similar dissemination strategies in countries with different income levels, but fewer ministry officials in upper-middle income countries want to learn about NSO data through printed publications than is reflected in the NSO strategy. Instead, these officials express a particularly strong preference to subscribe to email/SMS updates (see Figures B3 and B4 in Appendix B).

FIGURE 4

How do NSOs inform their users about their data and how would ministry officials prefer to learn about these data?

Percentage of respondents. NSO officials could select all that apply. Ministry officials could select up to three options.



Notes: This figure is based on questions asked to NSO and line ministry officials. The question in the NSO snap poll was: How do you inform your users about your data? The number of respondents that answered this question was 332. The question in the line ministry snap poll was: How would you prefer to learn about the availability of data produced by [NSO]? The number of respondents that answered this question was 557.

In this section, we presented evidence that the perceptions and preferences of officials in NSOs and other government ministries are not always aligned, even among countries within the same region or among countries with similar capacity levels. Moreover, NSO officials overestimate the confidence that other government officials have in official statistics. Considering that a lack of confidence in data deters its use (Custer and Sethi, 2017; ODW 2018), NSO overestimation of government officials' confidence in official statistics suggests that they may also overestimate the use of this data. But how many NSOs actually monitor the use of data they produce? In the next section, we look at the extent to which NSOs track the use of their data and the current and desired tools used to do this.

SECTION 3.2

Do NSOs monitor the use of their data?

The raison d'être of NSOs is to collect, publish, and disseminate official statistics. As such, NSOs place great emphasis on the production side of the equation: collecting high-quality data, meeting national or international definitional and methodological standards, and publishing the data with the appropriate frequency. Conversely, NSOs seldom identify the measurement of the use of their data as one of their official responsibilities. Nor do guidelines for national statistical planning, such as the National Strategies for the Development of Statistics (NSDS), typically emphasize measuring use of official statistics.[52]

It may be the case that NSOs view their role solely as "producers," envisioning NGOs, CSOs and research organizations as more appropriate infomediaries to package and promote official statistics for broader use. In this view, both encouraging and measuring use

would lie outside their mandate. NSOs might also assume that the supply will generate its own demand, and so their first-order priority should be to increase the availability of official statistics as a public good. Capacity constraints may also be at work—if producers do not have adequate financial, human, and technical capacity to produce and disseminate data, the same constraints may limit their ability to track and analyze data use.

All of the aforementioned arguments are plausible, but what are the actual perceptions of NSO officials? To this end, we asked NSO officials via the survey if they currently monitor the use of data they produce and, if they do not, what level of importance they attach to this activity. This section presents key findings that speak to the appetite for measuring the use of official statistics among NSOs.

FINDING #5

Most NSO officials consider it important to monitor the use of their data, and the extent of monitoring increases as countries transition from lower to higher levels of income and statistical capacity

Contrary to what we expected to see, most NSO officials (54 percent) reportedly monitor use of the data they produce.[53] Even among those who do not currently measure the use of their data, 88 percent report that it is very or quite important for NSOs to do so.[54] These results suggest that NSOs see value in monitoring data use, but may not be currently doing so due to capacity or resource constraints in the face of other competing priorities.

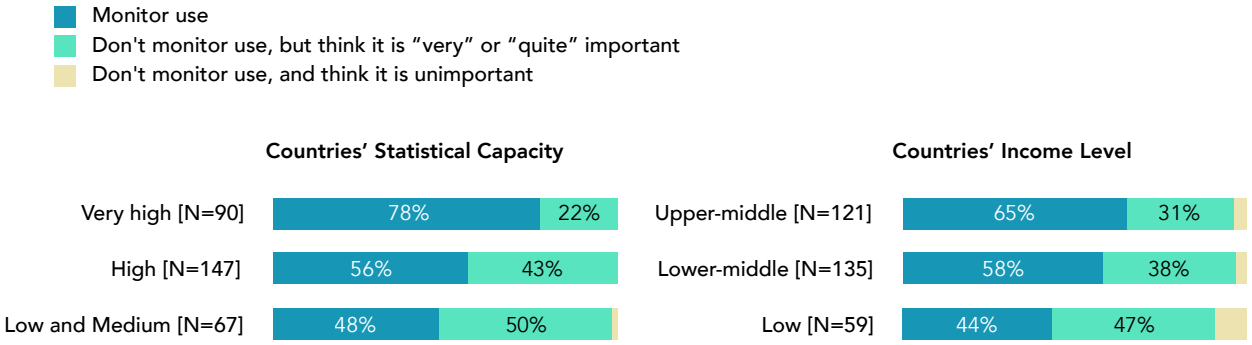
The capacity of a national statistical system may determine whether and how NSOs measure the use of the data they produce. We hypothesized that respondents who monitor data use would generally come from countries with higher levels of statistical capacity than those who do not monitor data use but think it is important to do so. Using the World Bank's Statistical Capacity Index scores for the countries in our sample, we find that a substantially smaller share of NSO officials in low- and medium-capacity countries monitor data use, compared to their counterparts in higher-capacity countries (Figure 5, left).

A country's income level also makes a difference, which is expected given the positive relationship between income and statistical capacity. NSO officials from middle income countries were more likely than their counterparts in low-income countries to monitor use of official statistics (Figure 5, right). Limited financial resources may translate into smaller budgets for NSOs, and what funds are available may be prioritized to produce, rather than monitor use of, official statistics. In this respect, as countries raise additional resources domestically and on the international market, they can focus these dollars at later stages of the "data value chain," such as encouraging use and increasing the impact of their data (ODW, 2018).

FIGURE 5

How does monitoring data use change with the income and statistical capacity of countries?

Percentage of respondents who:



Notes: Given the very small number of countries in the low statistical capacity group in the World Bank's Statistical Capacity Index, we combine low and medium capacity countries into one single category. Numbers in brackets indicate the total number of respondents from countries in a certain statistical capacity or income category.

FINDING #6

Web analytics is the most common and preferred way for NSOs to monitor use of their data, suggesting an opportunity for development partners to provide targeted support to NSOs in this area

Among NSOs that monitor use of their data, more than half employ web analytics and user surveys to do so, the former being a tool to understand browsing and use patterns for a given web page or website.[55] Even more striking is the overwhelming majority of NSO officials that would like to monitor data using web analytics (Figure 6).[56] This monitoring strategy makes good sense in two respects: ministry officials prefer to visit their NSO's website to look for new data and NSO officials also inform prospective users by publicly posting new data on their website or data portal.

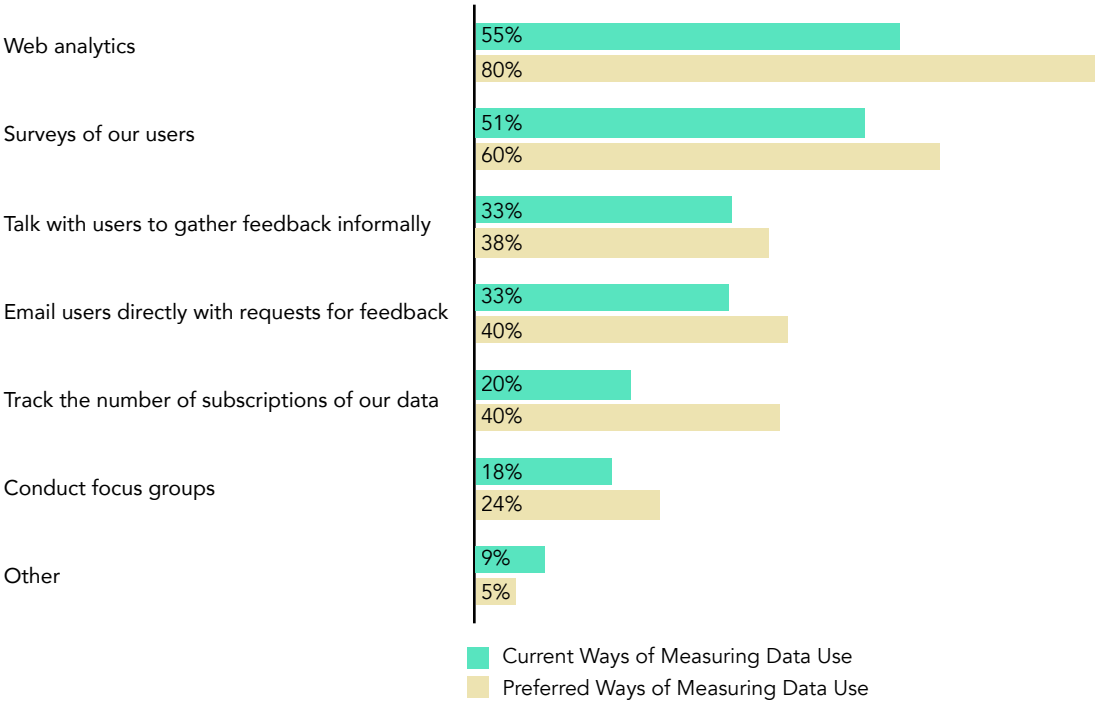
Conversely, tracking the number of subscriptions for data products was one of the least popular ways to monitor data use. This is consistent with our earlier finding that many NSOs do not have systems to subscribe users or share email/SMS updates. However, such a system seems to be on the radar of 40 percent of NSO officials, who would prefer to monitor the use of their data by tracking user subscriptions.[57]

Since web analytics require a relatively higher level of technical capacity to use, we expect countries with lower levels of statistical capacity to rely on less technologically sophisticated methods to monitor data use, such as informal feedback or reaching out to users over email. Surprisingly, we find that this is not the case: web analytics is generally the most common tool used across the NSO capacity spectrum (see Figure B5 in Appendix B).[58]

FIGURE 6

How do NSOs measure the use of data they produce?

Percentage of respondents. Each respondent could select all that apply.



Note: For those that reported monitoring use of their data, the question asked was: How do you measure the use of data produced by [NSO]? For those that did not currently monitor data use, but said it was quite important or very important to do so, the question asked was: How would you like to measure use of data produced by [NSO]? Respondents could select all that apply. The number of respondents that answered this question was 200 and 121, respectively.

Measuring data use: Findings from a study on data portals

Authors: *Eric Swanson and Amelia Pittman (Open Data Watch)*

Posting data on NSO websites and data portals is the most common dissemination strategy for NSOs in LMICs. This channel also has takers in other government ministries: 50 percent of ministry officials said they would prefer to learn about NSO-produced data by visiting a website—their top choice. Yet, 28 percent of respondents from government ministries also said that NSO websites should be easier to navigate (see Figure 7.1). Forty percent of NSO respondents agreed. This finding comports with a study by Greenwell et al. (2016) which found relatively lower use of NSO data portals by national and regional officials, as compared with websites maintained by more prominent international organizations (e.g., the UN, the World Bank, and the Food and Agricultural Organization).

Improving the functionality of NSO websites, therefore, should be an effective way to increase the uptake and value of official statistics. To better understand the behavior of people accessing NSO websites and data portals, Open Data Watch and PARIS21 undertook a parallel project on Measuring Data Use. Seven NSOs from LMICs agreed to allow the research team to monitor traffic on their websites using Google Analytics. The seven included three African countries and one each from East Asia, Southeast Asia, Eastern Europe, and South America. All seven countries previously had tags installed in their websites to collect data on user activity and, in three cases, had dedicated data portals.

The extent to which users accessed these websites varied widely. The most active received 3.3 million unique users and 42 million page views in the past year. The least active had 91,000 unique users and 554,000 page views. Most users are domestic, ranging from 50 to almost 90 percent of all users. Annual rates of domestic use ranged from less than one (on a highly specialized microdata portal) to as many as 3,600 users per 100,000 people. On most websites, rates of user access and page views have been increasing over time.

Users come to these sites for many reasons. NSOs offer a wide range of information on their principal sites, including: notices of employment opportunities, official documents such as birth certificates, announcements of meetings and events, as well as statistics produced by the NSO or other government agencies. The most popular pages providing access to data were those with population or other demographic statistics and economic statistics on inflation, national accounts, and employment. Three countries make available dedicated data portals in addition to their general NSO website. These sites have lower rates of use, but also exhibit lower "bounce rates" and higher "exit rates," implying that users deliberately selected them and, having found the information that sought, did not need to look further.

More than 50 percent of NSO respondents to the *2018 Snap Poll on Use of Official Statistics* said they monitor data use mostly through web analytics, and 80 percent said this was their preferred method. However, examination of the websites of the seven participating NSOs found that most were not configured to produce a robust set of user data. Deficiencies, some of which were corrected before the research period began, included not filtering known "bot" traffic—website visits generated by automated computer programs—and not enabling search tracking within the website. In some cases, the structure of the URLs (page addresses) compounded the difficulty of identifying page content. Moreover, no website was set up to track data downloads. It was only possible to analyze the web traffic to pages providing access to data downloads.

While the seven participating countries are not a representative sample of all NSOs, the problems encountered in obtaining useful measures of web traffic suggest that many NSOs have not realized the full benefit of website monitoring and could learn more about their users if they made better use of web analytics. As part of the current project, a dashboard summarizing the most important measures of traffic on each website will be provided to the NSOs along with recommendations for improving their installations of Google Analytics.

[31] One of the challenges identified at the PARIS21 Forum on Agenda 2030 and Small Island Developing States (SIDS) in 2016 was that statistical systems in SIDS face a challenge of divergence between a global view of what statistics to collect and how they should be used for policy, versus a national view of what relevant statistics to collect to inform existing national concerns (PARIS21, 2016).

[32] Dargent et al. (2018) argue that the presence of national actors, mainly civil society, is crucial to build continuity at the statistical level if they demand and take an interest in the availability of objective, high-quality statistics. According to the authors, "These actors strengthen capacities to demand more resources or to build the legitimacy needed to enhance NSO autonomy. Business associations, academics, NGOs, and the media that use statistics are key for maintaining a strong NSO. A higher density of actors in these sectors would provide the NSOs with added informal protection, as governments would face consequences if their actions affected the interests of these sectors. These actors monitor, and are concerned about, the institution's objectivity, even intervening in cases in which objectivity is threatened…"

[33] The survey asked NSO officials two questions related to users: (1) In your opinion, which of the following groups are the most important prospective users of your data? Select up to 5 groups that you think should be using your data. (2) Which of the following groups do you think uses data produced by your NSO most frequently (note: the most frequent users may be different from the target users you identified in the last question). A similarity between "important" and "frequent" users would imply that NSOs are able to target users effectively such that these users also use their data most frequently.

[34] Local government officials and NGOs/CSOs ranked relatively low on importance as prospective users and in terms of their frequency of use as perceived by NSOs. It is possible that this weak demand may flow from supply-side challenges such as the lack of timely and good quality data, a theme we explore later in the report. Demand and supply may be part of a vicious cycle in which weak demand creates disincentives to serve certain constituencies, which further weakens demand from them, and so on. In fact, as Sandefur and Glassman (2015) argue, "many surveys provide only national estimates, offering little guidance to domestic policymakers allocating resources and attention between subnational units."

[35] The fact that NSOs consider development partners as their most frequent users is perhaps unsurprising, as previous studies have found evidence of relatively stronger demand for official statistics among international actors than domestic constituencies (OPM, 2009; Greenwell et al., 2016).

[36] See Lim et al., 2008; Sandefur and Glassman, 2015; Kerner et al., 2017; Buntaine et al., 2017. More generally, on the manipulation of national statistics by LMIC government officials, see Hollyer et al., 2011; Jerven, 2014; Magee and Doces, 2015; Wallace, 2016; and Dolan, 2018.

[37] While data needs of international groups and local users need not be mutually exclusive, the two often have a different purpose and therefore present trade-offs that producers need to balance. For instance, although collecting data to meet donors' own demand for reporting and planning or to report to the global SDG indicator database may be important to respond to the global call for better data, this may displace other efforts to collect locally appropriate information that is more relevant to inform resource allocation decisions at the local or national level. There may also be a possibility of a bias in responses to the survey, if NSOs associate choosing development partners as their primary audiences with receiving more assistance from them.

[38] OPM (2009) provides another example of statistical agencies conducting social surveys (funded by development partners) that yield results relatively quickly at the expense of routine data and economic series.

[39] As Figure 1 shows, the absolute difference between a government user group's share in "most important users" and "most frequent users" is not very large in magnitude. However, it is still revealing that senior officials in the ministry of finance and/or planning, line ministries and the office of the president or prime minister are more important users relative to their perceived frequency of data use. Conversely, technical staff in all three ministries are perceived to use data more frequently, relative to their importance as target users.

[40] In the ministry snap poll, the question was: In which formats would you prefer to access data produced by your NSO?

[41] Each respondent identified an activity they spent the most time on in an average week. The options included political matters (e.g., policy formulation, meeting with stakeholders), program or unit administration (e.g., program implementation, staff management) and technical tasks (e.g., data analysis, data collection and/or reporting of data). While we recognize that there may be some senior officials in administrative and technical roles, we assume here for the purpose of analysis that most political staff (i.e., those involved in policy formulation and meeting with stakeholders) are senior officials. Accordingly, we use function here as a proxy for seniority, and use "political staff" as a proxy for "senior officials."

[42] The question in the ministry snap poll was: How do you typically use data obtained from [your NSO]?

[43] See OECD (2011) and NISRA (2017).

[44] The question in the NSO snap poll was: In your opinion, what level of confidence do other government officials in [country] have in the official statistics of [country]? The question in the ministry snap poll was: What is your level of confidence in the official statistics of [country]? Confidence refers to trust in the accuracy of data. In both questions, respondents had to rank their confidence for five types of official statistics: census, national surveys, national accounts, data produced by the central bank, and administrative data. Respondents ranked each of these as "very confident," "quite confident," "only slightly confident," "not at all confident," or "don't know/not sure."

[45] Examples of administrative data include the registration of births and deaths through civil registration and vital statistics systems and education management information systems. These are typically produced by line ministries. In a recent PARIS21 survey sent to heads of NSOs in all UN member countries, NSOs reported requiring immediate capacity development most for "administrative sources of data" among response options that included geospatial data, big data and business registers (PARIS21, 2018c).

[46] For example, by one estimate, 83% of Africans live in countries without a complete and well-functioning birth registration system (Mo Ibrahim Foundation, 2016, as cited in OECD 2017).

[47] Previous research suggests that democracies have more credible official statistics than non-democracies (Hollyer et al., 2011; Magee and Doces, 2015; Wallace, 2016). We looked at perceived confidence levels in the official statistics of democracies and non-democracies using PolityIV scores for countries but did not find any differences worth reporting.

[48] Greenwell et al. (2016) find limited use of data portals by national and regional officials and question whether these are the appropriate instrument for encouraging national use of data. If portals are mostly hosted on NSO websites, our finding reveals a high demand from government ministries (at least) to access data through the NSO website.

[49] The question in the NSO snap poll was: How did your NSO inform users about your data? The question in the ministry snap poll was: How would you prefer to learn about the availability of data produced by your NSO?

[50] In contrast, among technical staff, 59 percent prefer visiting the website and 43 percent prefer a subscription.

[51] This is in comparison to arranging press conferences or formal meetings which may be highly time-intensive.

[52] Moreover, the core chapters of the NSDS guidelines do not address measuring data use specifically. While two sections under "Specific Issues" on the website do mention the importance of measuring data use, neither offer much in the way of guidance.

[53] The question asked was: Does [NSO] monitor the use of data it produces?

[54] One caveat is that desirability bias may have influenced these responses, since it was costless for an NSO respondent to say that they see the value of monitoring data use. There is thus a possibility of over-reporting on their interest in monitoring data use.

[55] In the NSO snap poll, the example given for web analytics was tracking the number of downloads of a dataset. However, the most common types of metrics that web analytics can produce are number of page views, bounce rate, time spent on page, and country of origin. In an upcoming study by Open Data Watch, authors find that only some countries are able to monitor search terms used by visitors and none were able to monitor downloads (see Box 1 for more details).

[56] For those that reported monitoring use of their data, the question asked was: How do you measure the use of data produced by [NSO]? For those that did not currently monitor data use, but said it was quite important or very important to do so, the question asked was: How would you like to measure use of data produced by [NSO]?

[57] Typically, when users subscribe to an organization, they can customize their preferences and select the products in which they are most interested. For NSO data, this can also reveal user preferences and the datasets that are most in demand.

[58] NSO officials in high- and very-high capacity countries employ user surveys as much as they use web analytics to monitor use of their data, whereas the use of surveys is much less in low-and medium-capacity countries. This implies that NSO officials in higher-capacity countries may be more willing to use time- or resource-intensive methods: user surveys need to be designed, fielded, and analyzed each time, unlike web analytics that can be built into an existing platform.

CHAPTER FOUR

Increasing use: What barriers inhibit uptake of official statistics and how can NSOs and donors improve the status quo?

NSOs face a daunting task of producing vast amounts of data to meet their commitments to national plans and global agendas. Measuring use of the official statistics they produce can help NSOs prioritize limited resources and statistical expertise in line with user demand. Even if it is not an explicit part of their mandate, NSOs may still want to encourage the use of their data to ensure a good return on their investment. Nonetheless, NSOs have varying degrees of autonomy and technical/financial capacity which may dictate what they can and cannot do to improve the quality of their data offerings.

In this chapter, we present what NSOs and other government ministries have to say about the most important improvements to spur greater use of official statistics in their countries. NSO officials and their ministry counterparts identified (and rank-ordered) the most important improvements needed to encourage use of NSO-produced data. Next, NSO officials indicated what their organizations need to implement these improvements to encourage data use. The first part of this chapter presents the findings from these responses. The latter half draws upon all the findings discussed so far to provide recommendations for NSOs and funders to maximize the impact of official statistics in policymaking.

SECTION 4.1

What are the barriers to using official statistics?

We asked officials in NSOs and government ministries to select up to three (out of nine) improvements that they thought would encourage greater use of NSO-produced data. In this section we look at what these key priorities are, whether users and producers agree about these improvements, and what NSOs need to make these improvements. Our findings provide insights that may help inform the design of capacity building initiatives and the targeting of scarce resources.

FINDING #7

NSOs and government ministries agree that making NSO-produced data easier to use and access is critical to spur data use

Globally, NSO officials and their peers in other government ministries agree on two critical ingredients to spur greater take-up of official statistics: (1) ease of data use through better documentation and data visualization; and (2) ease of data access through free and publicly available machine-readable file formats (Figure 7.1).[59]

One might expect technical staff in NSOs to prioritize different improvements compared to their political or administrative counterparts. For instance, the former may prioritize improvements such as data meeting international standards or publishing data at a higher level of granularity, while political staff may prioritize other improvements, such as ease of use and access. We find that ease of data use and a website that is easier to navigate matter the most to all officials, no matter their position type. However, technical staff also want to see additional improvements related to public accessibility, including accompanying data with training workshops to help users understand and use the data (Figure B6 in Appendix B).

The greatest divergence between NSOs and their government users globally[60] is that NSO respondents place more emphasis on making their website easier to navigate, while their ministry counterparts are more concerned with the frequency at which data are published (Figure 7.1).[61] Since most NSO officials reported informing users of their data by publicly posting the data on their websites or portals, this interest in making the website easier to navigate seems to be a natural extension of that approach. This is also in line with the preference among ministry officials to learn about available NSO-produced data by visiting a website.

As for the ministry officials, their emphasis on improving the frequency with which data are published reflects a common concern with official statistics. Previous studies have found timeliness of data to be a

particular challenge, especially with census, household, and sectoral surveys (Custer and Sethi, 2017). The lack of timely data also contributes to a general lack of trust, which may explain why government ministries overall seem less confident about official statistics than NSOs think they are.

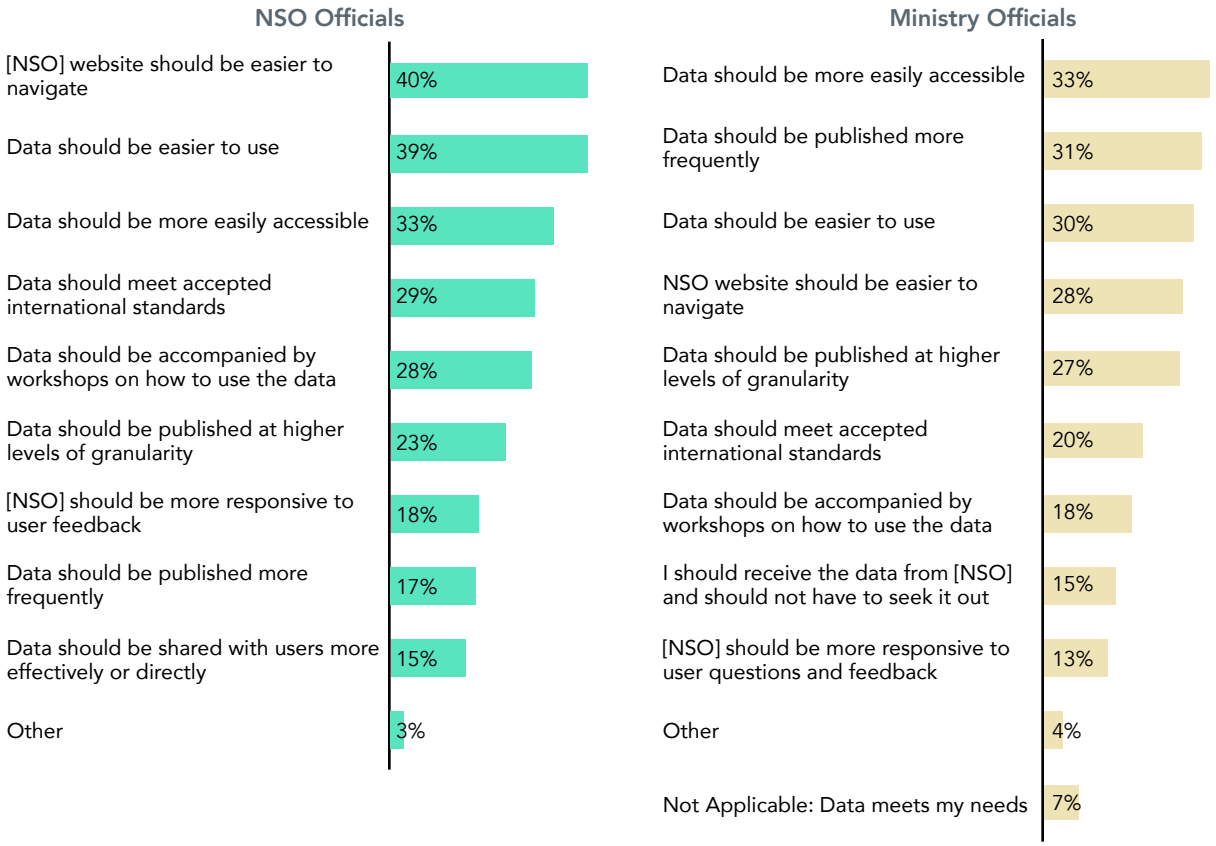
Based upon our review of how statistical systems have evolved over the past century in countries with various levels of statistical capacity, Figure 7.2 presents the range of data-related activities that a typical LMIC would theoretically prioritize as it transitions from lower to higher levels of statistical capacity.[62] We find that regardless of their statistical capacity, countries prioritize website navigability and ease of use of data (Figure 7.3). And while the top five improvements remain the same, there are two key differences between very high capacity countries and the rest. First, frequency of publication is not a priority for very-high capacity countries, which is likely because they have already made substantial progress on this front (and therefore qualify as "high-capacity"). Second, NSO officials in very high capacity countries are mostly interested in improving ease of website navigation and use of data, relative to other needs. However, low, medium and high capacity countries have a much more diverse set of needs, that additionally include making data more easily accessible, meeting international standards, and accompanying data with training workshops. These differences are in line with the hierarchy of statistical capacity building spectrum.

Increasing the statistical capacity of NSOs may not mean that these institutions are necessarily more attuned to what users want. NSO respondents rated "increasing NSO responsiveness to user feedback" as a low priority for improvement, regardless of the country's level of statistical capacity. Interestingly, government officials from other agencies shared this view, saying that responsiveness to feedback was a relatively lower priority for them as compared to other issues of the accessibility, ease of use, and frequency of official statistics.

FIGURE 7.1

What are the most important improvements to encourage use of data produced by NSOs?

Percentage of respondents. Each respondent could select up to three improvements.



Notes: This figure is based on the question: To encourage use of data produced by [your NSO], what do you think are the most important among the following improvements? For ministries, the question was: What improvements would make you more likely to use [your NSO] data? Respondents could select up to three improvements. The number of respondents that answered this question was 328 and 557 for NSOs and ministries respectively.

FIGURE 7.2

Prioritization of activities along the statistical capacity spectrum

Very Low Capacity							Very High Capacity
	Develop an independent national statistical system	*Enhance and maintain data collection frequency*	*Implement international standards and methods*	*Make data more easily accessible to users*	*Enhance dissemination channels*	*Improve granularity and other value-additions to data improvements*	

Note: Author's compilation based on Cheung (2007) and Tedou (2007).

FIGURE 7.3

Priority improvements for NSOs are mostly consistent across countries with varying statistical capacities

Percentage of respondents. Each respondent could select up to three improvements.

	Country Statistical Capacity		
Type of Improvement	**Low and Medium [N=73]**	**High [N=153]**	**Very High [N=100]**
[NSO] website should be easier to navigate	35%	36%	42%
Data should be easier to use	34%	39%	38%
Data should be more easily accessible	30%	37%	29%
Data should meet accepted international standards	30%	31%	24%
Data should be accompanied by training workshops to help users understand and use the data	27%	30%	18%
Data should be published at higher levels of granularity	22%	28%	15%
[NSO] should be more responsive to user feedback	15%	23%	13%
Data should be published more frequently	24%	21%	5%
Data should be shared with users more effectively or directly	16%	15%	16%
Other	2%	2%	5%

Notes: This figure is based on the question: To encourage use of data produced by [NSO], what do you think are the most important among the following improvements? Respondents could select up to three improvements. The number of respondents that answered this question is 326. The percentages need to be read column-wise; i.e., within a capacity category.

FINDING #8

Data users in the highest levels of government are most concerned with ease of access and website navigability, while line ministries additionally want data to be published more often and easier to use

Not all data users are monolithic and what people prioritize may depend upon where they sit. At the highest levels of government, such as the office of the president or prime minister, leaders are most interested in seeing improvements that make NSO data easier to access and the website easier to navigate (see Figure 8). Comparatively, survey respondents working in the ministries of education, finance and/or planning, and health are more keen to see additional improvements that make NSO data easier to use, such as the provision of tables and data visualizations and more frequent publication of these data.

These divergent views may be explained when one considers the hierarchy of data user needs. In moving from the existence of data to its use, the first step is the ability to access the data. Once this initial need is met, users may think about and want other attributes that attest to its quality, such as whether it meets international quality standards, is timely, or is sufficiently granular. Then, once satisfied with the data quality, users may finally want a better user experience with the website and tools that make data easier to use, such as visualizations.

The focus of the executive office on ease of access could be due to the fact that these high-level decision-makers require only key performance indicators and quick access to data. By contrast, other government ministries may emphasize frequency and ease of use as they need to do deeper analysis using data produced by the NSO to inform policies and design programs. NSOs can encourage data use among government ministries by paying closer attention to this hierarchy of data needs.

FIGURE 8

What do ministry officials say are the most important improvements to encourage use of data produced by NSOs?

Percentage of respondents. Each respondent could select up to three improvements.

Type of Improvement	Office of Prime Minister/ President [N=53]	Education [N=93]	Finance and/ or Planning [N=169]	Health [N=136]
Data should be more easily accessible	44%	22%	35%	32%
[NSO] website should be easier to navigate	38%	9%	30%	32%
Data should be published more frequently	31%	24%	39%	31%
Data should be published at higher levels of granularity	30%	21%	27%	29%
Data should meet accepted international standards	24%	13%	20%	18%
Data should be accompanied by training workshops to help users understand and use the data	20%	23%	9%	25%
Data should be easier to use	16%	23%	37%	37%
I should receive the data from [NSO] and should not have to seek it out	14%	18%	12%	13%
[NSO] should be more responsive to user questions and feedback	14%	11%	15%	13%
Other	8%	1%	4%	2%

Notes: This figure is based on the question: What improvements would make you more likely to use [NSO] data? Respondents could select up to three improvements. The number of respondents that answered this question is 451.

FINDING #9

NSOs would like to increase their technical expertise and obtain greater technical support from development partners, particularly in countries with low income or statistical capacity

How can development partners best contribute to strengthening the production and use of official statistics in LMICs? As shown in Figure 9, NSOs most want to upgrade the technical skills of their existing staff and access more technical support from development partners.[63] These two top responses may be mutually reinforcing in that NSOs appear to place a premium on technical support from development partners that is directed towards building their in-house capacity, rather than funding or supporting one-off data collection exercises.[64]

While the top needs are common across political and technical staff at NSOs, three differences are worth mentioning. First, building technical expertise among current staff is a much higher priority for technical staff relative to other needs than it is for their political counterparts. Second, the former is less enthusiastic about hiring more dedicated staff, compared to political staff in NSOs (Figure B8 in Appendix). This makes sense in light of the fact that technical staff have the most to gain from building their own skills, as opposed to making room for new hires, if it advances their professional development and career opportunities within their agency. Technical staff also pointed to the need for more political support from the government.[65]

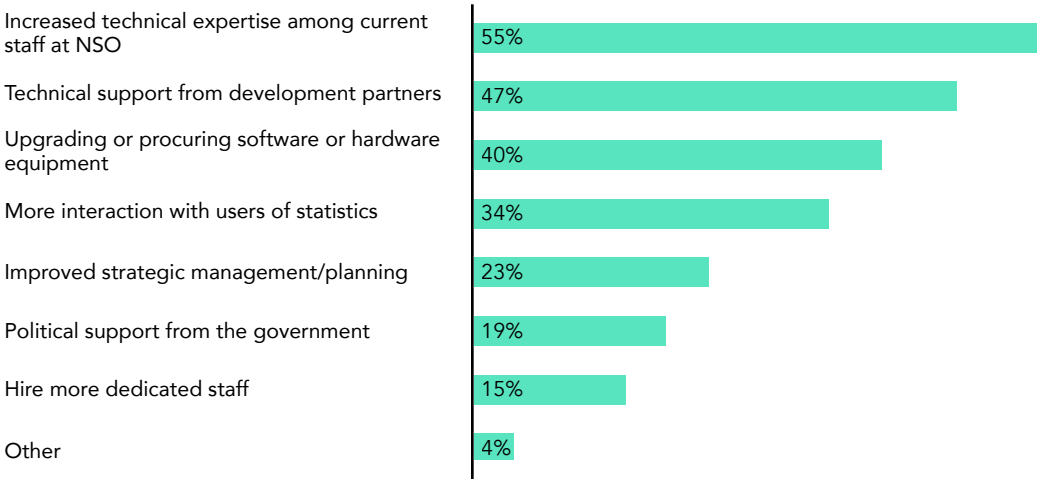
While they may converge around top priority improvements, there is a clear distinction between NSOs in the highest-capacity countries versus those with lower levels of statistical capacity when it comes to what they need to make these changes in practice. Respondents from the highest-capacity countries emphasized the need to upgrade or procure equipment, both hardware and software (Figure B9 in Appendix B). Meanwhile, respondents from countries with lower levels of statistical capacity and income focused instead on increased technical expertise among their current staff, as well as technical support from development partners. By implication, funders should focus their investments on technical support and upgrading technical skills of NSO staff in countries with lower levels of statistical capacity and income. As countries move up the income and capacity spectrum, their reliance on technical support from development partners will likely wane.[66]

We previously reported that both NSOs and their ministries deprioritized responsiveness to user questions and feedback in light of other improvements such as making data easier to use. Yet, interestingly, one-third of respondents did highlight a reasonably strong need for "more interaction with users of statistics" to make data easier to use (Figure 9). This may imply that a dialogue between producers and users is on NSOs' future wish list, and an area where they may need additional support. Providing NSOs with feedback on user needs and experience should serve as the basis for making changes to how data and analysis are presented on the website.

FIGURE 9

What changes do NSOs say are needed to encourage the use of data they produce?

Percentage of respondents. Each respondent could select up to three options.



Notes: Respondents were asked to rank their three improvements in order of importance. Based on what they selected as the top-ranked improvement, they answered a subsequent question: You selected [improvement] as the most important improvement to encourage data use. To make this improvement, what do you think [NSO] would need? Respondents could select up to three most important changes. Total number of respondents that answered this question is 325. The figure shows the percentage of respondents that selected each organizational need.

SECTION 4.2

What can NSOs and donors do differently to spur use of official statistics?

Last year, PARIS21 reported an increase in the share of official development assistance allocated to data and statistics, and an expansion and diversification of the pool of donors that support these public goods (PRESS, 2017).[67] In light of the greater demands that are being placed on NSOs, development partners and funders should continue these positive trends into the future. However, this is also an opportune time to reflect on what that financial and technical support from an expanded set of donors should look like. To turn the rhetoric of a "user-centric approach" to capacity building into reality, we need to be able to measure the actual use of data and statistics.

In this report, we have seen that NSO officials are highly interested in monitoring the use of the data they produce. While National Strategies for the Development of Statistics (NSDS) provide a blueprint for funders, governments, and NSOs to strengthen statistical capacity at the country level, these documents[68] currently do not incorporate an explicit focus on the use and users of official statistics. If NSOs are to move from good intentions to concrete action, they should work with their governments and development partners to update the NSDS guidelines to include an emphasis on measuring and strengthening use of official statistics.[69] Taking this step would be an important signal that the global statistical community—including those that fund, plan, and produce official statistics—recognizes the importance of measuring use.

The long-standing focus on the production of official statistics—without an equal emphasis on the use and users of these data—has hampered the realization of official statistics' full potential, whether to inform policymakers or animate citizens to hold their governments to account for results.[70] To remedy this situation, NSOs and development partners need to refresh their thinking on how to systematically measure use and incorporate user needs in the process of meeting their increased demands for more and better data. Drawing upon some of the findings in this report, we present three recommendations for NSOs and three recommendations for development partners and funders that support and work closely with NSOs. In each category, we start with the changes that are relatively easier to achieve, moving up to those that may require more political support or changing deep-rooted structures.

RECOMMENDATION #1

To increase the use of NSO-produced data within the government, NSOs should allow users to subscribe to receive email or SMS updates on new datasets

Despite strong interest among government users of official statistics to keep abreast of new data from NSOs via email or SMS/text updates, NSOs use this dissemination channel the least. This represents a lost opportunity for NSOs to cater to the needs of one of their most important target users in government ministries—political staff—who expressed a strong interest in learning about new data through such updates.

NSOs should prioritize a registration system whereby users can voluntarily subscribe to receive updates through email or SMS regarding new datasets and analytical products. By adopting such a system, NSOs will not only lower the transaction costs for individuals looking to use official statistics, but may also create two positive spillover effects: (1) increasing the visibility of previously lesser known datasets; and (2) creating the means to track subscriptions and monitor requests for new data via the service. This low-hanging fruit strategy can be implemented relatively quickly in comparison to other recommendations that require more structural or systemic changes.

RECOMMENDATION #2

NSOs should build local demand for official statistics by prioritizing the needs of domestic users and engaging more with technical staff in ministries

Research organizations, universities, and think tanks were the most important and frequent domestic users in the eyes of NSOs. Conversely, local governments and domestic NGOs/CSOs were viewed as neither important nor frequent users of NSO data. This suggests that building domestic demand is a two-way street. For NSOs, this means honoring their obligation to produce high-quality statistics that meet the needs of these local actors,[71] which may be politically difficult in the short-term given the implications of publishing data that expose governments to higher levels of scrutiny. However, NSOs should take a longer-term view and recognize that increasing the user base and domestic demand for statistics is "key to ensuring NSO autonomy from changing governments" (Dargent et al., 2018).

The need for evidence-based policies means data must be on the radar of policymakers. NSOs can increase demand for, and use of, their data within government ministries by engaging more with the technical staff in ministries that are often responsible for analyzing NSO data and presenting the findings to policymakers. In this role, they can be influential actors that help ensure decision-makers draw upon data to inform policies. NSOs can encourage use of their data by these

technical staff in ministries by paying attention to the improvement that mattered most to them: publishing data more frequently (Figure B10 in Appendix B).[72]

RECOMMENDATION #3

NSOs can build trust in official statistics by soliciting feedback, increasing transparency, and using third-party validation for quality assurance

A key attribute of domestic demand for data is credibility—if users do not trust the data, they have little incentive to use it. The NSO officials we surveyed overestimated the confidence that other government officials have in various types of official statistics. Previous studies have also found that this lack of confidence in the accuracy of data is not limited to government users alone, but extends to CSOs (Custer and Sethi, 2017). If NSOs want to increase the use of official statistics, they must tackle this confidence gap head on.

NSOs can increase the trust domestic users have in their data in four ways. First, NSOs should solicit feedback from users not only on what data they want or use, but also on concerns they have about the data that is available and where it can be improved. NSO officials that responded to our survey did express a desire to gather feedback from users through emails or in informal conversations. Second, NSOs should transparently document the processes by which they assure the quality and accuracy of their data. Third, NSOs could simultaneously strengthen the credibility of their quality assurance processes and the veracity of their data by including third-party perspectives or assigning dedicated staff to these procedures. Finally, NSOs should continually monitor whether and how these trust-building efforts are changing the attitudes of existing or prospective users of official statistics over time.

RECOMMENDATION #4

Development partners should help NSOs, particularly in resource- and capacity-constrained countries, to monitor the use of official statistics through web analytics

Web analytics emerged as the most popular current method to monitor use of NSO data, as well as the most preferred choice for those NSO officials that would like to monitor data use in the future. If development partners wish to be responsive to this demand, they should channel future capacity building investments in working with NSOs to install and use web analytics tools as a means of gaining better intelligence on their end users. This will require building the capacity of staff to choose the right metrics to monitor and use this information for making changes to improve the NSO's website, data portal or dissemination strategies.

There is a particular need for funders to support the efforts of NSOs in countries with lower levels of income and statistical capacity where there is high reported interest, but limited existing efforts, to monitor use of official statistics. Strengthening the ability of NSOs in these constrained environments to leverage web analytics—the preferred choice for most respondents—would be a good starting point, though ideally this tool should be used alongside any ongoing user surveys and feedback channels.

RECOMMENDATION #5

Global partnerships and trust funds should invest in areas prioritized by both producers and users of official statistics: making these data more accessible and easier to use

NSOs and their counterparts in other government ministries agree that official statistics should be easier to use and more accessible than is the status quo in LMICs. In order to realize these improvements in practice, NSO officials expressed the need for greater technical expertise in the form of upskilling current staff as well as accessing technical support from development partners. This provides something of a roadmap for development partners in how best to direct their financial and technical support to strengthen national statistical systems.

Development partners should resist the temptation to invest in short-term data collection exercises that serve their own reporting needs but do little to build sustained capacity of NSO staff. Instead, they should emphasize capacity building for NSO staff (and the domestic users of official statistics) in two areas of expressed interest: ease of use and greater accessibility. Capacity building initiatives to make data easier to use could take the form of trainings for NSO staff on data visualization or creating user-friendly documentation to accompany the data. To increase the visibility and accessibility of data, technical staff in NSOs would benefit from programs that cover website design and publishing data in machine readable formats. In addition to improving the competencies of technical staff, development partners should also work to advance legislative and political frameworks such as freedom of information laws that obligate NSOs to publish information freely, as well as executive branch open data policies that enforce such regulations and even incentivize their effective implementation.

RECOMMENDATION #6

Development partners should responsibly leverage their position as important users of NSO-produced data to bolster a greater supply of official statistics in line with domestic demand

Development partners, including international and regional organizations, are reportedly the most important target users of official statistics, at least in the

eyes of NSO officials in LMICs. This dynamic can unintentionally create perverse incentives for NSOs to prioritize responding to international, rather than domestic, demand.[73] Fortunately, there are three ways that development partners can leverage their position to create positive incentives for NSOs to strengthen supply of official statistics in line with domestic demand.

First, when making investments in, or requests for, official statistics, development partners should carefully assess the likely domestic demand for this information as part of their standard procedures to vet new projects. Second, as providers of financial and technical assistance to various government agencies, development partners may be well-positioned to collect intelligence on what these target users want from official statistics and report back to their NSO counterparts. Third, in evaluating the success or failure of investments to build capacity for official statistics, development partners should work with NSOs to measure performance against criteria that would be somewhat indicative of responsiveness to domestic demand. For example, such criteria could include: (1) the amount of new matching funding attracted from domestic actors; (2) the reported usage rates of official statistics among domestic audiences; and (3) the reported satisfaction rates among domestic users.

SECTION 4.3

Concluding thoughts

Official statistics are central to monitoring national progress and making evidence-based policy decisions. The demands that NSOs face from domestic and international actors have increased dramatically—to the point that they have outstripped the organizational capabilities of NSOs. This report drew upon the views of NSO officials and government users in 140 LMICs to better understand barriers to the use of official statistics, and what NSOs need to be able to overcome these barriers. We found that NSOs and ministry officials are not always in sync regarding the most effective dissemination channels or in terms of their confidence in official statistics. The good news is that these two groups largely agree on what needs to be done to spur the use of official statistics. Finally, we identified areas of support that NSOs themselves perceive as necessary to overcome the barriers to data use.

This report presents the views of one type of user of official statistics—government officials in five ministries. One potentially fruitful area of future research would be to expand the analysis to a more diverse set of target users. A second area to explore would be the role of specific types of official statistics in decision-making, within the political economy of data use. This would go beyond the use and usefulness of data and statistics to understand the extent to which data gets crowded out by other factors (such as the lack of capacity to use data or political pressures when it comes to making decisions) and what producers and users can do differently to enhance the role of data.

To pursue these two lines of research, there is a need to develop tools that enable systematic and routine monitoring of domestic demand for, and supply of, official statistics, among government ministries, NSOs, and other user groups. One strategy could be to field follow-up surveys of NSOs and an expanded set of domestic users that assess: (1) strategies implemented by NSOs and persistent gaps where they need support to monitor and encourage data use; and (2) whether local demand has increased relative to international demand in the eyes of NSOs.

To ensure that users can "count on statistics," there needs to be a closer feedback loop between the producers and users of official statistics. This report has identified some recommendations that have the potential to move us closer to a scenario in which domestic and international actors become prolific users of these data. Increased trust in and use of official statistics can attract larger investments in its production and generate higher returns on those investments, thereby creating a virtuous cycle that ultimately maximizes the impact of statistics.

[59] The question in the NSO snap poll was: To encourage use of data produced by your NSO, what do you think are the most important among the following improvements? The question in the ministry poll was: What improvements would make you more likely to use [NSO] data? In both cases, respondents could select up to three improvements.

[60] We say "globally" because this analysis aggregates responses from NSO and ministry officials from 140 countries. For a region-level comparison between NSO and ministry responses on this question, see Figure B7 in Appendix B.

[61] This result is based on the top three improvements selected by NSOs and ministries. The two improvements that are common across NSOs and line ministries are that data should be easier to use and easily accessible. It should be noted that users may have different views about how to make data easier to use and the website easier to navigate, and so there may not be a universal solution that satisfies the demands from all users.

[62] Sources used to create this progress spectrum include Cheung (2007) and Tedou (2007).

[63] The question in the NSO snap poll was: You selected [most important improvement identified in previous question] as the most important improvement to encourage data use. To make this improvement, what do you think [your NSO] would need? Select the most important changes. Respondents could select up to three options.

[64] We also looked at write-in responses in the "Other" category since a high proportion of respondents selected it. There were quite a few mentions of increased budgets or higher resource allocation.

[65] Only 13 percent of political staff in NSOs said that in order to make the improvements identified to encourage data use, their NSO needs political support from the government, compared to 26 percent among the technical staff (see Figure B8 in Appendix B).

[66] In practice, this may mean that as countries build their own statistical capacity, they are able to design, conduct, and analyze surveys and censuses that meet international standards without the technical support from development partners. The latter typically takes the form of training enumerators to collect data of higher quality by using more sophisticated techniques or hiring consultants to do the work that local staff could have done if there was greater capacity.

[67] The report calls for more support to build capacity of national statistical offices (NSOs), including through technical and other training.

[68] These strategies or plans include a detailed assessment of the national statistical system; a clear strategy for its further development with goals and targets for the medium term; and an action plan to put it into effect.

[69] The report acknowledges that the focus on use may be a departure from the current core responsibilities of NSOs, and that to make progress on increasing and measuring use, they will need support from other domestic and international actors either in the form of financial and technical assistance or political support.

[70] World Bank (2017) evaluates the Bank's support for developing countries' capacity and data systems during 2004-2016. It finds that support for national statistical systems enhanced data production more than it promoted in-country data sharing and use. Only 27 of the 201 projects reviewed for this evaluation supported activities to build data use capacity.

[71] For users, this means highlighting any gaps in official statistics, demanding better and more timely data, and demonstrating the importance of this information in decision-making and improving public service delivery.

[72] Looking at the top two improvements across political, administrative and technical staff in government ministries, we find that each has their own priority. For political staff, they prioritize publishing data at higher levels of granularity and ease of access to data. For administrative staff, data should be easier to use. For technical staff, data should be published more frequently. Additionally, as seen in Finding 8, the executive office cares most about ease of access and website navigability, while education, health, and finance ministries additionally want data to be easier to use and published more frequently. This shows that although NSOs cannot please all users all the time, if they do have a certain audience ranking among these government users, they should focus on the improvements that those audiences care most about (see Figure B10 in Appendix B)

[73] As Devarajan (2011) points out, many donors, in the rush to get data for their own purposes of publishing reports, undertake statistical activities that are not consistent with the NSDS and not conducive to strengthening countries' statistical capacity in the long term.

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Appendix A: Detailed Survey Methodology

Creating the sampling frame

The *2018 Snap Poll on Use of Official Statistics* consisted of two snap polls: a survey of senior and mid-level staff at national statistical offices (NSOs) in low- and middle-income countries (LMICs) and a survey of ministry officials in those same countries. The sampling frame for the NSO snap poll was created using two sources. The first is AidData's sampling frame of 58,000 host government and development partner officials, civil society leaders, private sector representatives, and independent experts from 126 low- and lower-middle income countries and semi-autonomous territories. For details on how this larger sampling frame was created, see Appendix B of Custer et al. (2018). The second is a list obtained from Open Data Watch (ODW) with the email addresses of heads of NSOs. These lists were complementary, in that the former included both senior and mid-level staff while ODW's list included the senior-most officials, e.g., Director Generals, Chief Statisticians, etc.

In early 2018, the research team at AidData updated the existing sampling frame to include all 140 LMICs and the most recent information on people and their positions. This resulted in a sampling frame for NSOs that included senior- and mid-level officials who were either currently employed in the country's NSO or had held a position at some point between 2010-2017. The NSO sampling frame ultimately contained 1,437 individuals from 140 LMICs. As some countries have more than one national statistical agency, there were 150 NSOs in the sampling frame.

The sampling frame for the snap poll of government ministries was drawn from AidData's larger sampling frame alone. The objective was to capture a substantial but not exhaustive user base within the government, in keeping with time constraints and data collection requirements. Accordingly, AidData and Open Data Watch agreed to include five ministries, based on their use of official statistics: Office of PM/President, Ministry of Finance and/or Planning, Ministry of Education, and Ministry of Health. We included senior and mid-level officials who were currently employed in the country's line ministries or had held a position in that ministry at some point between 2010-2015 (for some countries this extended to 2017). The line ministry sampling frame ultimately contained 9,750 individuals from 140 low- and middle-income countries.

Survey implementation

The two survey questionnaires were shared with a group of experts on data use and statistical capacity building for their feedback, based on which AidData and Open Data Watch finalized the surveys. AidData programmed the surveys in Qualtrics, and subsequently pre-tested them with individuals who had a profile similar to the ideal respondent. Feedback on content as well as user experience was incorporated into the final versions of the surveys, which were translated into Spanish and French.

Survey invitations were sent out in early April 2018, and the surveys were in the field for approximately four weeks. During this time, three reminders were sent out at different times to bump up the response rates.

The surveys captured the difference in respondents who were currently at the NSO or line ministry and those who had moved on to different jobs or retired. This was done to be able to capture any differences in perceptions between current and former NSO and line ministry employees. However, in the final responses received, very few (10% in the case of NSOs) were former employees, so the analysis presented in this report combined the responses of the two groups and avoided any inferences based on employment status.

Response rates and representativeness

The survey responses received in Qualtrics were checked for duplicate responses, which took two forms. The first case is where the same individual started the survey more than once, if he/she received it on more than one email. In this case, we considered the more complete response, i.e., the response which included answers to the greatest number of questions. The second case is where the same individual took the entire survey more than once, resulting in two complete responses. In this case, we only considered the first response.

We include an individual in our response rate if they answered the first question. Of the 1,218 NSO officials who received the survey invitation, 387 participated in the survey, for a response rate of 32 percent. Of the 8,161 line ministry officials who received the survey invitation, 655 participated in the survey for a response

rate of 8 percent. Completion rates for both surveys were close to 80 percent.

To assess the representativeness of the surveys, we compared the distribution of received responses to the distribution of the sampling frame for six regions (following the World Bank's region classification), gender and country. As seen in Tables A1 and A2, our sample of respondents was largely representative of the sampling frame on the dimensions of region and gender. The sample of respondents was also representative at the country-level. We do not present the tables here to ensure complete anonymity of respondents, but these can be conditionally shared upon request. The maximum difference (5 percent) was seen in the case of sex for ministry respondents: 29% of the sampling frame was female but 34% of respondents were female.

While our respondent sample is broadly representative of our population of interest, since we are primarily interested in utilizing survey responses to make descriptive inferences about the full sample, i.e., NSO and ministry officials across the 140 LMICs, we applied inverse probability weights to adjust for any non-response bias at the country-level. Ideally, we would have also included institution-type (e.g., ministry of finance and/or planning, ministry of education etc.) in constructing the weights for the ministry sample. However, due to practical limitations in regard to the way our sampling frame is put together, we were not able to test for the representativeness at the institution level for the ministry sample.

Table A1:

Members of the sampling frame and sample of respondents for NSOs, by region and gender

Regional Representativeness

	Sampling Frame		Respondents		Difference
Region	Number	%	Number*	%	*(percentage points)*
East Asia & Pacific	246	14.4%	73	19.0%	-4.6
Europe & Central Asia	304	17.8%	63	16.4%	1.4
Latin America & Caribbean	355	20.7%	80	20.8%	-0.0
Middle East & North Africa	132	7.7%	27	7.0%	0.7
South Asia	161	9.4%	32	8.3%	1.1
Sub-Saharan Africa	513	30.0%	110	28.6%	1.4
Total	1711		385		

Gender Representativeness

	Sampling Frame		Respondents		Difference
Gender	Number	%	Number*	%	*(percentage points)*
Male	1157	67.6%	255	66.2%	-1.4
Female	554	32.4%	130	33.8%	1.4
Total	1711		385		

*Note: * 2 anonymous respondents excluded*

Table A2:

Members of the sampling frame and sample of respondents for ministries, by region and gender

Regional Representativeness

Region	Sampling Frame Number	Sampling Frame %	Respondents Number*	Respondents %	Difference *(percentage points)*
East Asia & Pacific	1523	13.7%	76	10.7%	3.0
Europe & Central Asia	1585	14.2%	104	14.7%	-0.4
Latin America & Caribbean	2375	21.3%	178	25.1%	-3.8
Middle East & North Africa	1012	9.1%	52	7.3%	1.8
South Asia	994	8.9%	58	8.2%	0.7
Sub-Saharan Africa	3650	32.8%	241	34.0%	-1.2
Total	11139		709		

Gender Representativeness

Gender	Sampling Frame Number	Sampling Frame %	Respondents Number*	Respondents %	Difference *(percentage points)*
Male	7889	70.8%	461	65.8%	5.1
Female	3250	29.2%	240	34.2%	-5.1
Total	11139		701		

Note: * 3 anonymous respondents excluded

Using the World Bank's Statistical Capacity Index

To examine whether perceptions of NSO and line ministry officials varied depending on their country's statistical capacity, we used the classification of countries in the World Bank's Statistical Capacity Index (SCI). The SCI assesses the capacity of countries' national statistical systems in statistical methodology, source data, and periodicity and timeliness. Methodology measures a country's adherence to internationally recommended standards and methods for data collection. Source data reflects whether a country conducts data collection activities in line with internationally recommended periodicity, and whether data from administrative systems are available and reliable for statistical estimation purposes. Finally, periodicity and timeliness attempt to measure the extent to which data are made accessible to users through transformation of source data into timely statistical outputs. Overall SCI is an average of the three components that are each measured on a scale of 0-100.

For the purposes of our analysis, we have used the following classification of the SCI scale for country capacity level:

- Very low: 0-20 SCI
- Low: 20-40 SCI
- Medium: 40-60 SCI
- High: 60-80 SCI
- Very high: 80-100 SCI

Table A3

Statistical capacity levels of countries included in the two surveys

Very High	High	High (Contd.)	Medium	Low
Albania	Algeria	Mozambique	Afghanistan	Central African Republic
Argentina	Bangladesh	Myanmar	Angola	Gabon
Armenia	Benin	Nepal	Botswana	Haiti
Azerbaijan	Bhutan	Nicaragua	Chad	Libya
Belarus	Bolivia	Niger	Congo, Dem. Rep.	Marshall Islands
Bulgaria	Bosnia and Herzegovina	Nigeria	Congo, Rep.	Micronesia (Federated States of)
Colombia	Brazil	Pakistan	Djibouti	Somalia
Costa Rica	Burkina Faso	Paraguay	Dominica	Somaliland
Dominican Republic	Burundi	Rwanda	Equatorial Guinea	
Egypt	Cote d'Ivoire	Sao Tome and Principe	Grenada	**SCI Not Available**
El Salvador	Cabo Verde	Senegal	Guinea	Cuba
Georgia	Cambodia	South Africa	Iraq	Puntland
India	Cameroon	Suriname	Kenya	
Indonesia	Ecuador	Tajikistan	Kiribati	
Kyrgyzstan	Fiji	Tanzania	Kosovo	
Macedonia, FYR	Gambia	Timor-Leste	Madagascar	
Malaysia	Ghana	Togo	Maldives	
Mauritius	Guatemala	Tunisia	Mauritania	
Moldova	Honduras	Uganda	Namibia	
Palestine, State of	Jamaica	Ukraine	Saint Lucia	
Peru	Jordan	Zimbabwe	Saint Vincent and the Grenadines	
Philippines	Lao PDR		Samoa	
Romania	Lesotho		South Sudan	
Serbia	Liberia		Swaziland	
Sri Lanka	Mali		Tonga	
Thailand	Mongolia		Uzbekistan	
Turkey	Montenegro		Vanuatu	
Vietnam	Morocco		Yemen	

Notes: No countries fall under the 'Very Low' or (0-20) statistical capacity class. For all comparative analyses in this report that utilized statistical capacity, we combine 'Low' (20-40) and 'Medium' (40-60) classes into a 'Low and Medium' (20-60) class. This was done due to the very small number of countries in the 'Low' class.

Descriptive statistics: Demographic profile of survey respondents

Table A4:

Position type and experience level of NSO respondents [N=320]

Position type	Number	%
Political	37	12%
Administrative	89	28%
Technical	194	61%
Total	320	

Years of experience at the NSO	Number	%
0-3 Years	33	10%
4-6 Years	23	7%
7 or more Years	264	83%

Notes: This is based on the question: Which of the following activities do you spend the most time on in an average week? Political staff refer to the respondents that selected political matters (example: policy formulation, meeting with stakeholders). Administrative staff are those that selected program or unit administration (example: program implementation, staff management). Technical staff are those that selected technical tasks (example: data analysis, data collection and/or reporting of data).

Table A5:

Position type and experience level of ministry respondents [N=535]

Position type	Number	%
Political	153	29%
Administrative	183	34%
Technical	199	37%

Years of experience in the government	Number	%
0-3 Years	54	10%
4-6 Years	47	9%
7 or more Years	434	81%
	535	

Notes: This is based on the question: Which of the following activities do you spend the most time on in an average week? Political staff refer to the respondents that selected political matters (example: policy formulation, meeting with stakeholders). Administrative staff are those that selected program or unit administration (example: program implementation, staff management). Technical staff are those that selected technical tasks (example: data analysis, data collection and/or reporting of data).

Table A6:

Respondents by ministry type [N=643]

Line Ministry Type	Number
Ministry of Education	102
Ministry of Health	151
Office of the President/Prime Minister	60
Ministry of Finance and/or Planning	198
Other	132
Total	643

Appendix B: Supplemental Figures

Figure B1:

Ministry officials' confidence in official statistics and NSOs' perceptions of that confidence [Percentage of respondents, by statistical capacity level]

NSO Respondents

	Very high capacity [N=97]		High capacity [N=150]		Low and medium capacity [N=73]	
	Very or Quite confident	Only Slightly or Not at All confident	Very or Quite confident	Only Slightly or Not at All confident	Very or Quite confident	Only Slightly or Not at All confident
Census Data	95%	5%	85%	14%	84%	11%
National Surveys	99%	1%	89%	11%	90%	7%
Central Bank Data	92%	2%	86%	6%	82%	13%
National Accounts Data	93%	3%	86%	13%	89%	7%
Administrative Data	88%	11%	68%	31%	67%	26%

Ministry respondents

	Very high capacity [N=163]		High capacity [N=234]		Low and medium capacity [N=141]	
	Very or Quite confident	Only Slightly or Not at All confident	Very or Quite confident	Only Slightly or Not at All confident	Very or Quite confident	Only Slightly or Not at All confident
Census Data	79%	17%	76%	21%	66%	32%
National Surveys	82%	15%	73%	24%	67%	31%
Central Bank Data	79%	16%	78%	15%	71%	23%
National Accounts Data	74%	20%	71%	23%	60%	35%
Administrative Data	78%	18%	63%	34%	52%	45%

Notes: This figure is based on questions in the NSO and ministry snap polls. The question in the NSO snap poll was: In your opinion, what level of confidence do other government officials in [country] have in the official statistics of [country]? The question in the ministry snap poll was: What is your level of confidence in the official statistics of [country]? Confidence refers to trust in the accuracy of data. In both questions, respondents had to rank their confidence for five types of official statistics: census, national surveys, national accounts, data produced by the central bank, and administrative data. Respondents ranked each of these as "very confident," "quite confident," "only slightly confident," "not at all confident," and "don't know/not sure."

Figure B2:

How do ministry officials prefer to learn about NSO data?
Percentage of respondents, by position type

Respondents	Total [N=530]	Political [N=149]	Administrative [N=183]	Technical [N=198]
Visiting [NSO] website to see if new data has been posted	51%	50%	44%	59%
Subscribe to updates from [NSO] via email or SMS/ text message	45%	49%	43%	43%
News and links on social media	30%	33%	32%	26%
Memorandum/policy briefs/short technical papers produced by [NSO]	28%	30%	25%	29%
Printed publications	35%	30%	34%	39%
Formal meetings or consultations	14%	17%	15%	12%
Informal communication with personnel from [NSO]	11%	13%	7%	15%
Digital media	12%	10%	13%	13%
Other	2%	1%	2%	2%

Notes: The question in the line ministry snap poll was: How would you prefer to learn about the availability of data produced by [NSO]? Respondents could select up to three options. The number of respondents that answered this question was 530.

Figure B3:

How do NSOs inform users about their data and how would ministry officials prefer to learn about these data?
Percentage of respondents, by income level

NSO respondents	Upper-middle [N=135]	Lower-middle [N=129]	Low [N=62]
Informally communicating	30%	34%	25%
Disseminating memorandum/policy brief/short technical papers	30%	45%	32%
Printed publications	62%	81%	88%
Digital media	28%	40%	44%
Sharing news and links on social media	51%	44%	12%
Formal meetings or consultations	40%	55%	61%
Publicly posting the data on NSO website or portal	77%	88%	84%
Sending updates to user subscribers through emails or SMS/text message	27%	30%	18%
None of the above	1%	0%	0%
We do not inform users about our data	1%	1%	1%

Ministry Respondents	Upper-middle [N=173]	Lower-middle [N=231]	Low [N=153]
Informal communicationnwith personnel from NSO	11%	11%	12%
Memorandum/policy brief/short technical papers produced by NSO	30%	29%	24%
Printed publications	24%	32%	49%
Digital media	9%	18%	7%
News and links on social media	33%	31%	24%
Formal meetings or consultations	13%	16%	11%
Visiting NSO website to see if new data has been posted	61%	44%	45%
Subscribe to updates from NSO through emails or SMS/text message	57%	38%	37%
Other	1%	2%	3%

Notes: The question in the NSO snap poll was: How do you inform your users about your data? Select all that apply. The question in the ministry snap poll was: How would you prefer to learn about the availability of data produced by [NSO]? Select up to three options.

Figure B4:

How do NSOs inform users about their data and how would ministry officials prefer to learn about these data? [Percentage of respondents, by region]

NSO respondents	EAP [N=67]	ECA [N=52]	LAC [N=73]	MENA [N=24]	SA [N=21]	SSA [N=95]
Informally communicating	38%	23%	27%	29%	13%	35%
Disseminating memorandum/policy brief/short technical papers	39%	36%	30%	28%	55%	37%
Printed publications	58%	86%	67%	62%	96%	90%
Digital media	32%	30%	39%	49%	36%	35%
Sharing news and links on social media	31%	76%	52%	36%	30%	25%
Formal meetings or consultations	42%	45%	52%	27%	75%	63%
Publicly posting the data on NSO website or portal	65%	96%	85%	73%	101%	91%
Sending updates to user subscribers through emails or SMS/text message	20%	28%	42%	24%	6%	31%
None of the above	0%	1%	0%	0%	0%	0%
We do not inform users about our data	1%	0%	2%	0%	0%	1%

Ministry respondents	EAP [N=65]	ECA [N=72]	LAC [N=149]	MENA [N=30]	SA [N=44]	SSA [N=197]
Informal communicationnwith personnel from NSO	15%	14%	6%	15%	9%	12%
Memorandum/policy brief/short technical papers produced by NSO	29%	15%	31%	20%	28%	32%
Printed publications	51%	22%	14%	32%	55%	45%
Digital media	15%	6%	10%	30%	26%	11%
News and links on social media	37%	26%	27%	38%	32%	27%
Formal meetings or consultations	24%	13%	13%	15%	5%	15%
Visiting NSO website to see if new data has been posted	62%	41%	48%	40%	63%	50%
Subscribe to updates from NSO through emails or SMS/text message	35%	42%	42%	70%	54%	42%
Other	2%	4%	0%	0%	0%	3%

Notes: The question in the NSO snap poll was: How do you inform your users about your data? Select all that apply. The question in the ministry snap poll was: How would you prefer to learn about the availability of data produced by [NSO]? Select up to three options.

Figure B5:

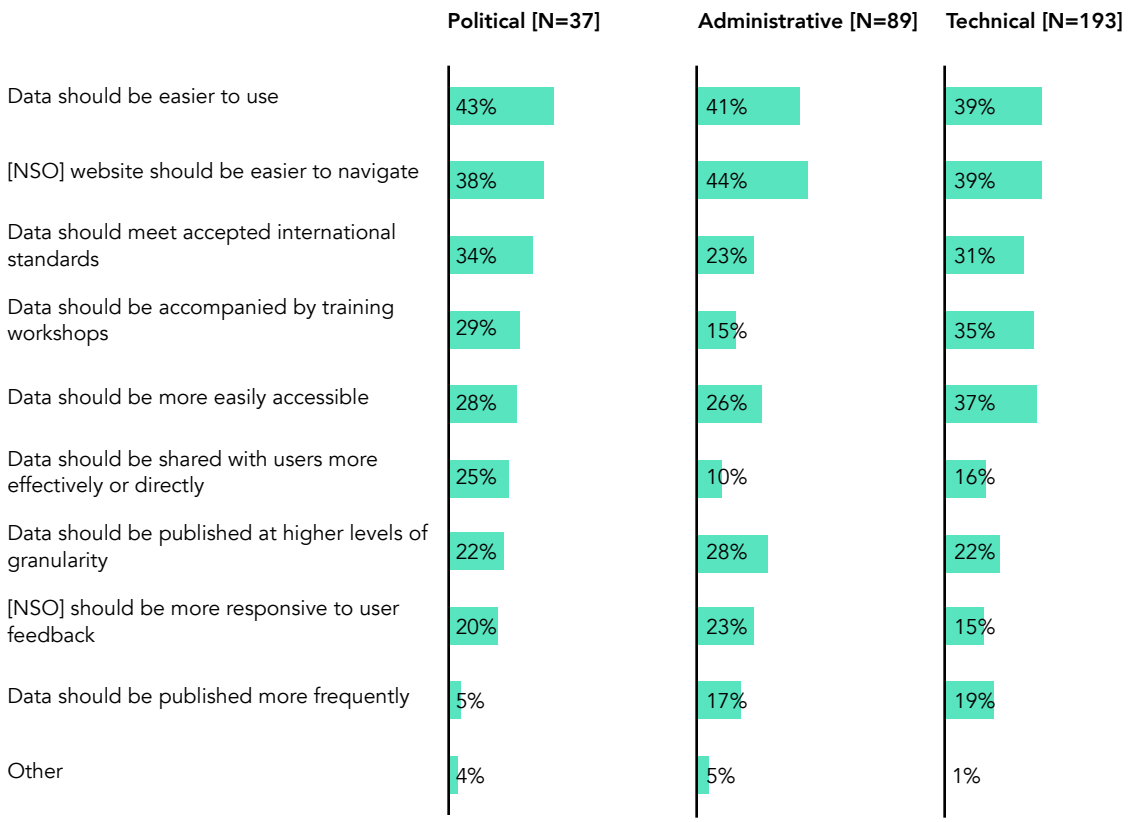
How do NSOs monitor use of their data? [Percentage of respondents, by statistical capacity level]

	Medium+Low [N=36]	High [N=86]	Very high [N=77]
Web analytics	51%	52%	61%
Conduct surveys of users	27%	55%	57%
Talk with users to gather feedback informally	28%	35%	33%
Conduct focus groups	21%	18%	22%
Email our users directly with feedback requests	21%	13%	20%
Track the number of subscriptions of our data	32%	25%	42%
Other	17%	12%	2%

Note: For those that reported monitoring use of their data, the question asked was: How do you measure the use of data produced by [NSO]?

Figure B6:

What do NSOs think are the most important improvements to encourage use of their data? [Percentage of respondents, by position type]



Notes: This figure is based on the question: To encourage use of data produced by [your NSO], what do you think are the most important among the following improvements? Respondents could select up to three improvements

Figure B7:

What do NSOs and ministries think are the most important improvements to encourage use of their data?

Percentage of respondents, by region

NSO respondents	EAP [N=67]	ECA [N=52]	LAC [N=73]	MENA [N=24]	SA [N=21]	SSA [N=95]
Data should be published more frequently	9%	8%	13%	16%	20%	30%
Data should meet accepted international standards	20%	36%	23%	22%	57%	30%
Data should be easier to use	39%	43%	48%	20%	38%	35%
[NSO] website should be easier to navigate	28%	51%	38%	38%	42%	41%
Data should be more easily accessible	32%	35%	17%	26%	60%	37%
Data should be published at higher levels of granularity	17%	25%	17%	20%	17%	32%
Data should be shared with users more effectively or directly	15%	24%	20%	5%	3%	12%
Data should be accompanied by training workshops	15%	24%	51%	19%	11%	26%
[NSO] should be more responsive to user feedback	19%	3%	10%	14%	36%	28%
Other	0%	7%	5%	3%	0%	1%

Ministry respondents	EAP [N=67]	ECA [N=74]	LAC [N=150]	MENA [N=33]	SA [N=45]	SSA [N=201]
Data should be published more frequently	20%	29%	23%	27%	45%	38%
Data should meet accepted international standards	26%	16%	11%	38%	32%	19%
Data should be easier to use	32%	24%	28%	23%	38%	31%
[NSO] website should be easier to navigate	29%	27%	26%	22%	36%	27%
Data should be more easily accessible	47%	13%	30%	28%	28%	38%
Data should be published at higher levels of granularity	40%	18%	26%	30%	21%	27%
I should receive the data from [NSO] and should not have to seek it out	17%	7%	10%	31%	16%	16%
Data should be accompanied by training workshops	24%	17%	11%	24%	11%	21%
[NSO] should be more responsive to user feedback	17%	15%	6%	20%	11%	15%
Other	3%	2%	6%	2%	2%	4%
Not Applicable: This data meets my needs.	6%	6%	9%	8%	17%	3%

Notes: This figure is based on the question: To encourage use of data produced by [your NSO], what do you think are the most important among the following improvements? For ministries, the question was: What improvements would make you more likely to use [your NSO] data? Respondents could select up to three improvements

Figure B8:

What changes do NSOs say are needed to encourage the use of data they produce?

Percentage of respondents, by position type

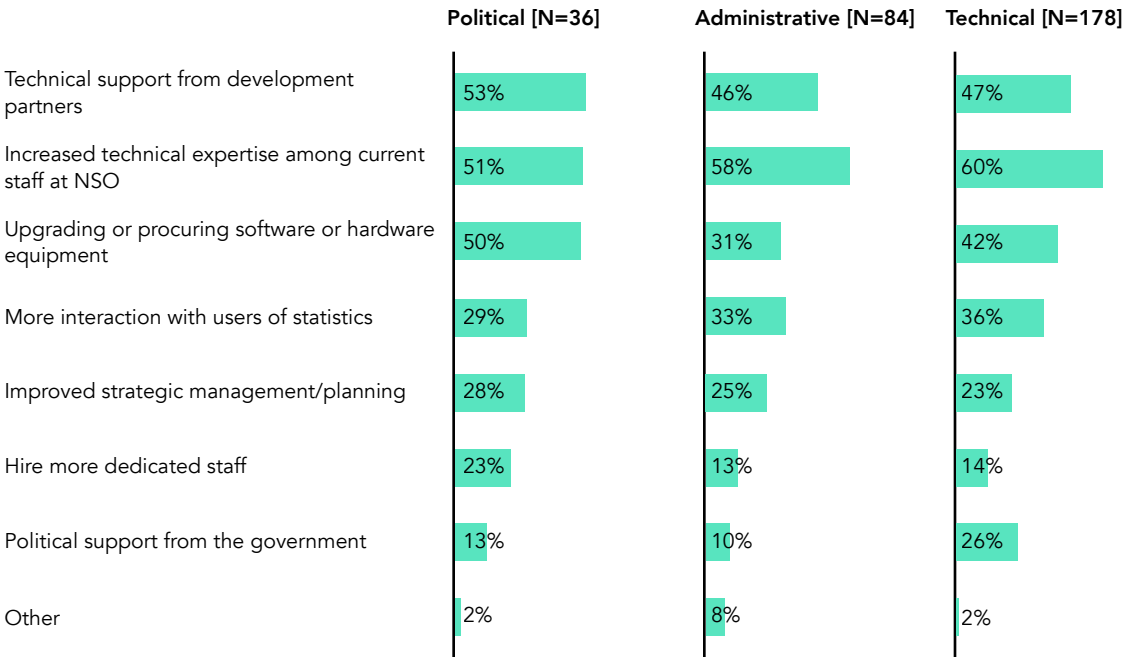


Figure B9:

What changes do NSOs say are needed to encourage the use of data they produce?

Percentage of respondents, by statistical capacity and income

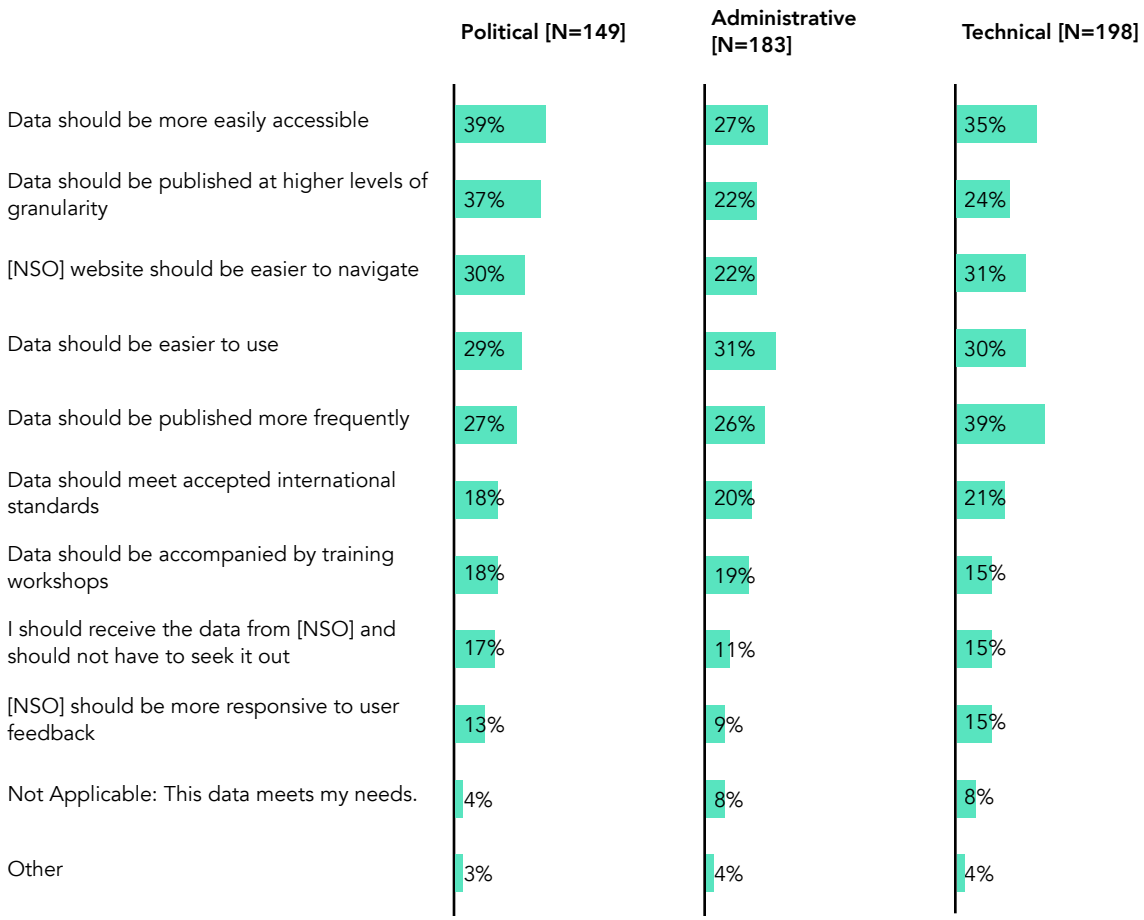
	Low and medium capacity [N=73]	High capacity [N=151]	Very high capacity [N=99]
Upgrading or procuring software or hardware equipment	29%	41%	44%
Increased technical expertise among current staff at NSO	54%	61%	36%
Hire more dedicated staff	15%	10%	21%
Technical support from development partners	53%	49%	35%
Political support from the government	16%	22%	15%
Improved strategic management/planning	16%	23%	18%
More interaction with users of statistics	26%	41%	22%
Other	4%	2%	7%

	Low [N=62]	Lower Middle [N=127]	Upper Middle [N=131]
Upgrading or procuring software or hardware equipment	40%	44%	36%
Increased technical expertise among current staff at NSO	71%	53%	43%
Hire more dedicated staff	11%	13%	17%
Technical support from development partners	69%	47%	36%
Political support from the government	27%	21%	13%
Improved strategic management/planning	12%	25%	19%
More interaction with users of statistics	24%	36%	33%
Other	1%	3%	6%

FIGURE B10:

What do ministry officials say are the most important improvements to encourage use of data produced by NSOs?

Percentage of respondents, by position type



Notes: The question in the snap poll was: What improvements would make you more likely to use [NSO] data? Respondents could select up to three improvements.

Appendix C: Survey Questionnaires

C.1: Snap poll sent to NSO officials

Q1 Please confirm that your current organization is [NSO Name].

- Yes
- No, I work at _____

Q2 In your opinion, which of the following groups are the most important prospective users of your data? Select up to five groups that you think should be using your data.

- Senior officials in the Ministry of Finance and/or Planning
- Technical staff in the Ministry of Finance and/or Planning
- Senior officials in line ministries
- Technical staff in line ministries
- Senior officials in the Office of the President or Prime Minister
- Technical staff in the Office of the President or Prime Minister
- Local government officials
- Development partners including regional and international organizations (example: World Bank staff based in [Country]
- Non-governmental organizations, civil society organizations, and/or faith-based organizations in [Country]
- Research organizations, universities and think tanks in [Country]
- Private sector in [Country]
- Other (please specify): _____

Q3 Which of the following groups do you think uses data produced by [NSO Name] most frequently? (note: the most frequent users may be different from the target users you identified in the last question)
Select up to five groups.

- Senior officials in the Ministry of Finance and/or Planning
- Technical staff in the Ministry of Finance and/or Planning
- Senior officials in line ministries
- Technical staff in line ministries d
- Senior officials in the Office of the President or Prime Minister
- Technical staff in the Office of the President or Prime Minister
- Local government officials
- Development partners including regional and international organizations (example: World Bank staff based in [Country]
- Non-governmental organizations, civil society organizations, and/or faith-based organizations in [Country]
- Research organizations, universities and think tanks in [Country]
- Other (please specify): _____

Q4 You selected "[Q3 Answer]" as groups that use data produced by [NSO Name] most frequently. What type(s) of statistical data from [NSO Name] do you think these groups use?
Select all that apply.

- Demographic statistics
- Education statistics
- Health statistics
- Poverty statistics
- Other social statistics
- Economic or financial statistics
- Agriculture statistics
- Environmental statistics
- Government revenue and spending data
- Development indicators related to the MDGs or SDGs
- Other (please specify): _____

Q5 Does [NSO Name] monitor the use of data it produces?

- Yes
- No, we do not currently measure use of our data.

[If respondent responds "Yes" to Q4, then display Q6.1]

Q6.1 How do you measure the use of data produced by [NSO Name]?
Select all that apply.

- We use web analytics. (example: number of downloads of a dataset)
- We conduct surveys of our users.
- We talk with our users to gather feedback informally.
- We conduct focus groups.
- We email our users directly with requests for feedback.
- We track the number of subscriptions for our data.
- Other: _____

[If respondent responds "No" to Q4, then display Q6.2]

Q6.2 How important is it to [NSO Name] to be able to measure the use of data it produces?

- Very important
- Quite important
- Not very important
- Don't know/Not sure

[If respondent responds "Very Important" or "Quite Important" to Q6.2, then display Q7]

Q7 How would you like to measure use of data produced by [NSO Name]?
Select all that apply.

- We would like to use web analytics. (example: number of downloads of a dataset)
- We would like to conduct surveys of our users.
- We would like to talk with our users to gather feedback informally.
- We would like to conduct focus groups.
- We would like to email our users directly with requests for feedback.
- We would like to track the number of subscriptions for our data.
- Other: _____

[If respondent responds "Not very important" or "Don't know/Not Sure" to Q6.2, then display Q8]

Q8 How do you inform your users about your data?
Select all that apply.

- Informally communicating (example: face-to-face, phone calls, personalized emails)
- Disseminating memorandum/policy brief/short technical papers
- Printed publications (example: Statistical Yearbook)
- Digital media (example: CD-ROM)
- Sharing news and links on social media (example: Facebook, Twitter)
- Formal meetings or consultations
- Publicly posting the data (example: on [NSO Name] website or data portal)
- Sending updates to user subscribers through emails or SMS/text messages
- None of the above
- We do not inform users about our data.

Q9 To encourage use of data produced by [NSO Name], what do you think are the most important among the following improvements?
Select up to three improvements.

- The data should be published more frequently.
- The data should meet accepted international standards.
- The data should be easier to use (example: tables and data visualizations are available, files explaining each dataset are available).
- [NSO Name] website should be easier to navigate.
- The data should be more easily accessible (publicly and freely available in machine readable formats such as .csv, .xlsx).
- The data should be published at higher levels of granularity (example: disaggregated by gender, available at district level).
- The data should be shared with users more effectively or directly.
- The data should be accompanied by training workshops to help users understand and use the data.
- [NSO Name] should be more responsive to user questions and feedback.
- Other (please specify): _____

Q10 Please rank order these improvements in order of importance, by entering numbers in the boxes (1 being the most important).

_____ The data should be published more frequently.

_____ The data should meet accepted international standards.

_____ The data should be easier to use (example: tables and data visualizations are available, files explaining each dataset are available).

_____ [NSO Name] website should be easier to navigate.

_____ The data should be more easily accessible (publicly and freely available in machine readable formats such as .csv, .xlsx).

_____ The data should be published at higher levels of granularity (example: disaggregated by gender, available at district level).

_____ The data should be shared with users more effectively or directly.

_____ The data should be accompanied by training workshops to help users understand and use the data.

_____ [NSO Name] should be more responsive to user questions and feedback.

_____ Other (please specify): _____

Q11 You selected "[Response to Q10]" as the most important improvement to encourage data use. To make this improvement, what would your organization need?
Select the most important changes your organization would need. You may select up to three options.

- Upgrading or procuring software or hardware equipment to improve the national statistical system
- Increased technical expertise among current staff at [NSO Name]
- Hire more dedicated staff
- Technical support from development partners or regional and international actors (example: United Nations Statistical Division, the World Bank)
- Political support from the government
- Improved strategic management/planning
- More interaction with users of statistics
- Other (please specify): _____

Q12 In your opinion, what level of confidence do other government officials in [Country] have in the official statistics of [Country]?
Confidence refers to trust in the accuracy of data.

	Very confident	Quite confident	Only slightly confident	Not at all confident	Don't know/Not sure
Census (e.g., population, agriculture)	o	o	o	o	o
National surveys (e.g., household or firm-level)	o	o	o	o	o
National accounts (e.g., macroeconomic aggregates such as GDP, investment, savings)	o	o	o	o	o
Data produced by the central bank (e.g., balance of payments, interest rates)	o	o	o	o	o
Administrative data (e.g., birth and death registration, health records)	o	o	o	o	o

Q13 Which of the following activities do you spend the most time on in an average week?
Select one.

- Political matters (example: policy formulation, meeting with stakeholders)
- Program or unit administration (example: program implementation, staff management)
- Technical tasks (example: data analysis, data collection and/or reporting of data)

Q14 Since how many years have you been working at [NSO Name]?
Select one.

- 0-3 years
- 4-6 years
- 7 or more years

[If respondent responds "No" to Q1, then display excerpt below]

Our records indicate that you have worked at [NSO Name] at some point in the last five years. Please answer the following questions based on your experience and time spent at [NSO Name].

Q2 In your opinion, which of the following groups are the most important prospective users of data produced by [NSO Name]?
Select up to five groups that you think should be using data from [NSO Name].

- Senior officials in the Ministry of Finance and/or Planning
- Technical staff in the Ministry of Finance and/or Planning
- Senior officials in line ministries
- Technical staff in line ministries
- Senior officials in the Office of the President or Prime Minister
- Technical staff in the Office of the President or Prime Minister
- Local government officials
- Development partners including regional and international organizations (example: World Bank staff based in [Country])
- Non-governmental organizations, civil society organizations, and/or faith-based organizations in [Country]
- Research organizations, universities and think tanks in [Country]
- Private sector in [Country]
- Other (please specify): _____

Q3 Which of the following groups do you think uses data produced by [NSO Name] most frequently? (note: the most frequent users may be different from the target users you identified in the last question)
Select up to five groups.

- Senior officials in the Ministry of Finance and/or Planning
- Technical staff in the Ministry of Finance and/or Planning
- Senior officials in line ministries
- Technical staff in line ministries
- Senior officials in the Office of the President or Prime Minister
- Technical staff in the Office of the President or Prime Minister
- Local government officials
- Development partners including regional and international organizations (example: World Bank staff based in [Country]
- Non-governmental organizations, civil society organizations, and/or faith-based organizations in [Country]
- Research organizations, universities and think tanks in [Country]
- Other (please specify): _____

Q4 You selected "[Q3 Response]" as groups that use data produced by [NSO Name] most frequently. What type(s) of statistical data from [NSO Name] do you think these groups use?
Select all that apply.

- Demographic statistics
- Education statistics
- Health statistics
- Poverty statistics
- Other social statistics
- Economic or financial statistics
- Agriculture statistics
- Environmental statistics
- Government revenue and spending data
- Development indicators related to the MDGs or SDGs
- Other (please specify): _____

Q5 Did [NSO Name] monitor the use of data it produced?

- Yes
- No, we did not measure use of our data.

[If respondent answers "Yes" to Q5, then display Q6.1]

Q6.1 How did [NSO Name] measure the use of data it produced? ***Select all that apply.***

- Using web analytics. (example: number of downloads of a dataset)
- Conducting surveys of our users.
- Talking with our users to gather feedback informally.
- Conducting focus groups.
- Emailing our users directly with requests for feedback.
- Tracking the number of subscriptions for our data.
- Other: _____

[If respondent answers "No" to Q5, then display Q6.2]

Q6.2 In your opinion, how important is it to [NSO Name] to be able to measure the use of data it produces?

- Very important
- Quite important
- Not very important
- Don't know/Not sure

[If respondent answers "Very Important" or "Quite Important" to Q6.2, then display Q7]

Q7 In your opinion, how should [NSO Name] measure the use of data it produces?
Select all that apply.

- Use web analytics. (example: number of downloads of a dataset)
- Conduct surveys of their users.
- Talk with their users to gather feedback informally.
- Conduct focus groups.
- Email their users directly with requests for feedback.
- Track the number of subscriptions for their data.
- Other: _____

[If respondent does not answer "Very Important" or "Quite Important" to Q6.2, then display Q8]

Q8 How did [NSO Name] inform users about their data? ***Select all that apply.***

- Informally communicating (example: face-to-face, phone calls, personalized emails)
- Disseminating memorandum/policy brief/short technical papers
- Printed publications (example: Statistical Yearbook)
- Digital media (example: CD-ROM)
- Sharing news and links on social media (example: Facebook, Twitter)
- Formal meetings or consultations
- Publicly posting the data (example: on [NSO Name] website or data portal)
- Sending updates to user subscribers through emails or SMS/text messages
- None of the above
- We do not inform users about our data.

Q9 To encourage use of data produced by [NSO Name], what do you think are the most important among the following improvements? *Select up to three improvements.*

- The data should be published more frequently.
- The data should meet accepted international standards.
- The data should be easier to use (example: tables and data visualizations are available, files explaining each dataset are available).
- [NSO Name] website should be easier to navigate.
- The data should be more easily accessible (publicly and freely available in machine readable formats such as .csv, .xlsx).
- The data should be published at higher levels of granularity (example: disaggregated by gender, available at district level).
- The data should be shared with users more effectively or directly.
- The data should be accompanied by training workshops to help users understand and use the data.
- [NSO Name] should be more responsive to user questions and feedback.
- Other (please specify): _____

Q10 Please rank order these improvements in order of importance, by entering numbers in the boxes (1 being the most important).

_____ The data should be published more frequently.

_____ The data should meet accepted international standards.

_____ The data should be easier to use (example: tables and data visualizations are available, files explaining each dataset are available).

_____ [NSO Name] website should be easier to navigate.

_____ The data should be more easily accessible (publicly and freely available in machine readable formats such as .csv, .xlsx).

_____ The data should be published at higher levels of granularity (example: disaggregated by gender, available at district level).

_____ The data should be shared with users more effectively or directly.

_____ The data should be accompanied by training workshops to help users understand and use the data.

_____ [NSO Name] should be more responsive to user questions and feedback.

_____ Other (please specify): _____

Q11 You selected "[Q10 response]" as the most important improvement to encourage data use. To make this improvement, what do you think [NSO Name] would need? ***Select the most important changes. You may select up to three options.***

- Upgrading or procuring software or hardware equipment to improve the national statistical system
- Increased technical expertise among current staff at [NSO Name]
- Hire more dedicated staff
- Technical support from development partners or regional and international actors (example: United Nations Statistical Division, the World Bank)
- Political support from the government
- Improved strategic management/planning
- More interaction with users of statistics
- Other (please specify): _____

Q12 In your opinion, what level of confidence do other government officials in [Country] have in the official statistics of [Country]?
Confidence refers to trust in the accuracy of data.

	Very confident	Quite confident	Only slightly confident	Not at all confident	Don't know/Not sure
Census (e.g., population, agriculture)	o	o	o	o	o
National surveys (e.g., household or firm-level)	o	o	o	o	o
National accounts (e.g., macroeconomic aggregates such as GDP, investment, savings)	o	o	o	o	o
Data produced by the central bank (e.g., balance of payments, interest rates)	o	o	o	o	o
Administrative data (e.g., birth and death registration, health records)	o	o	o	o	o

Q13 Which of the following activities do you spend the most time on in an average week? *Select one.*

- Political matters (example: policy formulation, meeting with stakeholders)
- Program or unit administration (example: program implementation, staff management)
- Technical tasks (example: data analysis, data collection and/or reporting of data)

Q14 How many years did you work at [NSO Name]? *Select one.*

- 0-3 years
- 4-6 years
- 7 or more years

Q15 Would you be willing to participate in a future survey or interview?

- Yes, you can contact me at the same email address
- Yes, you can contact me at the following email address: _____
- No

Thank you for taking the time to complete this survey. Please click the next button to submit your answers.

C.2: Snap poll sent to ministry officials

Q1 From the list below, please select your current organization, or the option that is closest to your current organization.

- Ministry of Finance and/or Planning
- Ministry of Education
- Ministry of Health
- Office of the President/Prime Minister
- Other (please specify): _____

Q2 How frequently do you use data obtained from [NSO Name] in your work? ***Please select more than one option if you use different data types with different frequencies (example: quarterly GDP estimates and monthly inflation indicators)***

- Weekly
- Monthly
- Quarterly
- Annually
- I do not use data produced by [NSO Name] in my work.

[If respondent chooses "I do not use data produced by [NSO Name]," skip to Q5]

Q3 How do you typically use data obtained from [NSO Name]?
Select all that apply.

- I use it in reports, briefs and/or presentations for internal or external use.
- I use it to support or justify an existing program or policy.
- I use it to weigh the costs and benefits of various options.
- I use it to evaluate or monitor progress in my sector.
- I use it to make or advocate for a decision to implement a certain policy or program.
- I use it to make or advocate for course corrections (example: change or repeal a program or policy).
- I use it to inform the design of a program or policy.
- Other (please specify): _____

Q4 What type(s) of statistical data do you use from [NSO Name]? *Select all that apply.*

- Demographic statistics
- Education statistics
- Health statistics
- Poverty statistics
- Other social statistics
- Economic or financial statistics
- Agriculture statistics
- Environmental statistics
- Government revenue and spending data
- Development indicators related to the MDGs or SDGs
- Other (please specify): _____

Q5 What improvements would make you more likely to use [NSO Name] data? *Select up to three improvements.*

- The data should be published more frequently.
- The data should meet accepted international standards.
- The data should be easier to use (example: tables and data visualizations are available, files explaining each dataset are available).
- [NSO Name] website should be easier to navigate.
- The data should be more easily accessible (publicly and freely available in machine readable formats such as .csv, .xlsx).
- The data should be published at higher levels of granularity (example: disaggregated by gender, available at district level).
- I should receive the data from [NSO Name] and should not have to seek it out.
- The data should be accompanied by training workshops to help users understand and use the data.
- [NSO Name] should be more responsive to user questions and feedback.
- Other (please specify): _____
- Not applicable: This data meets my needs.

[If respondent chooses one option in Q5 or "Not applicable," skip to Q7]

Q6 Please rank order these improvements in order of importance by entering numbers in the boxes (1 being the most important).

_____ The data should be published more frequently.

_____ The data should meet accepted international standards.

_____ The data should be easier to use (example: tables and data visualizations are available, files explaining each dataset are available).

_____ [NSO Name] website should be easier to navigate.

_____ The data should be more easily accessible (publicly and freely available in machine readable formats such as .csv, .xlsx).

_____ The data should be published at higher levels of granularity (example: disaggregated by gender, available at district level).

_____ I should receive the data from [NSO Name] and should not have to seek it out.

_____ The data should be accompanied by training workshops to help users understand and use the data.

_____ [NSO Name] should be more responsive to user questions and feedback.

_____ Other (please specify): _____

_____ Not applicable: This data meets my needs.

Q7 How would you prefer to learn about the availability of data produced by [NSO Name]? Select up to three options.

- Informal communication with personnel from [NSO Name] (example: face-to-face, phone calls, personalized emails)
- Memorandum/policy briefs/short technical papers produced by [NSO Name]
- Printed publications (example: Statistical Yearbook)
- Digital media (example: CD-ROM)
- News and links on social media (example: Facebook, Twitter)
- Formal meetings or consultations
- Visiting [NSO Name] website to see if new data have been posted
- Subscribe to updates from [NSO Name] through email or SMS/text message
- Other (please specify): _____

Q8 In which formats would you prefer to access data produced by [NSO Name]?
Select all that apply.

- Downloadable raw datasets (example: Microsoft excel such as .csv or .xlsx)
- Downloadable text or visual files (example: Microsoft Word such as .doc or .docx, Microsoft Powerpoint such as .ppt or .pptx, Adobe PDF)
- Online dashboards, interactive data portals or data visualizations
- Offline media (example: CD-ROM)
- Printed reports, briefs, technical papers (example: Statistical Yearbook)
- Other (please specify): _____

Q9 What is your level of confidence in the official statistics of [Country]?
Confidence refers to trust in the accuracy of data.

	Very confident	Quite confident	Only slightly confident	Not at all confident	Don't know/Not sure
Census (e.g., population, agriculture)	o	o	o	o	o
National surveys (e.g., household or firm-level)	o	o	o	o	o
National accounts (e.g., macroeconomic aggregates such as GDP, investment, savings)	o	o	o	o	o
Data produced by the central bank (e.g., balance of payments, interest rates)	o	o	o	o	o
Administrative data (e.g., birth and death registration, health records)	o	o	o	o	o

Q10 How do you provide feedback on data products to [NSO Name]? *Select all that apply.*

- I provide feedback to individuals at [NSO Name] in informal conversations.
- I provide feedback via surveys.
- I provide feedback by participating in focus groups.
- I provide feedback by responding to email requests for feedback.
- Other (please specify): _____

- I do not provide [NSO Name] with feedback on data products.

Q11 What other data sources do you use in your work? *Select all that apply.*

- Data produced by staff at the ministry or office I work in.
- Data produced by other groups based in [Country]. (example: NGOs)
- Data produced by development partners. (example: UN Agencies and other international organizations)
- Other (please specify): _____
- I only use data produced by [NSO Name] in my work.

Q12 Which of the following activities do you spend the most time on in an average week? *Select one.*

- Political matters (example: policy formulation, meeting with stakeholders)
- Program or unit administration (example: program implementation, staff management)
- Technical tasks (example: data analysis, data collection and/or reporting of data)

Q13 How many years have you worked in the government of [Country]? *Select one.*

- 0-3 years
- 4-6 years
- 7 or more years

Q14 Would you be willing to participate in a future survey or interview?

- Yes, you can contact me at the same email address.
- Yes, you can contact me at the following email address: _____
- No

Thank you for taking the time to complete this survey. Please click the next button to submit your answers.

About AidData

AidData is a research lab at William & Mary's Global Research Institute. We equip policymakers and practitioners with better evidence to improve how sustainable development investments are targeted, monitored, and evaluated. We use rigorous methods, cutting-edge tools and granular data to answer the question: who is doing what, where, for whom, and to what effect?

AidData
Global Research Institute
William & Mary
427 Scotland St.
Williamsburg, VA 23185

WILLIAM & MARY
CHARTERED 1693