Businesses as Users of NSI Statistics: Opportunities for Creating Greater Value Added

Mojca Bavdaz¹, Deirdre Giesen², Silvia Biffignandi³

¹University of Ljubljana, Faculty of Economics, e-mail: mojca.bavdaz@ef.uni-lj.si
²Statistics Netherlands, e-mail: d.giesen@cbs.nl
³University of Bergamo, e-mail: silvia.biffignandi@unibg.it

Abstract

Businesses constitute an increasingly important group of stakeholders for national statistical institutes (NSIs), be it in their role of data providers for NSIs or users of NSI statistics. This double role of businesses may enable NSIs to motivate businesses to achieve a better participation in statistics production, in particular by offering them relevant NSI statistics in return. This paper investigates what NSI statistics businesses use, what obstacles prevent a more intensive use of NSI statistics among the business population and what links there are between people involved in the double role of businesses (namely between those using NSI statistics and those reporting to NSIs). It concludes with a discussion of opportunities for creating greater value added both for businesses and NSIs. The findings come from the first steps of Work Package 3 of the BLUE-ETS project¹: qualitative interviews with experts from inside and outside NSIs in Italy, the Netherlands, Norway, Slovenia and Sweden.

Keywords: data collection, dissemination, motivation.

1. Introduction

Key economic indicators released from National Statistical Institutes (NSIs) rest upon data provided by businesses. Providing data to NSIs is not costless for businesses and businesses value their resources more and more as the world becomes more integrated and competitive. Businesses thus often question the necessity of NSI data requests by asking “Why do I have to do this? What is the use of this?”.

Swedish and Dutch research on how respondents to the Structural Business Survey perceive the usefulness of the resulting statistics shows alarming numbers (Giesen, Morren & Snijkers, 2009; Hedlin et al., 2008). The majority of the respondents (ranging from 64% to 74%) thinks the statistics are useless for their business. Also, a substantial

¹ The BLUE-ETS project (www.blue-ets.eu) is a Collaborative Project funded by the European Community's Seventh Framework Programme (FP7/2007-2013) under grant agreement n°244767.

The views expressed in this paper are those of the authors and do not necessarily reflect the policies of the University of Ljubljana, Statistics Netherlands or the University of Bergamo.
group (ranging from 20% to 41%) thinks the statistics are useless for society. This **perceived uselessness** may be an important explanation of the perceived response burden from NSI requests (Dale & Haraldsen, 2007). The European Commission High Level Group of Independent Stakeholders (2009) uses the term “irritation burden”. They conclude that one of the main irritants of administrative burden caused by statistics is the lack of information on their purpose. Perceived uselessness of the survey request may result in businesses not responding or investing insufficient effort in preparing accurate response. Both situations actually represent an increasing challenge to NSIs, lead to large follow-up efforts, huge editing costs and may impact data quality.

If perceived uselessness influences costs and/or data quality, it is important to understand why it occurs. The simplest explanation would be that businesses never or hardly ever use NSI statistics but there is some evidence about the contrary. Another explanation would be that the users of NSI statistics and respondents to NSI surveys are different people within businesses, and the latter are not even aware of their business’ interest in good quality NSI statistics. Also, businesses may not be using NSI statistics as much as they could, or, they do use these statistics but do not link them to the NSI or the data requests they receive from the NSI.

The research described in this paper is based on the assumption that perceived usefulness of NSI statistics for businesses increases businesses motivation for better statistical reporting, and should therefore be improved. The paper investigates into the possible causes of perceived uselessness by focusing on three main research questions:

1. Do businesses use NSI statistics? And if so, what data?
2. Are there any obstacles for businesses preventing use of NSI statistics? And if so, which ones?
3. Who are users of NSI statistics and providers of data to NSIs in businesses and how are they linked?

Methods and sources used to collect data are described in the next section. Presentation of results is organised around the three research questions listed above and concluded with a discussion of findings.

## 2. Method

Data come from international research that seeks to understand what can motivate businesses for accurate and timely reporting in NSI surveys, and forms part of the Work Package 3 of the BLUE-ETS project. We conducted a number of qualitative interviews with experts on the use of NSI statistics by businesses. We chose this method as an efficient first approximation of what could be learned by doing field work with businesses without burdening businesses at this phase of our research.

We first turned to staff of the four participating NSIs (Statistical Office of the Republic of Slovenia, Statistics Netherlands, Statistics Norway and Statistics Sweden) who come in
contact with businesses. In total 16 individual or group interviews were conducted with 27 NSI staff. These experts came from different parts of the NSIs and included staff of centres providing support to data users, field staff in regular contact with business respondents, staff of specialised units (e.g. units supporting largest businesses, electronic dissemination etc.), and subject-matter experts.

The second group of experts were chosen from outside the NSIs. This group consisted of:

- academics from the fields of accounting, human resources, innovation, marketing, e-commerce and finance at the University of Bergamo, and from the fields of accounting, business administration, business informatics, entrepreneurship, human resources, management managerial economics, marketing and tourism at the University of Ljubljana (15 academic experts in total) and
- business representatives and other experts of businesses in Italy (Unioncamere Lombardia, Bergamo Chamber of Commerce, Retecamere (Rome), AITEC, Confindustria Bergamo), the Netherlands (HBD, Chamber of Commerce Limburg, Chamber of Commerce Netherlands), Norway (Confederation of Norwegian enterprise), Slovenia (Council on Competitiveness, Chamber of Commerce and Industry of Slovenia, Chamber of Craft and Small Business, Slovenian Chamber of Commerce) and Sweden (Swedenergy, Confederation of Swedish Enterprise, a consultancy firm) (21 experts of businesses in total).

The data collection was based on a semi-structured interview protocol. For the purpose of data integration, each participating country provided summary findings in English. The aim of this paper is not to study patterns separately in each country (although this is also a valid approach due to institutional and cultural differences between these countries) or separately by kind of expertise (which can influence expert opinion) but rather to present all opinions and perspectives gathered in interviews. Origin of experts and frequency of the opinions expressed are therefore only mentioned in very specific cases.

3. What NSI statistics businesses use?

3.1 Do businesses ask for NSI statistics?

Our research confirms that businesses do ask for NSI statistics and that demand has been growing. This claim is supported with some data collected by the NSIs and expert opinion. To illustrate this, we quote some data on information supplied to users upon request by telephone, e-mail or a webform at Statistics Netherlands.

Information supplied to the business world by the NSI (in this case Statistics Netherlands) represents approximately 50% of all information requests. If we consider the breakdown of total information supplied to the business world by type of customer in 2009, the most frequent users of NSI statistics are:
• professional services, transport, trade and catering industry: 85.4 %;
• production companies: 6.5 %;
• banking and insurance: 3.1 %;
• media and publishers: 2.9 %.

Even if these data do not pretend to be a picture of the general situation across Europe since surely variability exists among countries, it is however quite reasonable to support the assumption that situation is not completely diverse in many other European countries.

As regards the type of NSI statistics supplied to the business world, around 25 % of information concerns the following data (presented from more to less requested): consumer price index, collective wage agreements and remunerations, data on companies, composition of the population, producer price index, and indicators on labour force and international trade. By far, the most important item is the consumer price index. Nevertheless, ranking of these items is only partially due to the effective relevance of these indicators. One confounding element is the frequency of their use; prices are short-term indicators, therefore, they are requested monthly, whereas population composition or labour force indicators, for example, require a less intensive monitoring. Another confounding element is the partiality of these data with regard to overall business use of NSI statistics (including other channels of dissemination/retrieval such as media, trade associations etc.). Nevertheless, it seems realistic that all the above mentioned NSI statistics are the most important ones for business.

Expert evaluation based on opinion of business representatives and academics allows us to judge the actual situation also from the qualitative perspective. Even if experts agree on the fact that business decisions and strategies are more and more data-driven and that economic crises as well globalization have induced businesses to analyze data more extensively, effective use of NSI statistics appears, till now, scarce and limited compared to the possible value added that these statistics could provide to businesses. The next two sections thus further address the first research question about the NSI statistics that businesses use based on qualitative data collected in interviews with academic experts and business representatives.

3.2 What statistics are businesses effectively interested in?

*Prices, inflation and purchasing power* indicators are the most widely used NSI statistics among businesses. Price updating is one of the major recursive problems in marketing analyses and strategies. Price indicators are very important for small firms, too, since they often lack comparison to the competitor’s prices and resort to official price index to form their prices. Large businesses are more informed on competitors and prices; anyway they are interested in price data, since they work on marketing strategies in a more structured way and by using external data.

Businesses, without differences in size or other factors, are greatly interested in *detailed sectoral data*. Although they mainly need data on products and markets, a complete
An overview of an economic activity is also necessary (e.g. market shares, importers and exporters with their ranks etc.) when they need general information. This means that breakdowns by detailed economic activity/product would be useful for businesses. These data are in general not offered by NSIs at the desired disaggregation level. Even if NSIs data go in some detailed product classification, businesses use this rarely, since they are “difficult to reach”. In other words, information is organized according criteria which are not straightforwardly linked to the decision making and analysis framework currently adopted in businesses (i.e. to their dashboards).

Sometimes new rules on contractual issues like those in Italy, for instance, promise to bring more interest in detailed sectoral data on labour costs (e.g. average gross wages, hourly rates, data by occupation, data by economic activity, historic values, data related to collective agreement, presence of minimal wages by region and activity etc.) and employment (e.g. by economic activity, region etc.).

General scenario data like GDP, GDP growth, growth of GDP per capita or public debt are not widely used in businesses, except for large businesses which report more on socio-economic situation. An exception among general data refers to population growth and composition that are quite frequently used in many businesses for market analyses (e.g. new markets and market trends related to population consumption) and for decisions about localization (e.g. evaluation of available labour force). Another exception relates to export and import data by commodities, which are highly important to foreign-owned firms. In addition to values and quantities in international trade, businesses request lists of exporters and importers. NSIs cannot reveal this, but they probably could facilitate the access to such lists, for instance by providing links to organisations or bodies disseminating this kind of information.

Businesses are largely interested in accounting data and related indicators. Performance and financial indicators (like value added per employee) by activity and region could offer to businesses a valid benchmarking set of indicators. Again, the problem is that these data are spread in various survey results and in some cases they refer to a level of aggregation which is not detailed enough for benchmarking purposes. An effort in organizing the existing information in a more user-friendly framework is necessary as well as the study of the most detailed level of detail which can be supplied.

3.3 Factors affecting demand and differences among businesses in NSI statistics use

This section shortly addresses the factors affecting demand for NSI statistics and differences in their use among businesses. In general, experts stated that recession has increased demand for information. Moreover it has determined some shift on the monitored indicators by increasing attention to public debt, liquidity situation, indebtedness of businesses (as opposed to growth rates), and consumer behaviour.

Among the factors causing differences among businesses with regard to the use of NSI statistics, the following were considered the most influential:
Experts were unanimous that size is the most influential factor. Micro and small businesses use NSI data very little and they mainly use processed and prepared information, e.g. what media summarise. However, not even this group is homogeneous; differences in their attitude to statistical thinking and education, for instance, may cause that even micro-family businesses regularly access Internet and use NSI statistics. Small enterprises, or even medium-sized enterprises, surely have adequate technologies. Nevertheless, the person who masters them in most cases may not be sensible to the use of NSI statistics or be simply too much engaged in running urgent activities. When using some statistical data small and medium-sized enterprises mainly access them through some intermediary such as trade associations. Thus the use of NSI statistics in these businesses and their impact on performance seems to be mainly related on how entrepreneurs and their staff organize their work and how well they are educated. Large businesses have staff employed who master the basic Internet literacy and often they have offices devoted to data collection and statistical analyses, especially on market research area. They also have enough resources and are well IT-supported so they even process NSI statistics further.

International orientation of the business is also exposed as a factor driving the NSI statistics use. These kinds of businesses ask especially for international data and want to compare national data with other countries.

Economic activity seems to affect the use of NSI statistics only in some sectors like tourism, hospitality industry or some other service activity. In these sectors NSI statistics provide quite detailed information, which is then useful in an operational context as decision-making support.

As expected, and anyway exposed in our study, kind of ownership affects business use of NSI statistics since they use these data to report (monthly) to corporations abroad. Thus they make more analyses and they use data and statistical indicators, mostly for market analyses purposes. In some cases (this is quite often in the sector of food retailers) if a business is foreign-owned, foreign models of reporting are used; thus if owners use statistics in other countries, businesses belonging to them use statistics as well. Similar concept applies to data sources usage; if owners use other (e.g. commercial) data source, their businesses are more likely to buy other data as well.

4. Obstacles preventing (more intensive) use of NSI statistics among businesses

In interviews with NSI experts, academics and researchers from business-related fields, business representatives and other experts of businesses, we learned about many obstacles that prevent businesses from using NSI statistics (more intensively), which gives some insights into our second research question. We clustered obstacles into three groups: limitations inherent in NSI statistics, problems searching for NSI statistics and lack of interest in using NSI statistics. This section presents these groups in more detail.
Limitations inherent in NSI statistics

We first address limitations inherent in NSI statistics. Experts claimed that timeliness is one of the most important characteristics for businesses. Lack of timeliness seems to be the main limitation of NSI statistics, which makes them less relevant for decision-making and monitoring purposes. Some experts also exposed the discrepancy between the amount of data requested by NSIs on stringent deadlines and modest and late release of NSI statistics.

Some data that businesses would be interested in are not produced by NSIs or they are not offered at an adequately detailed level. Experts thus typically mentioned lack of detailed data and insufficiently detailed data. NSI experts confirmed that many times businesses inquire about more detailed statistics than available online. Such requests for more detailed data on micro level often remain unfulfilled as NSI are not able to give these data.

As one of the experts commented, general macroindicators are interesting for large businesses and their long-term planning; small businesses are, on the other hand, more interested in very specific data related to their business activities. This kind of data is not provided by NSIs. Among the data that businesses would like to have, but they are not provided by NSI statistics, experts mentioned data on competitors (e.g. balance sheet data and accounting indicators), market shares, detailed current state of an industry, more detailed product data (to allow monitoring specific detailed (niche) market), a more detailed structure of intermediate consumption and income, more data on absenteeism, turnover and labour market flexibility etc.

Especially in smaller countries, confidentiality of data in small areas could represent a problem due to small number of businesses. According to some experts, usefulness of NSI statistics is also reduced because of a mismatch between breakdowns needed in businesses and those offered in NSI statistics. In addition, to appreciate the full meaning of some NSI statistics, it is necessary to grasp demanding methodological issues. For instance, it is difficult to correctly interpret and understand the full difference between real and seasonally adjusted indices; the relevance of the main activity at detailed level may be confounding; base indices and derived indicators may simply be incomprehensible etc. It may be that knowledge of many business users are not sufficient to autonomously and correctly use NSI statistics.

Search of NSI statistics

The next group of obstacles refers to problems encountered when searching for NSI statistics. Academics agreed that Internet is the main tool for reaching data sources; despite of huge amount of available data, many sources are of questionable quality. They also believe data sources that are used should be known and trusted.
On the one hand, experts pointed to the lack of search skills and consequent difficulties navigating around the NSI website and querying its databases. One expert mentioned that the sheer volume of data offered on NSI websites may make it difficult to find relevant data.

On the other hand, some experts exposed as problematic the user-unfriendly website and databases of NSIs. They indicated that the NSI website organisation was unintuitive, and that the NSI database was difficult to access, not adapted to entrepreneurs etc.

**Lack of interest for NSI statistics**

A third group of obstacles that experts exposed could be labelled as lack of interest for NSI statistics among businesses. This lack may arise from lack of knowledge on existence and use of NSI statistics, lack of experience with NSI statistics, lack of perceived benefits from using NSI statistics or from the fact they have another focus. Some experts exposed that businesses are focused neither on the source of statistics nor on quality of statistics. It may be that they rather bundle together all governmental authorities, and it is also questionable if they are able to assess the quality of NSI statistics. One expert also remarked that the profession of statistician does not enjoy a very high status in society and that the word “statistics” has a rather negative meaning among business people who prefer to speak about “information” focusing on the effective value of statistical data in the managerial and decision process.

Related to all this is the documentation of statistics. Statistics may be difficult to comprehend in itself, but this may to some extent be amended by providing explanations. Documentation may be very detailed and extensive but still hard to find. Especially academics mentioned that it is not always clear and well explained how data was collected, how indicators are defined and calculated (e.g. average wages). Short, precise and accessible descriptions would make it easier for users and potential users to make use of statistics.

**(Non) use of NSI statistics**

As a consequence of these limitations, businesses consider alternative, especially commercial, data sources even when these data sources are (partially) based on official statistics. They also use other sources, e.g. chambers, word of mouth, information from abroad etc. Some NSI experts mentioned that most businesses, and especially small and medium-sized ones, access NSI statistics through industry association or trade unions. As one academic put it, businesses mainly seek information, not just data provided by NSIs.

Nevertheless, several experts acknowledged the value of the NSI work (although this could be sensed through different lenses, e.g. the quality, reliability and comprehensiveness of NSI statistics, efforts in burden reduction, freely accessible data, etc.). Several academics also acknowledged accuracy of NSI statistics, sometimes also as
a consequence of mandatory reporting (e.g. compared to data collections by chambers). In general, when NSI data are used their quality is not a matter of discussion (or implicitly assumed to be good), except with regard to lack of timeliness.

5. Individuals in businesses, significant for NSIs

In relation to our third research question, we asked experts about users of NSI statistics in businesses and people involved in statistical reporting to NSIs. Experts indicated some functional areas and several departments that would typically use NSI statistics. Users would therefore mainly be found in departments directly linked to the market (e.g. marketing, sales, purchase; partly human resources), in analytical departments (e.g. financial, accounting, controlling, analytic, economic or similar departments) and in management (from middle to top management, including strategic tasks). In large businesses this could also be a specific unit for statistics or a business intelligence unit. According to some experts, the most established user of NSI statistics may be the marketing departments that have huge data needs and use NSI statistics related to demography, housing, education etc.

Users of NSI statistics are decision makers, managers and directors, lawyers or other people responsible for contracts, analysts, controllers, accountants, heads of administration etc. Their use of NSI statistics differs as differ their jobs; for instance, analysts would use macroeconomic indicators, people preparing contacts would use price indicators, and human resources manager would use data on salaries.

Experts seemed to agree that in small and medium-sized businesses the same people search, prepare and use data while in large businesses it is more likely that these tasks are separated. In this latter case, for instance, it would be a marketing department collecting and analysing data while management would use the results. Even within a department, it could be one person searching NSI statistics for someone in a superior position.

The link between people using NSI statistics and those involved in statistical reporting to NSIs may be far from obvious. As one expert remarked, data use and data provision may seem like two “different worlds” to businesses. This seems true for most businesses except for the smaller ones. As one expert reflected, there could be a difference when data are collected on a voluntary basis; if reporting is voluntary, then those particularly interested in results will provide data more easily.

6. Discussion and conclusion

Research described in this paper has limitations given the qualitative nature of its inquiry into expert opinion. Nevertheless, it clearly confirms that businesses do use NSI statistics although this use varies by kind of indicator, kind of business and other factors. The main obstacles preventing businesses from using NSI statistics (more intensively) include limitations of NSI statistics (especially lack of timeliness but also lack of detail etc.),
problems searching them (in particular usability issues) and lack of interest in using them, which may hide other root causes of such behaviour (especially inadequate knowledge given current dissemination practices). Moreover, in large businesses that seem to be most likely to use NSI statistics, the link between people using NSI statistics and those involved in statistical reporting appears very weak. In addition, visibility of NSI statistics is low. This currently reduces the possibilities of motivating business for better survey participation and accurate reporting based on offering them NSI statistics.

Bringing together the knowledge on what NSI statistics businesses use and what prevents them from intensifying their use may serve as a solid foundation for opening up new opportunities that can create a greater value added both for businesses and NSIs. In particular, it indicates that these opportunities are closely related to dissemination practices of NSIs which currently loosely touch upon business needs; to communication practices of NSIs which appear unsatisfactory in the current world of branding; to educational gaps which call for more cooperation with the educational institutions; and to a reconsideration of relevance of NSI statistics from the business perspective.

Finding out the way to fill the gap between the NSIs and businesses in their double role of data providers for NSIs and users of NSI statistics, is the challenge of the next years. The BLUE-ETS project with the research presented here and other ongoing and future researches is aiming to give a contribution in this direction.

Acknowledgement

This research has been conducted in collaboration with Vanessa Torres van Grinsven & Ger Snijkers (CBS/Utrecht University); Louis van der Wouw (CBS); Yngve Bergström, Dag F. Gravem, Gustav Haraldsen & Tora Løfgren (SSB); Petra Mohorič Peternelj & Rudi Seljak (Statistics Slovenia); Boris Lorenc, Dan Hedlin & Andreas Persson (SCB); Irena Bolko (University of Ljubljana).

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